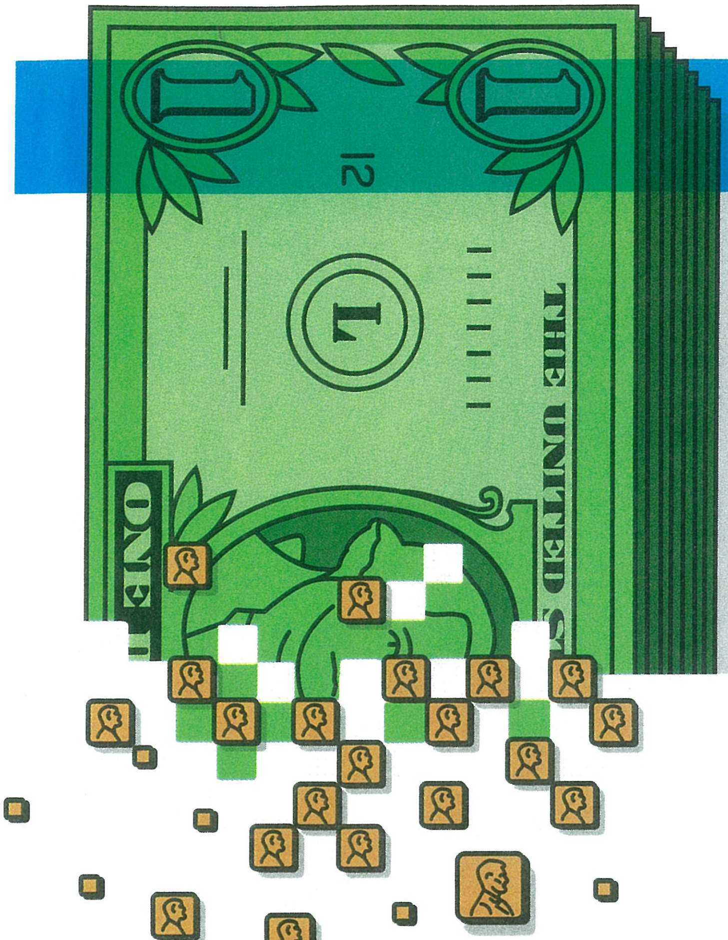
BY DAVID WOLMAN



HOW TO SAVE BITCOIN

LET'S TAKE ECASH MAINSTREAM

THERE ARE FEW DISAPPOINTMENTS in the Digital Age more conspicuous than our failure, as security guru Dan Kaminsky puts it, to "apply the Internet to money." Social networks and smartphones grant us superpowers beyond anything we might have dreamed 10 years ago: We almost never get lost, we can keep in touch with everyone we've ever met, and we can access the entirety of human knowledge. Not bad! But if we want to buy a $2 knickknack on the web, we still have to slog through a payments morass—multiple screens of personal information, plus painful transaction fees that →

