Let Them Eat Crypto

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The Blockchain Scam That's Ruining the World

Peter Howson

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Preface

Proponents of crypto tend to see criticism as a product of ignorance. They'll suggest the haters and naysayers simply don't understand the workings of blockchain technology. Sceptics are accused of being shills for the global banking system or henchmen for some corrupt government. But I'm not a fan of banking. And I wasn't always a crypto sceptic. When I first came across the technology as a cure-all for international development and conservation, I was intrigued. There was something inherently subversive in crypto. It connected with my activist tendencies. I didn't fully understand the technical details back then. But I was very excited to learn and experiment with blockchain. The prospect of reimaging what money could be was like reimagining power itself.

Most people's first encounter with blockchain is through the cryptocurrency Bitcoin. But I had never heard of Bitcoin when I came across blockchain back in 2016. I was working in a peatland swamp forest in Indonesia, researching a climate finance initiative with indigenous Dayak communities who'd lost their forests to oil palm plantations. A carbon-offsetting company next door was proposing the use of a cryptocurrency called Stellar to deliver carbon credits to corporate buyers in the USA and Europe, without having to splash out on auditors or other expensive intermediaries. I'd been living in Indonesia for several years by then. During that time, every forest protection project that popped up failed to deliver anything close to what the developers originally pledged. Sometimes the failures ended in spectacular violence, with families' homes

and lives destroyed to make way for conservation projects. Other times, the violence came in the form of unintended broken promises regarding things that people were relying on. I shared the belief that crypto could fix many of the bad things in tropical forest conservation. The technology could perhaps be useful to indigenous peoples trying to make their forests more profitable standing than cut down for timber and palm oil. Everyone had phones. The internet was reliable and cheap. It seemed at least possible that people living in and around tropical forests could plant trees and receive financial rewards without too much bother.

After leaving Indonesia a few years later, I collaborated with academic colleagues and designed a project rewarding citizen scientists in the north-east of England with a cryptocurrency we called Coastcoin. I encouraged the Peruvian charity, of which I was a trustee, to experiment with crypto as an alternative to expensive Western Union payments. I uncritically boosted various environmentally focused blockchain projects across Asia and Africa. I wrote about fishing companies using blockchain to try and eradicate slavery from their supply chains. Oxfam, UNICEF and other big charities appeared to be sending crypto to smiling faces on the remotest Pacific islands. Greenpeace was fundraising for Bitcoin after their bank accounts were frozen in India. Sea Shepherd was selling NFTs of cartoon cats, raising thousands of dollars to save whales in the process. What harm could it do? Perhaps crypto could save rainforests, the oceans and our climate. To me, blockchain was a revolution.

Sometimes, when we are convinced something's revolutionary, but we don't understand it fully, we often opt for the safe repetition of soundbites and plausible narratives. I decided to write this book because I had been doing just that. This book is my atonement. After many years of looking at blockchain

projects across the world, from every angle – the coding, the economics, the politics, the environmental and social impacts – it is beyond reasonable doubt to me that blockchain makes everything worse. This book is my immutable message, documented for future generations. Everything else I've said – ignore it.

I've been a conservationist and international development researcher for over 15 years, mainly focused on climate change mitigation in Southeast Asia and the Pacific. But researching ostensibly humanitarian blockchain projects has been my bread and butter since 2018. The journey to writing this book has taken me from Iceland to India, from Burnley to Bali. Besides the tropical forests and remote islands, I've hung out in Bitcoin-themed cafes, crypto conferences, refugee camps, online chat rooms and lonely metaverses. As well as interviewing developers, policymakers and regular folks on the ground, I've been helped along the way by key thinkers and technical experts who've written many great books on Bitcoin and crypto. But as a geographer by training, I wanted to write something that turns people's heads towards what cryptocurrencies and blockchain experiments do to people and places. As someone who's interested in social and environmental justice, I also hope this book will act as a one-stop shop for anyone who is erroneously considering cryptocurrencies as a potential emancipatory or left-wing alternative to traditional forms of finance.

I've tried to write this for the uninitiated. You'll learn how crypto works, but the technical aspects of blockchain are not particularly important. Without exception, when you buy crypto, you're buying access to a scam. And without exception, everything that uses a blockchain would work better without one. The book is written for people interested in reclaiming our digital destinies from Silicon Valley, and replacing their

capitalist innovation agendas with something that might actually lead to greater human and non-human flourishing.

The greatest challenge in writing this book has been the constantly shifting terrain on which I am writing. Crypto is like watching normal finance capitalism in fast-forward, without a pause button. Boom-and-bust cycles that would last ten years in the City occur weekly in crypto. I had the idea for this book when most cryptocurrencies were at their all-time price high. I'm finishing it during a so-called crypto ice age. There will likely be many more shocks for the crypto industry and more Silicon Valley pump projects for our consumption.

