

A summary of the talks behind the book

The Internet of Money

Volume Three

Financial surveillance, corporate currencies, and who owns the exit — the big ideas in thirteen chapters

Andreas M. Antonopoulos

Summary by Turki Alsharari

Who owns the exit?

Volume One explained Bitcoin, and Volume Two attacked the system that stands opposite it. Volume Three (2019) is delivered in a new era: Bitcoin is no longer a joke and the banks are no longer laughing; instead, big corporations and governments now want “a currency of their own.” The question that ties these chapters together is no longer “Will Bitcoin succeed?” but “**What happens when money becomes a tool of surveillance, and who is able to exit?**”

Three developments shape this volume: the rise of **financial surveillance** as a global system presented as “protection”; Facebook’s announcement of the **Libra** currency in June 2019, which made “corporate money” a third party between the money of the state and the money of the people; and the **crypto winter** that followed the 2017 bubble, which raised an awkward question: what is the measure of success in the first place? Price or principle?

Here Antonopoulos is at his sharpest and his most moral at once: he attacks the sponsors of the very conference he is speaking at, declares himself a “moral relativist” in front of Ethereum developers, and tells a banking committee of the Canadian Senate that the best thing it can do is wait and understand. And he returns again and again to one idea: **voice and exit**. When voice fails, exit remains, and Bitcoin is the first exit in history that does not require crossing a border.

Author	Book published	Chapters	Period of the talks
Andreas M. Antonopoulos	Merkle Bloom · 2019	12 talks + a testimony	2014 – 2019

How to read this summary

Each chapter corresponds to one talk, with the same structure as the two previous volumes: the context of the talk, then the main ideas, then a paraphrased quote, then “The idea in one line.” The chapters follow the order of the playlist, and the volume closes with Antonopoulos’s 2014 testimony before the Canadian Senate, the oldest text in the volume, yet one that reads today as if it had been written after everything that precedes it.

Note: the figures (the number of unbanked, debts, prices) reflect the date of each talk. Some of the events mentioned, such as Libra, later ended differently, which does not weaken the argument but confirms it.

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Chapter One

The Greatest Crypto Explanation Ever? (Internetdagarna)

Internetdagarna conference, Stockholm · November 2017

A short talk to internet professionals in Sweden, which audiences later dubbed “the greatest crypto explanation ever.” It opens the volume because it condenses everything that came before into eighteen minutes, in language aimed at people who understand protocols rather than money. Antonopoulos begins with a memory of his first internet conference, in 1992: a hundred computer scientists whom nobody believed. “The doubters were wrong then, and they are wrong now.”

What is money?

Money is not value; it is a means of obtaining value. Nor is it a product of authority, even if it looks that way because all our money comes from “a man wearing a crown.” Money is a **language** that humans invented to express value, and it is what allowed us to grow beyond “Dunbar’s number,” the upper limit for a tribe that runs on personal acquaintance. Yet it is also, ironically, a **system of control**, which is why kings kept an iron grip on it, just as they did on religion.

Money as a content type

On January 3, 2009, something changed: a flat, peer-to-peer protocol appeared, with no central servers, that expresses money as **pure data**. A Bitcoin transaction does not need the Bitcoin network in order to travel; it can be encoded in Skype emoticons, in a classified ad, or in the background of a cat picture on Facebook. Money as information, on an open, neutral, global, uncensorable network that requires no account, only downloading a client, the way you download a browser.

Money for non-persons

Every form of money until now has needed a person behind it, or a corporation, which is a legal fiction standing in for persons. Bitcoin is the first money that an **autonomous agent** can own and manage: a corporation with no directors and no employees that runs budgets in the billions; a smart virus that buys servers in order to replicate, yes, but also a smart charity that sends funds instantly to the victims of a disaster without a single dollar going to a middleman. Cars that do not just drive themselves but **own themselves**. He then closes with the uncomfortable truth: after 25 years of the internet, transferring money still takes days and costs \$40, and 2.5 billion people have no bank. “Bitcoin doesn’t ask for permission. We forgot to do that.”

If this protocol is shut down, a fourteen-year-old with a copy of my book can rebuild it over a weekend, in any programming language, and launch it under a new name. Again and again, until we succeed.

Paraphrased from the talk

The idea in one line

Money is a language, not an authority, and once it becomes pure data on a neutral network, any person, indeed any program, can own it and send it without anyone’s permission; finance has become an application, and money a content type.

Universal Access to Basic Finance

Digital Asset Summit, London · June 2019

The most emotional talk in the volume, delivered off the cuff in the heart of London's financial district to an audience of bankers and sponsors from surveillance companies. He begins with a story that changed his course: in Buenos Aires in 2013 he did not need to explain the "why" of Bitcoin; everyone wanted to know the "how." A woman told him that her grandparents had been abducted under the previous regime, and that she was afraid of what would happen when the government changed again. "That is what it means to be unbanked."

What does it mean to be unbanked?