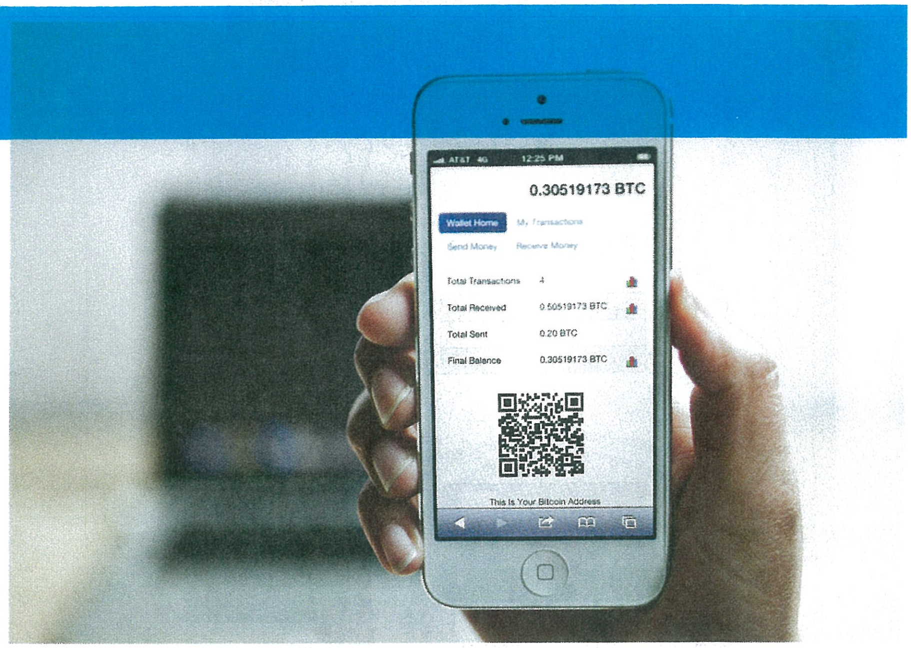
ILLUSTRATION BY NICHOLAS BLECHMAN

are nominally paid by the vendor but inevitably passed along to us.

This has led to an incredible disparity in ecommerce. For a handful of big companies, Apple and Amazon chief among them, micropayments are outrageously profitable. These giants have your credit card number and your trust, so you can click and buy in an instant. For everyone else, there's ostensibly PayPal, which rakes in billions of dollars a year for its parent company, eBay, by enabling streamlined payments to vendors. But setting up a PayPal account takes time for both parties. Vendors also complain that chargebacks—holds on funds when a customer disputes a charge—are hard to win, endangering what are already cash-flow-poor businesses. None of our online modes of payment offer the anonymity and universal acceptability of cash. What we need for micropayments is a digital equivalent to paper money: anonymous, fast, final.

Enter Bitcoin. For most of us, it's tempting to write off the cryptocurrency as unserious. Remember all those headlines about price volatility and questionable legal status? But there's a reason why venture capitalists and entrepreneurs continue to pay close attention. For all its weird politics and bad press, Bitcoin may just be the most ingenious system ever created for settling online transactions. Done right, it could put small ecommerce sites on a level playing field with the likes of Amazon and Apple. Instead of running from Bitcoin, we should commandeer it from the radicals and make it work for the rest of us.

Contributing editor **DAVID WOLMAN** (@davidwolman) *is the author of* The End of Money, *out this fall in paperback.*



Bitcoin could make buying from any vendor as painless as buying from Amazon.

IF YOU'VE HEARD anything about Bitcoin, it's probably the enchanting genesis story: a monetary system built entirely on mathematics, brought into being by a mysterious coder (or group of coders) going by the name Satoshi Nakamoto. If you know anything else about Bitcoin, it might be the anti-statist politics and black market proclivities of its superusers, or the sometimes wild fluctuations in the currency's value. In April 2013, speculation caused the price to soar from \$140 to \$266 in just four days—only to lose most of those gains almost overnight. In July it dipped down below \$70 per unit; at press time it was back around \$140.

Despite those worrisome traits, Bitcoin is really the first true currency designed for the Digital Age. It's made out of bits but behaves like cash: It provides what is damn close to anonymity, transactions are final, and it's hard to counterfeit (more so than greenbacks). This cashlike quality largely results from Bitcoin's fulfillment system. Picture a 19th-century shopkeeper's ledger. Bitcoin works similarly, except that instead of the ledger sitting on one person's desk, Bitcoin's ledger—called the "block chain"—is distributed over the entire network. There's a shared record of every Bitcoin-denominated transaction ever, with the user info concealed by encryption. So while all Bitcoin network activity is essentially public (to protect against double spending), identities are private.