I'm not solely taking aim at the software developers and computer scientists here. There is a commonly held belief in mainstream academia that if we only had more philosophers and humanists in big tech and finance, we could avoid wrong turns. Yet it was mainly the coders calling bullshit on blockchain scams, the biggest of which were pushed by a cabal of environmentalists, development economists and moral philosophers turned Silicon Valley thought leaders for hire. As this book explains, trusted do-gooders were the biggest promoters of blockchain as a useful innovation for human development. Meanwhile, those who understood the underlying cogs and gears were pointing out the emperor's nudity.[1]

Much of this book has been informed by the excellent critique of others who've been shouting very loudly for years concerning the fraud and fairy tales coming from the abhorrent crypto industry. I've tried to include quotes and signposts to their work throughout the book. Others I've not, due to the activist and/or practice-based nature of what they do. But I'd especially like to thank Stephen Howson, Didier Mary, Inte Gloerich, Jillian Crandall, Olivier Jutel, Antulio Rosales, Xavier Balaguer Rasillo, Alex de Vries, Kate Maclean,

James Davoll and Paul Dolan, for being such important pioneers in your respective fields, while also being thoroughly decent human beings. Big thanks also to David Castle at Pluto Press for seeing promise in this project. And of course, to my family for tolerating me while I wrote it.

Introduction

The rise of crypto was commonly likened to a market mania – symptomatic of a 'madness of crowds'. There are many theories on what caused the bubble to finally pop. Some blamed the contagion effects from a collapsing cryptocurrency project called TerraUSD. Others blamed governments for abruptly ending an unprecedented era of 'easy money'. Increasing interest rates, Covid controls, and Russia's invasion of Ukraine all played a part in sobering up investor portfolios. But crypto was brought down primarily by sheer weight of fraud. Unlike previous manias for Tellytubby Dolls or tulips, most crypto projects were designed to deceive. The level of criminal fraud in crypto markets may eventually prove many times higher than any investment scandal in history.[1] While that's certainly an important part of the story, this book intends to crack open a much bigger magic trick; an idea that many people still find utterly mesmerising: blockchain technology.

Blockchain promised to revolutionise every industry. It would fundamentally change how we live, work, communicate and spend. Companies, banks and charities – even entire governments – would be replaced by blockchain technology as part of the so-called Web3 revolution. This book looks back at what really happened, when men tried to fix our global development challenges with blockchains. It looks at the delusional fanatics still trying desperately to keep the illusion alive, and charts the direction in which our digital lives are headed, unless the blockchain bubble bursts.

The list of popped asset bubbles, associated with popular delusions and irrational crowd dynamics, is very long. Historically, these bubbles were inflated through their endorsements. Popular celebrities, including the artist Jan van Goyen, helped push seventeenth-century Dutch society into a frenzy over tulips. In his 1841 book, *Memoirs of Extraordinary Popular Delusions and the Madness of Crowds*, Charles MacKay describes how many otherwise normal people were swept up in a speculative fever, spending a year's salary on rare tulips, hoping to resell options on future bulbs for huge profits. Likewise, the ballooning British South Sea Bubble of 1720 was inflated by King George I and most of his government. Even Isaac Newton lost his shirt. The Wall Street Crash of 1929 stole the fortune of Albert Einstein. Just like Tulipomania, South Sea stock and Pets.com, the recent crypto bubble was driven by trusted endorsements at all levels and a seemingly irrational speculative mania over some sort of innovation. Few seemed to fully understand what it was, beyond that it might somehow make them rich quickly. But there was also an underlying magic show. As the futurist and science fiction writer Arthur C. Clarke wrote in his 1962 book *Profiles of the Future*: 'Any sufficiently advanced technology is indistinguishable from magic.' And so, from time to time, we can be forgiven for seeing innovation where there is only an illusion.

In 1769, Slovakian inventor Wolfgang von Kempelen created such an innovation illusion: a mechanical chess-playing Turk. Kempelen was an industrialist. He'd built early versions of microphones, typewriters and steam turbines. After attending a party at Schönbrunn Palace in Austria, where a magician was performing an illusion act involving magnets, Kempelen decided to turn his talents to deception. After six months of tinkering, he returned to the palace with an automaton consisting of a life-sized model of a human head and torso dressed

in Ottoman robes and a turban – the traditional costume of an oriental sorcerer. Its left arm held a long Ottoman smoking pipe, while its right lay on top of a large cabinet next to a chess board. The front of the cabinet consisted of three doors, which could be opened one at a time to reveal a complex interior of clockwork machinery.

Kempelen addressed his audience and began a demonstration. After opening and closing the doors, he invited members of the audience to inspect the automaton for any signs of trickery. The first person to play against the Turk was a courtier who, along with all the other challengers that day, was quickly defeated. Kempelen promptly took his Turk off on a sell-out tour around the great theatres of Europe, where it typically beat nearly all its opponents within 30 minutes. Famous losers included French Emperor Napoleon Bonaparte, Frederick the Great of Prussia and Benjamin Franklin.