The World Bank counts 2.5 billion "unbanked," but it counts only heads of household; wives and children are not counted, even though women manage the household finances in most of the world. And being unbanked does not mean living on cash; it means being cut off from the world: no trade, no work, no future for your children. And not because you have no money, but because you have no **documents**, or cannot read, or do not have the clothes that would let you walk into a bank without the guard throwing you out.

A financial privilege, not a right

Those who have what Antonopoulos has as a U.S. citizen (an account, multiple currencies, global investment, a currency that does not collapse overnight) number no more than 1.5 billion. The regulatory system deliberately **excludes** the rest, to the point where basic finance has become a privilege granted after a "dance" in front of the banker. And cash, the last lifeline of the poor, is being fought in the name of crime, even though the real criminals hold a banking license, pay a fine smaller than their profits, and never see one of their own go to prison.

You won't. We will

At a banking conference an employee asked him: "Why should we give accounts to illegal immigrants?" He answered calmly: "Don't. We will." He then turns his criticism on the sponsor of the conference itself, a company that sells financial surveillance tools whose data ends up with regimes that dismember journalists, and says that anyone who works at such a company has "declared moral bankruptcy" and deserves seven years of auditing, just as a poor person is audited before being granted an account.

You have neither the moral authority nor the practical ability to stand in their way. Six billion people need this.

Paraphrased from the talk

The idea in one line

Basic finance has become a privilege granted to those with the right documents and the right appearance; crypto turns it back into a right that needs neither permission nor identity, and the debate over "how do we regulate it" is a luxury that means nothing to the six billion.

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Chapter Three

Measuring Success: Price or Principle

University College Dublin · May 2018

Delivered months after the 2017 bubble burst, to those who stayed after the people “with the gleam in their eyes” had left. The question: how do we measure success? The naive answer is “when the price goes to the moon,” but those who came in to get rich quick discovered that crypto is also a “get-poor-quick scheme.” If you are still here after the crash, you are here for another reason, and that reason is what you should be telling people about.

Mass adoption dilutes principles

The most common answer is “mass adoption”: buying your breakfast sandwich with Bitcoin without having to ask. But that goal contradicts the other one, that the system keeps its principles and frees people from the banks. Because the masses **do not share your principles**: how many people do you know who use the same password on every site? Mass adoption means adoption by people who care about neither neutrality nor privacy. “You are not the masses; you are the weirdos obsessed with Bitcoin. And that’s fine.”

The lesson of Linux and the lesson of the internet

In 1991 a poor Finnish student decided to write his own operating system, and everyone laughed at him. Today Linux runs in every Android phone, every server and every robot vacuum, and it pushed IBM and AT&T out of the operating-system business. Yet your mother does not know she is using it. Did Linux fail? By the measure of “everyone knows it,” yes; by the measure of “it broke the monopoly and gave everyone freedom,” it won completely. And the internet itself: if you measure it as “a decentralized network that gives everyone information,” it has failed, since two billion people know it as Facebook’s walled garden. But it is also mesh networks, WikiLeaks and Bitcoin. “I did not want to replace Murdoch with Zuckerberg.”

Market cap is the worst measure

There will always be currencies “bigger” than Bitcoin, because being big is easy: abandon the principles, make it cheap, fast, centralized and surveilled, then pump money into it. “Facecoin” will be bigger. What do the banks have that we do not? Money. So whoever persuades you to measure a disruptive industry by the yardstick of money is persuading you to lose a game that was decided in advance.

The measure of success is not to be the biggest, but to remain the most free, the most open and the most inclusive. If the price of that is not being the biggest, I accept it. The measure of success is freedom.

Paraphrased from the talk

The idea in one line

Mass adoption and market cap are two measures that lead to losing the principles; success, as with Linux, is for the system to stay free and open, answer to no one and reach those who need it, even if the public never learns its name.

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Chapter Four

Libre Not Libra: Facebook's Blockchain Project

Scottish Blockchain Meetup, Edinburgh · June 2019

Delivered on the very day Facebook published its white paper on the "Libra" currency. Antonopoulos begins by calming things down: what has been released is a white paper, not a currency, a network or an application, and between it and a production network for two billion users lies a long road that will be traveled by "an army of MBAs and lawyers." And yet: **everything changed this morning.**

The three-body problem

Until yesterday the struggle was between two forces: the money of the state and the money of the people. Today a third party entered: **the money of corporations.** We have not seen corporate currencies since the Opium Wars and the Medici, and here is the "supranational state" of Facebook issuing its own currency at the dawn of the new feudalism. Facebook is the first of the "FANGs" (Facebook, Amazon, Netflix, Google), and the rest are baring their fangs. Silicon Valley is coming for the banks the way the internet came for the music industry: the banks should have made a deal with Bitcoin when it was a "cute little lizard," and now the triceratops is coming for them.

Who gets hurt first?