It shouldn't be surprising that Bitcoin, which has a total current value of around \$1.5 billion, is more vulnerable to price turbulence than the world's more trusted national currencies. Whereas central bankers have all kinds of tools at their disposal for steering the value of their currencies, Bitcoin was pointedly designed without any central authority, and the rate of new money creation is fixed by an algorithm and set to taper off over time. There is no mechanism to safeguard the currency's price, which means that unless you're Winklevoss-level wealthy, it's far too risky to mess around with more than a few dollars' worth of the stuff.

So if the fundamentals are fixed, how can Bitcoin possibly become more than just a curiosity in the world of ecommerce? The answer is that Bitcoin is more than just a currency; it's an open source protocol, and as such it's something that can be molded. We can make Bitcoin our own by building on top of it.

ONE SOLUTION to the price fluctuation problem is relatively straightforward, albeit imperfect: Don't hold bitcoins for very long. Instead, link an account containing dollars, euros, or some other major currency to a Bitcoin "wallet," and convert to bitcoins only when undertaking an online transaction. The seller's wallet can do the same. That way, both parties reap the benefits of Bitcoin's slick settlement system without exposing a big chunk of wealth to the vagaries of price. This is the solution that Coinbase, a San Francisco–based startup, is already attempting. The company launched a promotion this summer that offers merchants free conversion from Bitcoin into other currencies (up to $1 million). That way vendors can accept it as payment but don't have to keep a cash register and safe full of it.

But creating a layer of intermediaries between users and Bitcoin probably won't be enough to tame the currency's tempestuous price. It's time to empower a central authority to help regulate Bitcoin as it grows. There's already some precedent for such a move: Just this past summer, a group called the Digital Asset Transfer Authority formed to establish guidelines for digital currencies, including safeguards against money laundering. And leadership, despite all the rhetoric about decentralization, has already proven crucial to Bitcoin's survival. Last spring, when a software update accidentally caused the block chain to split in two, a handful of the protocol's core developers convinced merchants to stop processing transactions while they steered the community back to a common ledger. It's not out of the question that superusers could endow a sort of Bitcoin central bank that intervenes when the price fluctuates too wildly.

Would the die-hards go along with this? Probably not. If they don't, though, there's always the nuclear option. A group of business-minded cryptocurrency experts could simply take the Bitcoin source code and start over, creating a Bitcoin 2.0 that uses the elegant settlement system, improves the mining process, and adds a layer of oversight.

The good news is that such an extreme move might not be necessary. If we can coax more people into using Bitcoin, it won't just improve the currency's public image, it'll also help shrink its price oscillations. "I think Bitcoin is volatile right now because most activity is based on speculative value, not trade value," says Chris Dixon, a partner at the VC firm Andreessen Horowitz. "But if Bitcoin becomes mainstream, everyday use should tame the volatility."

WE NEED TO TAME BITCOIN'S WILD PRICE GYRATIONS. IT'S TIME TO EMPOWER A CENTRAL AUTHORITY TO REGULATE THE CURRENCY.

This currency, like all currencies, needs to inspire trust to succeed. Bitcoin is going to need leaders and institutions that stake their reputations and money on guaranteeing that the system works. To make the decentralized cryptocurrency a true force in the global economy, it needs a touch of—gasp—centralization.

QUEASY TWEETS

FORGET YELP. Soon an app could delivers something far more helpful than taco truck recommendations: a list of restaurants that might make you sick.

Earlier this year, University of Rochester researchers used a Twitter-searching tool called nEmesis to pick out possible cases of food poisoning. GPS data is accessible through Twitter's API. By cross-referencing that info with the coordinates of restaurants, the system tags patrons and follows them for 72 hours, watching for tweets containing things like "threw up" or "#tummyache." Thanks to those who feel compelled to share their GI distress with the world, nEmesis detected 480 suspected cases of food poisoning in just four months. The results correlated with health department scores—the more sick tweets, the more likely an eatery had recently been given a failing grade.

