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Ronald J. Colombo

Maurice A. Deane School of Law at Hofstra University

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BITCOIN: HYPE OR HARBINGER?

By Ronald J. Colombo*

As of this writing, Bitcoin remains a topic of no small amount of fascination. Rarely does a day go by without some article appearing somewhere discussing the virtual currency.¹

That said, the initial exuberance surrounding Bitcoin appears to have worn off.² Bitcoin's price can serve as an admittedly rough but nevertheless useful barometer of interest in the currency. Whereas in November of 2013 Bitcoin was trading at \$1,125 to the U.S. dollar,³ as of March 2016 Bitcoin was trading at only \$416 to the U.S. dollar.⁴

Further, cracks in Bitcoin's technological infrastructure appear to be developing. Whereas Bitcoin transactions have traditionally taken approximately 10 minutes to clear, that time has stalled to an average of 43 minutes.⁵ On the other hand, however, this dark cloud has a silver lining: transaction times have grown because demand for using Bitcoin has surged.⁶

Amidst this uncertainty, experts on virtual currency hailing from government, private practice, the academy, and the Bitcoin marketplace gathered together at the Maurice A. Deane School of Law on March 3, 2016 to discuss the developing legal and regulatory challenges posed by Bitcoin and other virtual currencies.⁷ Over the course of a long afternoon, these experts exchanged their thoughts and opinions on a variety of Bitcoin-related issues. In the pages that follow, two experts have expanded upon their presentations in writing.⁸

Absolute consensus over a phenomenon as dynamic and controversial as Bitcoin was never likely, and not surprisingly was elusive that afternoon. But a few general themes

*Associate Dean for Distance Education and Professor of Law, Maurice A. School of Law at Hofstra University. I wish to thank Steven Mare for his valuable research assistance on this topic.

¹ See generally Jeff Roberts, *The Crisis in Bitcoin and the Rise of Blockchain*, FORTUNE (Mar. 4, 2016, 11:32 AM), <http://fortune.com/2016/03/04/crisis-in-Bitcoin-rise-of-blockchain>.

² E.g. THE RISE AND RISE OF BITCOIN (DARONIMAX Media 2014).

³ Claire Brownell, *Bitcoin at a crossroads: The Canadians who may have saved the virtual currency – or ruined it*, NATIONAL POST (Feb. 26, 2016 1:19 PM), <http://www.nationalpost.com/Bitcoin+crossroads+canadians+have+saved+virtual+currency+ruined/11747090/story.html>.

⁴ See BTCQuote.com, <https://btcquote.com> (last visited Mar. 4, 2016); see also COINDESK <http://www.coindesk.com/price> (last visited Jan. 6, 2017).

⁵ See Sam Shead, *Bitcoin payments around the world are failing as the platform is overwhelmed*, BUSINESS INSIDER (Mar. 3, 2016 6:42 AM), <http://www.businessinsider.com/bitcoin-is-collapsing-and-payments-around-the-world-are-failing-2016-3>.

⁶ See *id.* This calls to mind one of the many quotes attributed to Yogi Berra: "Nobody goes there anymore. It's too crowded." Brainyquote.com, <http://www.brainyquote.com/quotes/quotes/y/yogiberra100418.html> (last visited Dec. 2, 2016).

⁷ The conference's proceedings and materials are available at <http://scholarlycommons.law.hofstra.edu/jibls/2016>.

⁸ See *infra* Allison Caffaroni & Meg Holzer, "Ev'ry American Experiment Sets a Precedent": *Why One Florida State Court's Bitcoin Opinion is Everyone's Business*, 16 J. INT'L BUS. & L. 6-25 (2016); Gary E. Kalbaugh, *Virtual Currency, not a Currency?*, 16 J. INT'L BUS. & L. 26-35 (2016).

did come across quite strongly, and all were enlightened, to a greater or lesser degree, by the various perspectives advanced by the assembled experts.

Although the future of Bitcoin *per se* remains hotly contested, virtually all concede that the technology unleashed by Bitcoin is here to stay – at least for the foreseeable future. Indeed, a growing number of companies have made significant investments in the technology at the core of Bitcoin, known as “blockchain.”⁹ This impressive list includes Infosys, Deloitte, IBM, PricewaterhouseCoopers, and KPMG.¹⁰ Additionally, “[d]ozens of large financial institutions, including many of the world’s major banks, have already launched initiatives to explore a blockchain’s potential.”¹¹

Blockchain technology is so novel, and so unfamiliar, that it remains difficult to fully grasp. Consequently, it remains difficult to entirely appreciate the potential implications of this technology. This is problematic, and must be overcome, as it can give rise to a form of Gnosticism in which the virtual-currency conversation is artificially restricted to a select few.