Retail banks, the ones that actually serve people; Facebook knows the preferences of two billion people and can wrap banking in a candy-colored interface that tickles the dopamine receptors. Then the **central banks**: imagine you are the government of India or Argentina and you want a devaluation policy, and 10% of your people have moved their savings into Libra. You lose one of your biggest levers of control. Do you ban Facebook? That has been tried in every coup and revolution, and it failed. At its core, Libra is "special drawing rights" for consumers, that is, a private IMF funded by the activity of people in the very countries it will lend to.

The five questions

Is it open? Maybe. Borderless? No; it will not launch in China or Russia, and an "iron curtain" of currencies will come down. Neutral? No; corporations are obliged to censor, and the first thing a subpoena needs is an address to be sent to ("Where do you send Bitcoin's subpoenas? To 127.0.0.1"). Immutable? A consortium of validators for whom rewriting history costs nothing is not immutability; proof of work makes rewriting a matter of "can't," not "won't." Private? It will be transparent to the validators, not to the people, and we are waiting for a "giant leak" that exposes our purchases to everyone. The result: Libra will introduce a billion people to the wrong kind of crypto, just as AOL introduced people to the wrong kind of internet, and it will force every project to define its principles, because anyone who abandons principles in order to win is competing with "the greatest principle-abandoning machine" in the world.

As a technologist, I was jumping for joy all day. As a human being, I am terrified. I am not afraid because Bitcoin cannot compete, but because so many people do not care.

Paraphrased from the talk

The idea in one line

Libra opened the era of corporate money alongside the money of the state and the money of the people; it will be neither borderless nor neutral nor private, but it will push every open project to set itself apart through the one thing corporations cannot imitate: principles.

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Chapter Five

Cryptocurrency Explained: Money as a System-of-Control

Advanced Digital Innovation Summit, Vancouver · September 2017

A short, sharp talk to an audience of lawyers and accredited investors. He starts with the textbook question: what are the functions of money? A medium of exchange, a store of value, a unit of account... and a fourth that nobody mentions: a **system of control**. The first three are thousands of years old; the fourth was born in 1970, when Nixon signed the "Bank Secrecy Act."

1970: deputizing the banks as police

That law turned financial institutions into a branch of law enforcement: enforcement that crosses borders, sits outside jurisdictions and, most importantly, operates **outside due process**. A police officer seizes your money, a judge freezes your account, and a bank does both without anyone's permission. And once money becomes an enforcement tool, its other functions erode: it is no longer the best medium of exchange, because exchange is subject to enforcement, and it is no longer a store of value, because something that can be seized or frozen on a whim is not a store of anything.

Tiers inside the system

After 25 years of the internet, phones have reached 2.5 billion people who had never known them, and finance lags twenty years behind. And even inside the system there are tiers: some have better access, and some have complete immunity. Bernie Madoff went to prison because he made the cardinal mistake: he **stole from the rich**. Foreclosing on ten million homes, or opening 3.5 million fake accounts at Wells Fargo, on the other hand, is no problem. The system excludes entire countries: fail to serve the interests of the superpower and you lose your SWIFT code, and you lose access to the reserve currency, to the "lifeline." And the gold bars that protect the banks from competition are also a **gilded cage** that keeps them from innovating.

Voice and exit

"None of you has money in the bank"; what you have is an account, a legal construct that stands for an unsecured loan you made to the bank. This model spread to 194 countries because it is "every dictator's dream": dissent is choked off at the bank teller's window. People have two powers: **voice** and, when that fails, **exit**. Borders were built to prevent physical exit, but what happens when exit becomes virtual? A whole generation of millennials no longer believes the myth of bank safety, and it is exiting. And when the regulators close the ramps, the young person says: "I have no money anyway; what I have is my creative ability, and I sell it directly for Bitcoin. Close the ramps; I will stay on board."

Close the on-ramps and the off-ramps, and I will stay digital. I will not touch your gilded cage anymore, because I do not need you. I am exiting.

Paraphrased from the talk

The idea in one line

Since 1970 money has been an enforcement tool before it is a medium of exchange, and all its functions have eroded as a result; Bitcoin is a system of money that refuses to be a system of control, and it gives those whose voice has failed the first exit that does not require crossing a border.

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Chapter Six

Worse than Useless: Financial Surveillance

Baltic Honeybadger conference, Riga · November 2017

"First, do no harm." Hippocrates never said it; it was added to medicine when the scientific method entered the field in the nineteenth century. Before that, physicians practiced bloodletting for 2,500 years, and its most famous victim was George Washington, who was drained of seven liters of blood to treat a sore throat and, "despite the treatment," died four days later. The point: some practices are not merely useless but **worse than useless**, because they do harm. And that is his diagnosis of the "know your customer" and anti-money-laundering regime.

A practice without science

The financial surveillance system established by the Bank Secrecy Act of 1970 does not stand up to any scientific scrutiny. It rests on a sanctimonious moral idea: the "bad guys" must not get access to money, as long as we trust those in power to tell us who the bad guys are, and assume it is not them. And if you criticize the idea, you are met not with data but with an accusation: "Won't you think of the children?" Does it work? No. But it is not merely useless; it excludes billions from the economy and cuts entire continents off from the world, all to satisfy the notion that bureaucrats are better placed to decide who deserves money.