Cocreator Adam Sadilek, who now works at Google, sees two possible uses for nEmesis: as a warning app for consumers and as a new "adaptive" inspection system for health officials, telling them which restaurants most need looking in on. What we're having trouble digesting: Now people will have even more reason to overshare. —ELISE CRAIG

RYO TAKEMASA

ANDY BROWNFIELD

Brownfield covers technology, startups, higher education, manufacturing and courts

ABROWNFIELD@BIZJOURNALS.COM 513-337-9433 @ANDYCINCIBIZ

DIGITAL CURRENCY

More than fake Internet money, Bitcoin gaining interest

The Internet has led to the rise of e-everything: email, e-commerce, e-newspapers and now even e-currency. Speaking of e-newspapers, I wrote about the e-currency Bitcoin for the *Courier's* website, and the story exploded, even appearing at the top of the Google News list of Bitcoin results. There's a lot of interest in Bitcoin, and that's growing locally, so just what is the e-currency?

Bitcoin is gold for nerds. At least that's how one Wall Street analyst puts it.

Convergex Group Chief Market Strategist Nicholas Colas isn't wrong about the digital currency. Like gold, Bitcoins only have value because people believe they do. Also like gold, Bitcoins aren't controlled by a central bank. And further solidifying the metaphor, Bitcoins are mined.

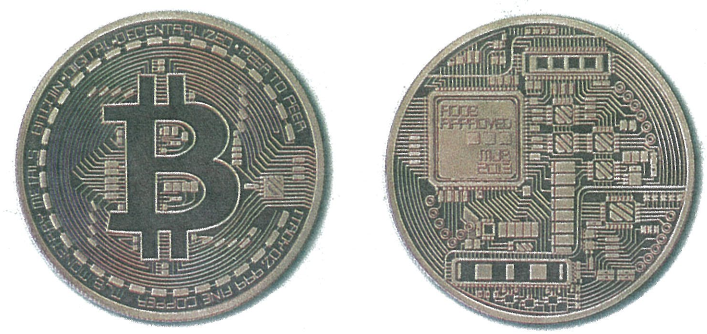
Wait, what?

Let's back up a little bit. Bitcoin was brought to life in 2009 by an anonymous creator who "buried" 21 million coins online. We'll get to that later.

Bitcoin may seem like fake Internet money, but it has real value. As I'm writing this, one Bitcoin is worth \$846.20. And that value fluctuates constantly, like a security.

Bitcoin can be used at a number of online – and even some brick and mortar – retailers. An Atlanta-based payment service called BitPay even allows companies to pay their employees in Bitcoin. The online black market Silk Road infamously used the currency because all transactions are anonymous.

Local startup supporter Differential is looking to expand the currency's use in Cincinnati, to run some experiments under the name SimpleCoin, which will include Bitcoin mining and helping retailers adopt the currency.



FILE IMAGE

Bitcoin has real value, but the currency fluctuates wildly. Currently, one Bitcoin is worth around \$846.20.

Bitcoin has some advantages over traditional currency. Bitcoins are transferred between individual users, so there are no banks or clearinghouses to deal with, they can be bought and exchanged tax-free, and transaction fees are low or nonexistent. As mentioned earlier, they're private and anonymous.

But there are disadvantages as well. Bitcoins are volatile. A recent spate of activity has caused their value to fluctuate wildly. At this time last year, one Bitcoin was valued at around \$14. The value skyrocketed in November, reaching a high of \$1,124 on Nov. 30 before plummeting to \$539 by Dec. 18.

The rapid increase in value has caused some to treat it as a security rather than a currency.

Bitcoins are also uninsured and transactions are irreversible.

Now, let's get to the mining.

As I mentioned earlier, the anonymous creator of Bitcoin "buried" 21 million coins in 2009. Coins are mined by solving complex math equations online. As each block of coins is mined, the equations get harder and harder, timing out and limiting the supply. So far, about 11 million have been mined.

Mining isn't for everyone, though. As the equations get tougher, they require more and faster computer processors to solve. Early miners could use the processors in their computers to solve the problems, but now professional miners use special processors specifically designed to mine the coins.