But the Turk was a hoax. An accomplished chess master[2] sat inside the cabinet with an oil lamp, pulling strings and pantograph levers connected to a magnetic pegboard. The operator used Kempelen's early microphone to shout 'Echek!' (check in French). Smoke from the lamp would exit the cabinet via the Ottoman's pipe. Bruised opponents were usually heavily distracted by the Turk's nodding head, jerky hand and noisy cogs, which all pieced together to appear like cutting-edge technology. Players and paying audiences were also totally distracted by the many possibilities for human development embodied by a machine that seemed to symbolise all the hopes and fears prevalent at the dawn of the industrial revolution. Adam Smith's *The Wealth of Nations* was circulating at the same time as the automaton. Both works offered glimpses at an automated future under capitalism. Meanwhile, Luddites fearing their imminent irrelevance due to industrial automations were smashing newly installed looms. It wasn't

until the 1830s, some 70 years after the Turk's debut, that an American sceptic, Edgar Allan Poe, suggested in his *Maelzel's Chess-Player* essay that the Turk was an elaborate scam. But by then, the once novel automaton had been relegated to a dusty corner of a museum, where it was destroyed in a fire.

This book considers blockchain innovation as an illusion. Like the chess-playing Turk, blockchain successfully tricked its audience not only because of its mysterious and often unfathomable complexity, but because of its trustworthy endorsements, the political moment in which it was presented and the possibilities promoted for serving human development.

As the dust settles in the wake of high-profile crypto fraud cases, the book won't get bogged down with deciding what crimes have been committed. I set out to answer a more interesting set of questions: How was the blockchain illusion possible? In whose interests were blockchain projects developed? Who were the victims? And why are there still so many believers for whom blockchain automation remains the 'jewel in the crown' of innovation?

Crypto experiments were rarely demonstrated to audiences of resilient and willing volunteers before being given to the sick. The economic guinea pigs were usually the poorest and least able to push back. I explain how these projects preyed on vulnerable communities to experiment with private programmable money, to appropriate land, data and resources, and to recruit new suckers. Men with blockchains sought out people suffering debt crises, war and environmental disasters – the more scarred from past colonial abuse the better. But they were rarely drawn to oppressed folks because they wanted to genuinely fix poor people's problems. For most crypto developers, poor people's only problem was a lack of crypto.

Quitting blockchain does not stifle innovation or human development, it stifles fraud, conflict and climate breakdown. But just because blockchain is terrible tech doesn't mean it will fade into obscurity on its own. The worst human inventions, from asbestos toothpaste to leaded petrol, have all hung around longer than they ideally should. Cutting our losses and moving on from blockchain requires a purge, exposing the levers under the cabinet and the deceptive motives of the men inside.

ILLUSIONS OF INNOVATION

So what exactly is blockchain? A blockchain is an immutable append-only database that first appeared with the cryptocurrency Bitcoin: a peer-to-peer system of digital cash. You may be thinking, 'but isn't all cash digital these days, what's so special about Bitcoin?' But Bitcoin is digital cash without banks, or any regulator at all for that matter. Instead of state-controlled banks mediating what payments are allowed and getting all the rewards for keeping the Bitcoin books straight, a consensus mechanism is built into a blockchain to help decide which transactions are legitimate. Blockchain consensus mechanisms vary, but the two most common are called Proof of Work (used by Bitcoin) and Proof of Stake (PoS, used by Ethereum). Bitcoin's Proof of Work mechanism uses millions of specialist machines, known as 'miners', who compete for the right to validate the transactions occurring on the network. Ethereum does away with the energy-intensive competition, selecting validators from a pool of willing computers instead. Bitcoin and Ethereum both use 'open' or 'permissionless' blockchains, that is, anyone can use them, join the network as a validator and view a full history of transactions.[3] In both cases, validators are compensated for their work with rewards of new

cryptocurrency tokens. And whenever cryptocurrency is transacted, the sender pays a fee to the validator who recorded it. These transactions are validated in 'blocks'. When the block is full, it becomes read-only. After being time-stamped, it joins a chain of other read-only blocks. The validators doing the work can theoretically be anyone. But the huge resources needed to become a blockchain bookkeeper means that over half of all Bitcoins are created by just three 'pool' companies, while only the biggest Ethereum holders get the privilege of validating those transactions.

When Bitcoin was first launched in 2009, not many people were interested. Because only a few enthusiasts wanted to play the Bitcoin-mining competition, these early adopters were able to hoover up the bulk of the available tokens with standard computer hardware. With the heady rewards on offer today, the contest has heated up. And so has the project's energy use and climate impacts.

Cryptocurrencies are responsible for a huge environmental footprint. A crypto-mining machine is essentially a computer, about the size of a toaster, yet just one of them uses three times more energy than the average UK house. I explain why and how in Chapter 4. There are millions of these toaster-sized computers clumped together in climate-controlled warehouses and shipping containers around the world, burning through a medium-sized developed country's worth of mainly fossil-fuelled energy. They run 24/7, flat out, for a year or two. Once they're burned out, mining machines can't easily be repurposed to do anything else. Around 98 per cent of these machines will end up on a dump somewhere in the Global South having never successfully mined a single Bitcoin.[4] Bitcoin alone produces more hazardous electronic waste than the whole of the Netherlands each year.