A license to launder money

Who launders money? The banks, according to the data and the statistics. They have a "magic license" called a banking license: one large bank modified its teller windows near the Mexican border to fit the Samsonite cases that drug smugglers prefer, where money is not counted but **weighed**. Every time they are caught they pay a fine and nobody goes to prison, which means that laundering is part of the business model and that regulation is a tool for shutting out competitors. As for the real "dark net," its names are ECHELON, PRISM and XKeyscore: they are not afraid of the dark net; "they just don't want us to have one too."

Secrecy for governments, privacy for people

Privacy is my right from birth; secrecy is the ability of a government, one that is supposed to answer to its voters, to escape accountability and fund black projects. We have been persuaded that all our transactions must be exposed "for the sake of the children," while all of theirs are secret. The equation is upside down and must be flipped quickly. And to anyone who asks what the biggest problem in Bitcoin is: it is not scaling or mining, but that we **do not have enough privacy**, and that must be fixed before Bitcoin spreads further. And by the way, when the banks are asked whether they want anonymous transactions on their own private networks, the answer is: absolutely, because they do not trust one another.

Peace is not the absence of war but the presence of justice. And justice begins when every human being can transact freely and privately: anyone, anywhere, anytime.

Paraphrased from the talk; the opening line is after Martin Luther King Jr.

The idea in one line

Financial surveillance is modern-day bloodletting: it does not prevent crime; it excludes billions and hands a license to launder to whoever holds a banking license. What is needed is to flip the equation: privacy for the people and transparency for those in power.

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Chapter Seven

Escaping the Global Banking Cartel: Bitcoin as an Exit

Edmonds Center for the Arts, Seattle · November 2018

What do we call companies that collude to fix prices, shut out competition and buy regulators and politicians? A cartel. We have heard of the oil cartel and the drug cartels, but nobody says “the banking cartel,” because it is **the biggest cartel in the world** and it owns the media channels and the laws. After the 2008 crisis nobody went to prison; the biggest of the “robo-signing” foreclosure forgers became Treasury secretary.

Kleptocracy and the straw in the pipe

When capitalism fails in this way it is called “kleptocracy”: thieves in power, literally. At that scale you do not compete; you look for the biggest pipe of money in the economy, sit on top of it and stick in a straw. You buy lawmakers who write a law that makes an intermediary mandatory (you, specifically), and then you extract half a percentage point here and there. That is a description of the entire banking system. And when money stops working, the luxury of “not caring how it works” suddenly falls away: in 2008 everyone had to learn what a credit default swap is.

Why can't it be fixed? The architecture

Protest is met with police violence, Occupy has been tried, apathy does not help, and climbing into the parasite class is slower than the collapse of the middle class. The problem, seen with an engineer's eye, is in the **architecture**: hierarchy and centralization reward parasitic behavior, because there are centralized flows to tap into. When I pay the butcher, Visa, Chase and three other banks step in, each with its own straw. Commerce has gone from peer-to-peer to “peer-corporation-corporation-peer.” And changing who is at the top does not change the pyramid; corruption flows upward, because the institution is not immoral but **amoral**: “How do we increase the margin this week? We sell facial-recognition technology to the police.”

Exit and starving the parasite

Until 2008 a Venezuelan or an Argentine had no alternative: gold gets confiscated, and trading hard currency can get you killed. Then came Bitcoin: a virtual exit, a lifeboat that builds a parallel mini-economy connected to other lifeboats. And exit is not an “investment” but a decision: “I will make my work and my output available in this currency only, and I withdraw my cooperation from the broken system.” Decentralization means removing the intermediaries, who no longer just take 2% but decide whom you may sell to and which country you may send to. “Trust used to be a function of the hierarchy. Trust is now a protocol.”

If you want to stop a parasite, you first have to stop feeding it. That is what this is all about.

Paraphrased from the talk

The idea in one line

Crises do not keep recurring because of bad people but because of a hierarchical architecture that rewards parasites; the pyramid cannot be fixed by changing its top, only by exiting it for peer-to-peer money that dries up the pipe the cartel feeds on.

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Chapter Eight

Bitcoin: A Swiss Bank for Everyone's Pocket

Bitcoin Association Switzerland, Zurich · June 2019

In 2016 President Obama, warning against strong encryption, said it would be “as if everyone had a Swiss bank account in their pocket.” He did not realize he had written the best advertisement for crypto. What he meant was: imagine if **everyone** had that, and not just my friends, members of Congress, campaign donors and arms manufacturers. And he got the detail wrong too: crypto is not a Swiss bank account but a **Swiss bank** in your pocket, and you are its CEO.

The politics of fear

Every politician sings the same tune: privacy in the hands of the people is dangerous. Why? Because privacy has become a commodity that some can buy and others cannot. Everyone the politicians know has privacy; and look at what happens to those who expose their secrets: Assange, Manning, Drake, Kiriakou. When a government commits war crimes, the only person who goes to prison is the one who told the journalist. Financial privacy lies beneath all the other rights: expression, assembly, travel and due process. “Ask the people of Hong Kong who are buying their train tickets with cash.”

