On May 17, 1792, twenty-four men stood beneath a buttonwood tree and affixed their names to a document that transformed the world. They were all acquaintances who lived within a few blocks of one another in Manhattan; later they would choose to do business in a local coffeehouse. These traders assembled each day on Wall Street to buy and sell government bonds and corporate stocks. Their agreement’s modest goal was to squeeze out the local auctioneers who commonly rigged prices. How little they knew. Fast-forward two-and-a-half centuries in time, but just three blocks away in space. The Depository Trust & Clearing Corporation (DTCC), a company descended from the Buttonwood Agreement, today processes $1.5 quadrillion of transactions annually. That is $3 billion per minute, or the annual output of the entire world economy every month. The financial flows that it and its sister entities track are the lifeblood of our civilization.

The story of how we got from the eighteenth-century foundations of the New York Stock Exchange (NYSE) to the contemporary global financial system can be told in many ways. I use it here to illustrate an even larger story. What brought together those early stockbrokers was the same force that led the DTCC to own virtually every share of stock traded in the United States. (If you find that last bit unbelievable, read on.) It is a critical factor often underappreciated in the fate of nations, and of human relationships. It is both the objective of the legal system and what takes over where the law ends. It is trust. Trust is the buttonwood tree of society: Its roots run deep and its branches extend everywhere. It is invisible and difficult to pin down. Yet the dynamics of trust—its architectures—influence virtually every aspect of the world that we see around us. The differences between the traders under the buttonwood tree and modern Wall Street are not just matters of size and speed; they are rooted in mechanisms of trust.

When a new form of trust comes along, it is a bit like a new theory of physics. The revolution never completely displaces what came before. Albert Einstein’s theory of relativity changed everything. Yet students a hundred years later still learn Isaac Newton’s mechanics from the seventeenth century, which more comfortably capture our day-to-day world. And classical relativity itself now survives in unsettling tension with quantum mechanics. Both theories seem correct, despite their inconsistency. The task for experts is to reconcile the models with each other and with our experience of reality. The same goes for models of trust.
On January 3, 2009, a new trust architecture entered the world with the launch of Bitcoin. Its manifesto was posted under a pseudonym on the modern equivalent of the cathedral door where Martin Luther nailed his theses: an Internet discussion list. Its author consciously stood on the shoulders of giants and quickly disappeared. Yet a seed was planted. In the years since, others took the ideas far beyond the original paper. Fortunes have been made; billions have been invested; thousands of companies have been founded; new industries have emerged; and the world’s most influential corporations and governments have taken notice. There have also been thefts, controversies, scams, fractures, lifetime prison sentences, and speculative bubbles. And this is just the beginning.

The great innovation is most commonly called the “blockchain.” Even seasoned technology experts often find it difficult to grasp. It can be implemented in a variety of ways, in a diverse array of contexts. At the core, though, it represents a simple idea: Trust a system without necessarily trusting any of its components. More specifically, a blockchain network allows participants to trust the information recorded on a shared ledger without trusting anyone to validate it. And no one—not an owner, not an exchange, not even the government—has unbridled power to stop or alter transactions on the network.

To some, the blockchain represents freedom from corporate power, government power, and the legal system that reinforces both. To others, it is a way to empower criminals and a new group of shady insiders. Alternatively, perhaps it is just the way that all organizations eventually will do what they do more efficiently. It is money, or all about money, yet it is not about money at all. It is a creature of pure mathematics, or of economics, or of psychology, or of governance. It is the subject of boundless enthusiasm, much of it wildly uninformed. The communities and systems around it are developing at a breakneck pace. It could change the world … but crucially, how and when remain uncertain.

One aspect is already clear: The blockchain does not eliminate the need for trust. It represents, rather, the reemergence of trust in a new form. Those early stockbrokers under the buttonwood tree came together based on their personal relationships and granted power to an intermediary, the exchange. Blockchain network participants trust despite the absence of any central authority or interpersonal connections. This new approach has a plethora of valuable real-world applications, but also faces significant challenges. Its potential, and its limitations, track the contours of the trust it enables.
Many are skeptical. Legendary investor Warren Buffett called Bitcoin a “mirage.” Nobel Prize–winning economist and commentator Paul Krugman described it as “evil.” And JPMorgan Chase CEO Jamie Dimon, one of the world’s most respected bankers, labeled Bitcoin “a fraud,” later declaring that “it is creating something out of nothing that to me is worth nothing.” Yet even as Dimon made these statements, his firm was investing in blockchain-based technology and hosting conferences on the “cryptocurrencies” it enabled.

Dimon may well be right that things will “end badly” for the growing numbers of speculative cryptocurrency investors. This book will not offer advice on whether bitcoin or other cryptocurrency tokens are worth buying, any more than a work on modern portfolio theory would tell you which stocks to pick. Short-run volatility today makes cryptocurrency investing a trader’s game rather than a reflection of long-term value. And the investment potential of cryptocurrencies is just the tip of the iceberg. Over the long run, the important questions are whether the approach to trust that the Bitcoin network introduced is fundamentally sound, and if so, what factors might lead to the success or failure of systems employing it.