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CRYPTO ISN'T JUST AN INVESTMENT. IT'S AN ENTIRELY NEW ECONOMY

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Remember the early days of the internet when, unless you were a programmer, it wasn't entirely clear why computers needed to talk to each other? And then just a few years later we couldn't imagine a world without the internet? That's how I see blockchain, the technological breakthrough that made Bitcoin, Ethereum and countless other crypto apps possible.

Like then, there's a substantial gap between those who understand the technology and those who are scratching their heads. Here's a quick primer on four fundamental concepts in the background, and my take on why you need to pay attention to what I believe is the most significant technological advancement of our time.

1 . Bitcoin, the first application of a blockchain

Bitcoin was the first crypto superstar, created in response to the chaos of the 2008 financial crisis. Lenders failed consumers in a very public way, and it fed a growing distrust of big banking. Banks received far more than just bailouts. Profits were allowed to stay private while losses were socialized—the public shouldered the burden instead of the banks.

Bitcoin's pseudonymous creator, Satoshi Nakamoto, wanted to create an alternative digital currency that did not rely on "too big to fail" central banks and other authorities with murky agendas. With a white paper that would influence developers and investors around the world, he proposed an alternative peer-to-peer (P2P) payment system that did not require third-party confirmation. This way, banks, governments and other central authorities aren't required to settle each and every transaction.

Today, Bitcoin is considered by many to be a viable, alternative digital currency—and it's available to anyone around the world with a smart phone.

Bitcoin is only one crypto platform. At this very moment developers are creating thousands more applications of blockchain technology, designed to address thousands of personal and business

needs – not just financial. We are still in the early-adopter phase of blockchain technology, with a global penetration of less than 2% and U.S. penetration at 17%.

What is a blockchain? Put simply, it's is a new kind of database, where data is stored on individual, independent computers that exist (and thus are distributed and decentralized) all over the globe. Each block of data is stored chronologically, instead of in tables and fields like a traditional database. There is no central entity controlling any blockchain interaction: it's all kept on track via ingenious cryptographic and computer software.

2. Immutability

Virtually every database technology used today allows transactions to be altered or overwritten. This includes everything from bank balances to health records. In a blockchain, by contrast, posted transactions are there forever and can never be deleted or changed by anyone. Period. So, if Bob sends Sally one bitcoin (BTC), Sally has 1 BTC. That transaction is irrefutable. It's written on the blockchain, all players in the network validate it and all have a record of the transaction. If Bob says it didn't happen – and even if Bob took Sally to court – we could see the transaction on the chain and know the facts. There are few places in the world where such certainty exists, and it's especially important for currency transactions but for transactions of any type.

3. Trustless Transactions

Our economy requires trust at every turn. When you are at the grocery check-out counter, you trust the credit card company to debit the correct amount from your bank account. You trust the bank to honor its agreements with you. You trust that the store's bank and payment systems will operate as expected. And so on. This is why brands are so valuable: They are marks of trust.

In the crypto economy, trust is less important, because you don't need a third party to facilitate and settle transactions. When you deposit money into your cryptocurrency wallet, you're assured that the blockchain is keeping track of everything. Interested in a work of art? You can see its provenance (history of ownership and origin) on the blockchain. No third parties needed. No need for trust. Instead, everything is authenticated cryptographically.

4. Cryptography and Natural Scarcity

Our current economy still relies on the power of our unique signatures. Cryptocurrencies such as Bitcoin do as well, by using cryptography techniques and encryption keys. Bitcoin uses complex mathematical codes to store and transmit data in a way that ensures the legitimacy of each transaction and participant, just like an old-school signature. Every participant in the cryptoverse, via her wallet, has a unique digital signature – one that's impossible to forge.

We all know scarcity creates value. Cryptography makes it easier to establish the authenticity of someone conducting a transaction. It can also create verifiably scarce digital assets that mimic rarity in the natural world, like gold and diamonds.

Right now, it takes an enormous amount of energy – a scarce resource – and expertise to mint a bitcoin, which then becomes a scarce digital asset. As there will never be more than 21 million bitcoins, bitcoin is scarce by design.

What can we do now, that we couldn't do in the past?

It's easy to mistake bitcoin and other digital assets as just another new investment opportunity. Yes, it's that – but it's so much more. It's really the beginning of an entirely new economic infrastructure.

A Venezuelan struggling with a 2,719 percent inflation rate can put money into a Bitcoin account to protect themselves from such hyperinflation. A Nigerian who lacks access to bank accounts but wants to receive money from relatives abroad without paying exorbitant fees can do so easily, quickly and cheaply with Bitcoin. There are thousands of other commercial applications that can improve the lives of billions of people.

Imagine, for example, a world where digital artists can sell their work in a global marketplace, where art buyers can buy or sell fractions or that artwork instead of the entire work, and use the proceeds to invest in *other* art, then combine them to create an entirely new, unique work – which they can then sell? The next buyer could lend some shares of the original art, earning interest to generate income, and the next seller could sell contracts granting buyers the option to buy fractionalized shares in the work so people can speculate or hedge their positions. And all of this would be conducted autonomously at the time of last purchase.

Science fiction? Nope. It already exists. The technology is in place and the marketplace is already forming around it. And that's just one example of a fascinating new world that blockchain makes possible – because the technology makes commerce faster, cheaper, safer and more transparent.

Now you can begin to see why there's such excitement about bitcoin and other digital assets. Decentralized finance, Non-Fungible Tokens, Decentralized Autonomous Organizations, Central Bank Digital Currencies – these innovations and more are possible thanks to blockchain technology. Crypto isn't just an investment. It's an entirely new economy.

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