No symmetry between good and evil

In human society the number of people who do evil is tiny, and the number who do good is enormous. The politics of fear punishes everyone in order to punish the few, and then hands the tools of surveillance to a government that, by the very nature of the levers of power, attracts the worst people. Justice Brandeis said in 1927 that the remedy for bad speech is more speech; and the remedy for bad technology is **more good technology**, not less. The bad guys already have these tools, in Panama, Malta or Hong Kong, “and the biggest tax haven in the world is the United States.” The ones who are denied them are us.

Why do you need it in Switzerland?

The answer to the dictator who evades sanctions with crypto is citizens who evade the dictator with crypto, and there are far more of them. “We should be dropping hardware wallets, satellite dishes and Raspberry Pis from planes over North Korea and Venezuela; Kim already has his account.” He then confronts his audience: you in Switzerland do not need crypto; you have excellent banks and direct democracy. So why do you use it? Because every use is an **exercise of power**: moving money out of a broken system into one that gives people hope, and funding those who are building better wallets and decentralized exchanges. The biggest lie this generation has believed is that it has no power, and that it exercises it once every four years at a ballot box, between “blue Goldman Sachs and red Goldman Sachs.” It can be exercised every day, not once every four years.

You cannot be stabbed over the Internet Protocol. And nobody funds a bombing campaign with crypto; that is funded with my taxes.

Paraphrased from the talk

The idea in one line

The bad guys already have financial privacy, and the politics of fear denies it to everyone else; the remedy for bad technology is more good technology, and every use of crypto is a daily vote for an open financial future.

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Chapter Nine

Bitcoin and Unstoppable Code: The Difference Between Can't and Won't

ETHDenver, Denver · February 2019

A talk to the Ethereum community, and philosophically the boldest thing in the volume. He starts from the cypherpunk spirit that has shaped him since the 1990s: using cryptography **defensively** to assert and enforce human rights. "Totalitarian governments can kiss my 256-bit key, but they will not break it." What drew him to Ethereum was the first two words on its website: "unstoppable code."

Which code deserves to be unstoppable?

Just as the only speech that needs protection is speech that offends, the only code that needs to be unstoppable is code that someone is trying to stop. The Ethereum community today is "Kumbaya," unicorns and rainbows, and that will not last, because what you are doing **takes power away** from governments and corporations and gives it to the little guy, and those who lose their power will fight back. Silk Road brought Bitcoin into the spotlight before its time, and back then thousands of marketers said, "We are interested in the technology behind Bitcoin." Get ready to hear: "We are interested in the technology behind Ethereum: smart contracts."

"Can't" versus "won't"

When a new Silk Road appears as a decentralized application with no administrator who can be jailed, the calls will come in to every foundation and prominent figure in Ethereum: "Stop it." And the difference between "can't" and "won't" is **two life sentences plus forty years**. Governance turns "can't" into "won't"; and once you cross that line, ability becomes responsibility, and refusing to act becomes criminal negligence. So: if you put in an emergency "oops clause," make it a clause that blows up the entire application, not one that reverses a single transaction. Do not build the ability to moderate; anyone who shows that they can delete will be flooded with cease-and-desist orders from every small town.

Moral relativism: "Illegal... where?"

Every discussion of "governance subject to a legal framework" takes place among wealthy people in North America and Western Europe who share 90% of their morals and represent 15% of humanity. Whose law? Going from Colorado to South Carolina is enough for the law to change radically. Antonopoulos's own existence, as an atheist, is illegal in at least four countries; and the existence of gay people is illegal in 83 countries. Global, borderless code has two options: all laws, which is impossible because they contradict one another, or no laws. And for every bad application of unstoppable code there are a hundred good ones that look abhorrent to some culture: women's sovereignty over themselves, or an application that helps a thirteen-year-old bride escape. There is no point in building stoppable code; "we already have that; it's called the cloud."

The difference between "can't" and "won't" is two life sentences plus forty years. When you ask for governance, be careful what you ask for.

Paraphrased from the talk

The idea in one line

The only code that deserves to be unstoppable is code that someone wants to stop; governance turns "can't" into "won't" and then into criminal liability, and no single law fits a world that does not share a single morality.

Picking the Right Blockchain for the Job

DigitalK conference, Sofia · May 2019

He opens by asking the audience: what is the best blockchain? He asks them to shout out the answer all together, and what comes out is chaos. That is the point: the question is meaningless, like “What is the best shoe?” Try hiking in Manolo Blahniks, or walking a fashion runway in hiking boots. **Purpose determines what is best**, and the marketing brochures that promise their blockchain is “scalable, secure, fast, private, quantum-resistant and military-grade encrypted” are lying, because that is what a marketing brochure is for.

Form follows function... sometimes

In architecture they say: form follows function. But in the 1970s Californians designed swimming pools in curved, organic shapes; then a drought came and filling them was banned, so skateboarders looked at them and said, “What if we stood on the edge...” and they became the first skate parks. The pool designer never imagined that. Form follows the function the designer had in mind, and then the market says: “I have another function that fits this curve perfectly.” Users decide, not designers: Bitcoin was designed as digital cash, and it has played the role of cash at one time, of gambling money at another, and of a store of value in countries with collapsing currencies. And Ethereum was designed for engineering applications and turned out to be “excellent” at launching ten thousand scams, because that is what the market decided was hot.

Do you even need a blockchain?

He is thinking of wearing a T-shirt that says: “You don’t need a blockchain for that.” A blockchain is not a content database or a place to store signatures; it is unscalable and inefficient. What it offers is decentralization, security and censorship resistance, meaning that it keeps working when powerful people want to stop it. If that is what you need, then you need one; otherwise, a database.

The trilemma

Every choice closes doors: special-purpose or general-purpose? You cannot have both. Security, decentralization and scalability? Pick two. Anyone who says they deliver all three is either lying or ignorant, and ignorance is the more dangerous. As he used to tell his clients: “Fast, cheap, excellent: pick two.” And when someone asks you about the best blockchain, do not shout the name of your favorite; ask: “For what purpose?”

Form follows function... sometimes. And sometimes a snot-nosed kid on wheels comes along and says: this curve was made for me.

Paraphrased from the talk

The idea in one line

There is no “best blockchain,” only the best one for a purpose; every design is a trade-off that closes doors, and the market, not the designer, decides the final function, just as skateboarders turned California’s swimming pools into skate parks.

Bitcoin: Keeping Digital Communities Weird

Polish Bitcoin Congress, Warsaw · May 2018

A talk about communities that starts with neighborhoods: Antonopoulos is always drawn to a neighborhood with artists, musicians, odd cafés, live-music bars and graffiti, and one that is often not entirely safe. But these neighborhoods do not last: others notice them, they become “cool,” the wealthy arrive, a Starbucks opens on the corner, rents go up, and the artists who were the reason you came move out. “The neighborhood is bad now. You leave and look for another one.” The name of this phenomenon: **gentrification**.

Waves on the internet

The same thing has happened digitally again and again. The bulletin boards of the 1980s: a hundred and fifty weird teenagers with modems, until corporations bought them and demanded clean language and family-friendly content, and even hired men to pose as women in order to sell subscriptions. Usenet and its “alt” corner for fans of science fiction and odd hobbies: the first thing the corporations deleted. The early web with its garish colors, then the curated CompuServe and AOL. Then Facebook, where you can post Nazi messages but woe to you if you show a breast. The kids leave because their parents are there. In every wave the outcome is the same: the people who made the place are no longer welcome.

How do you gentrify a currency?

Bitcoin was weird, and he loved it weird. Companies used to ask him: “Talk to our executives, but say blockchain; don’t say Bitcoin.” And he would refuse: “I will say Bitcoin, because Bitcoin is the future and blockchain is nonsense, and I will say nonsense to your executives because you paid me to tell the truth.” If you push out the weirdos, the geeks and cryptographers with strange ideas about privacy, what is left is “blockchain”: an empty, sanitized shell, a very slow database. And anyone who says “I’m interested in blockchain, not Bitcoin” means “I don’t understand,” like someone who says: “MySpace is old-fashioned; I’m on Facebook now.”

The first neighborhood that cannot be gentrified

Banks today are in love with Ethereum because it seems less weird, but all the weirdness is in there: its purpose is applications that cannot be stopped, and every application that deserves to be unstoppable is one that someone wants to stop; a “Pussy Riot” application to annoy Putin, or the stories of campus assault victims in China preserved on the chain, where there is no censorship. The day will come when the banks run to the Ethereum Foundation: “Stop this.” And the answer: “We won’t,” or better: “We can’t.” And if they do stop it, there will be a fork: Ethereum, Ethereum Classic and Ethereum Uncensored. “You can plant a Starbucks on the corner, but you cannot kick out the weirdos. If you try, we fork and take the neighborhood with us.”

For the first time we have digital communities that cannot be gentrified. The weirdos own the neighborhood for the first time in history, and they cannot be kicked out. My pledge is to keep it weird.

Paraphrased from the talk

The idea in one line

Every exciting digital community was sanitized when the corporations arrived and kicked out the weirdos who made it; the open blockchain is the first neighborhood that cannot be gentrified, because whoever gets kicked out forks and takes the neighborhood along.

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Chapter Twelve

Crypto-Winter to the North, Crypto-Summer to the South

Paseo La Plaza, Buenos Aires · January 2019

Three months earlier he could not sell 300 tickets in a Seattle theater that seats seven hundred, because there was a “crypto winter.” In Buenos Aires the tickets sold out in five days. Why? Because those who get into crypto in the North do so to speculate on a value that might make a difference in someone else’s life, at some other time. In Argentina, South Africa and Southeast Asia, however, it is not a matter of “if my government became corrupt, if my bank stole my pension, if the elections were canceled”: all of that is happening here, now. And Americans think their stability is the rule, when it is the exception.

The zero-sum assumption

When the market booms, outsiders pour in carrying an assumption they do not know they carry: that the market is a **zero-sum game**, in which one side wins only if another loses. This is what an MBA teaches: understand the rules, exploit them, build a fence around your intellectual property, “capture” the customers, herd them inside the fence and extract whatever you can. Where does this assumption come from? From the absence of a free market: most of the celebrated capitalists have never seen a free market in their lives; they operate where they own the regulators and write the rules, in pursuit of the holy grail: monopoly.

Poison in an open-source space

They bring this assumption into crypto: “We can’t open-source our wallet; the competitors will copy it,” “Let’s invite the regulators in to set the rules,” when the rules are already simple: a block every ten minutes and twenty-one million. It is also where the various forms of tribalism come from: “Our coin wins only if their coin loses.” But in an open-source industry, if someone else builds something good, copy it; and every failure is a lesson that someone else paid for. It is not a tragedy of the commons but a **creative commons**: if I consume some of your knowledge, you do not lose it. And whoever downloaded his book without buying it did not cost him a book; they gave him the most valuable thing there is: attention.

Amateurs and principles

When the market turns, the voices of the zero-sum players grow louder: “It’s time to play with the big players, with the professionals.” Beware of the word “professional.” This commons was built by amateurs, and the amateur, in French, is **“the one who loves”**: someone who does a thing out of love. Bitcoin was not built by a committee or by paid employees but by idealistic weirdos who wanted to bring hope. And in this space principles are the most important competitive advantage, because they are the one thing a banking competitor cannot copy; it is legally required to violate privacy and to surveil. And anyone who gives up their principles for a little money has stepped onto Facebook’s and Google’s playing field, and they have entire committees for abandoning principles more profitably: “I want 6 % monthly growth in sacrificing principles.”

Every drawing, every song, every rebel meeting in a damp basement when nobody believes this matters, even the failure of every worthless coin: all of it enriches this commons that we share.

Paraphrased from the talk

The idea in one line

The North speculates and the South needs; whoever brings a zero-sum mindset into an open-source commons poisons it, and principles are the one advantage that neither the cartel nor Facebook can copy.

Canadian Senate Testimony on Bitcoin

Senate Committee on Banking, Trade and Commerce, Ottawa · October 2014

The oldest text in the volume, yet the volume closes with it because it gathers all his arguments into a formal statement before lawmakers. Antonopoulos was introduced to the committee members as a “Bitcoin guru” and the author of “Mastering Bitcoin.” His opening statement is dense: until 2008, **security and decentralization** looked like opposites. Traditional financial networks achieve their security by controlling access, in concentric circles where those in the middle hold ever more power; that is why they cannot be open to innovation, why they require layers of oversight, and why it all ends in regulatory capture and crises.

Three arguments for lawmakers

Bitcoin is more like cash than a card

A payment is a “push,” not a “pull”: it authorizes no future transaction and reveals no identity. That is why a transaction can travel in the open, unencrypted, over any network, and why security is an emergent property of thousands of participants cooperating.

Bitcoin is not unregulated

Several aspects of it are regulated by algorithms: a predictable issuance rate for thirty years, instead of hanging on “the tone of a single adjective” uttered by a central banker.

Do not apply centralized solutions to a decentralized network

Imposing identities and intermediaries as “consumer protection” recreates the single points of failure that the network does not have. Most of Bitcoin’s security failures have come from attempts to centralize it.

Distinguish between the models

A fully custodial account deserves regulation because it sits outside Bitcoin’s security model; but a wallet whose keys the user holds, or a hybrid multi-signature model, is different, and putting them in the same basket kills innovation.

The questions: terrorism, anonymity and volatility

The first question, as he expected, was about money laundering and terrorism. His answer: Bitcoin is not anonymous; the public ledger allows every transaction to be traced, transparency is easier to achieve on it than anonymity, and the overwhelming majority of financial crime happens in cash dollars. Asked “When will the public adopt it?” he said that Bitcoin in 2014 is where the internet was in 1992, and that it will move three times faster because it needs no physical infrastructure. And on monetary policy: “I do not know whether Bitcoin’s recipe is the right one, but I know how many units will exist 140 years from now, down to the millionth. What it offers is certainty, and if the recipe turns out to be wrong, people will move to another currency with a different recipe: open competition.” And when he was asked what the committee should do, his answer came down to two things: **wait and understand**.

I urge you to resist the temptation to apply centralized solutions to this decentralized network. Centralizing Bitcoin will weaken its security, dull its potential and strip away its most disruptive and most promising features.

Paraphrased from the opening statement

The idea in one line

Bitcoin is the first network to combine security and decentralization, and it is regulated by mathematics, not by committees; his advice to lawmakers: distinguish between those who hold people’s keys and those who leave the keys with them, and give the technology time to breathe.

The threads that tie the chapters together

Thirteen texts from 2014 to 2019, in which the conversation shifts from “what is Bitcoin” to “who owns the exit.” These are the ideas Antonopoulos wants to stay with you.

The idea	What it means	Where it appears
Money has been a system of control since 1970	Money's fourth function turned the banks into police operating outside due process, and ate away its three original functions.	Chapters 1, 5, 6
Surveillance is worse than useless	“Know your customer” does not prevent crime; it excludes billions and gives a license to launder to whoever holds a banking license.	Chapters 2, 6, 8
The other six billion	Being unbanked is not poverty but being cut off from the world; universal access to finance is a right, not a privilege, and the South needs it today, not tomorrow.	Chapters 1, 2, 12, 13
Voice, then exit	When voice fails, exit remains, and Bitcoin is the first virtual exit that requires no border crossing and cannot be confiscated.	Chapters 5, 7, 12
Architecture, not individuals	The pyramid rewards parasites no matter who is at the top; the solution is flat and peer-to-peer, and the parasite is starved by cutting the pipe.	Chapters 7, 13
Corporate money is a third party	Libra opened the era of corporate currencies alongside those of states and of the people; it will be neither neutral nor private, but it forces everyone to define their principles.	Chapters 3, 4
The measure of success is freedom	Mass adoption and market cap lead to losing the principles; Linux won without anyone knowing its name.	Chapters 3, 10, 12
Principles are a competitive advantage	The one thing that neither the bank nor Facebook can copy; whoever abandons them is competing with the greatest principle-abandoning machine.	Chapters 4, 11, 12
“Can’t” is better than “won’t”	Governance turns ability into responsibility and refusal into negligence; the code that deserves to be unstoppable is the code someone wants to stop.	Chapters 4, 9, 11
Keep it weird	Every digital community was sanitized by kicking out the people who made it; the open blockchain is the first neighborhood that forks instead of seeing its residents kicked out.	Chapters 9, 11, 12

What sets this volume apart?

Volume One explained, Volume Two criticized the system, and Volume Three stands at a crossroads and describes it clearly: “surveillance money” on one side, “the free, open, private money of the people” on the other, and the corporations arriving in between. The tone here is more moral than technical, and the opponent is no longer ignorance but indifference: “I am not afraid because Bitcoin cannot compete, but because so many people do not care.” That is why the series ends not with a technical promise but with a personal responsibility: exercising power once every day, not once every four years.

Where this summary comes from

This summary is based on the recorded talks that make up the book *The Internet of Money, Volume Three* by Andreas M. Antonopoulos, published by Merkle Bloom in 2019. The talks are published on the author's YouTube channel under a **Creative Commons Attribution (CC BY) license**, which permits reuse, translation and summarizing provided the source is credited.

The quoted lines in this summary are paraphrases of what the author said in the talks; they are not verbatim and are not taken from the text of the printed book. Any error in summarizing is the summarizer's, not the author's. The playlist also includes a 2014 interview, "The Salon Talks," about the Senate testimony and the book "Mastering Bitcoin"; it is not a chapter of the book, so it is not summarized here.

The original talks

Chapter	Talk	Venue and date
1	The Greatest Crypto Explanation Ever? (Internetdagarna)	Stockholm — November 2017
2	Universal Access to Basic Finance	CryptoCompare Digital Asset Summit, London — June 2019
3	Measuring Success: Price or Principle	University College Dublin, Dublin — May 2018
4	Libre Not Libra: Facebook's Blockchain Project	Scottish Blockchain Meetup, Edinburgh — June 2019
5	Cryptocurrency Explained: Money as a System-of-Control	ADI Summit, Vancouver — September 2017
6	Worse than Useless: Financial Surveillance	Baltic Honeybadger, Riga — November 2017
7	Escaping the Global Banking Cartel: Bitcoin as an Exit	Edmonds Center for the Arts, Seattle — November 2018
8	Bitcoin: A Swiss Bank for Everyone's Pocket	Bitcoin Association Switzerland, Zurich — June 2019
9	Bitcoin and Unstoppable Code: The Difference Between Can't and Won't	EthDenver, Denver — February 2019
10	Picking the Right Blockchain for the Job	DigitalK, Sofia — May 2019
11	Bitcoin: Keeping Digital Communities Weird	Polish Bitcoin Congress, Warsaw — May 2018
12	Crypto-Winter to the North, Crypto-Summer to the South	Paseo la Plaza, Buenos Aires — January 2019
13	Canadian Senate Testimony on Bitcoin	Senate Banking Committee, Ottawa — October 2014

Links

- Playlist of the Volume Three talks on YouTube: youtube.com/playlist?list=PLPQwGV1aLnTvckLyD3vGEuDHSFRzPt4kp
- The author's channel: youtube.com/@aantonop
- The book (print, ebook and audiobook): theinternetofmoney.info
- Mastering Bitcoin, free in several languages: bitcoinbook.info

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