A “blockchain” is best thought of as a massive public ledger setting forth the entire history of transactions comprising it.¹² Each new transaction constitutes a new “block” added to the previous blocks comprising the “chain.”

Similar to Wikipedia, at least in its earliest days, a blockchain can be amended by the general public – by anyone with the technological know-how to do so.¹³ There are two very critical differences however.

First, a blockchain’s history is “immutable and irreversible.”¹⁴ Amendments are made only via accretion to the blockchain (via the proposal of an additional block in the chain), never by deletion.

Second, proposed blocks that represent new transactions are not accepted and recorded *carte blanche*, but must first enjoy a system-wide consensus.¹⁵ More specifically, the proposed blocks and transactions must first be vetted by the system’s “nodes.”¹⁶ Nodes, “full nodes” to be more precise, are programs running on computers throughout the world that validate proposed transactions by comparing them against the historical blockchain ledger and assuring that they meet the criteria for validity as per the network’s rules.¹⁷ As of this writing, the Bitcoin system has approximately 7,000 such nodes working continuously to vet

⁹ See Pete Rizzo, *Infosys: Blockchain Tech Adoption Won't Take A Decade*, COINDESK (Mar. 8, 2016 20:05 GMT), <http://www.coindesk.com/infosys-blockchain-tech-adoption-wont-take-a-decade>.

¹⁰ See *id.*

¹¹ See Kevin Petrasic & Matthew Bornfreund, *Beyond Bitcoin: the blockchain revolution in financial services*, WHITE & CASE INSIGHT (Mar. 7, 2016), <http://www.whitecase.com/publications/insight/beyond-Bitcoin-blockchain-revolution-financial-services>.

¹² See Portia Crowe, *There is a 'game changer' technology on Wall Street and people keep confusing it with Bitcoin*, BUSINESS INSIDER (Mar. 5, 2016 8:30 AM), <http://www.businessinsider.com/what-is-blockchain-2016-3/#blockchains-are-ledgers-like-excel-spreadsheets-but-they-accept-inputs-from-lots-of-different-parties-the-ledger-can-only-be-changed-when-there-is-a-consensus-among-the-group-that-makes-them-more-secure-and-it-means-theres-no-need-for-a-central-authority-to-approve-transactions-1>.

¹³ Wikipedia, WIKIPEDIA, <https://en.wikipedia.org/wiki/Wikipedia:Openness> (last visited Dec. 2, 2016).

¹⁴ Crowe, *supra* note 12.

¹⁵ See *id.*

¹⁶ See *Running A Full Node*, BITCOINCORE, <https://Bitcoin.org/en/full-node#what-is-a-full-node> (last visited Mar. 9, 2016).

¹⁷ Crowe, *supra* note 12.

the validity of the Bitcoin blockchain and proposed transactions thereto.¹⁸ As with many things Bitcoin, this network of nodes bucks common and familiar practice; although there are some modest incentives for hosting nodes, “many people and organizations volunteer to run full nodes using spare computing and bandwidth resources.”¹⁹

While the lack of a centralized authority supervising the system has some concerns about the security of such arrangements, blockchain supporters point to that very same fact as evidence of the system’s security.²⁰ As they explain, an international network of thousands of checkpoints (the nodes), all of which have to be in agreement as to a proposed transaction’s validity, is far safer than entrusting the system to the oversight of a single, centralized overseer.²¹ Thus far, the evidence has appeared to bear out the arguments of the system’s proponents, as the Bitcoin blockchain “has proven to be exceptionally accurate and secure.”²²

In a blockchain system such as Bitcoin, “wallets,” indicating one’s store of virtual currency, do not actually contain anything of value. Rather, wallets here are simply specialized programs that serve, among other things, to determine one’s place (for example, one’s entitlement to and possession of a certain number of Bitcoins) in the system via a reading of the blockchain.²³

By dispensing the need for intermediaries and supervisory organizations, it is becoming increasingly apparent that blockchain could potentially revolutionize the financial services industry.²⁴

Further, many are starting to recognize that blockchain’s applicability need not be limited to virtual currencies such as Bitcoin. Indeed, blockchain technology could be used to document and record the transfer of any asset, both digital and physical.²⁵ For example, consider the cumbersome process of verifying the title of real property. Via blockchain technology, property ownership and title changes could more readily and efficiently be confirmed and tracked.²⁶

In order to fully appreciate the possibilities opened up by blockchain technology, one should also consider the development of “smart contracts,” first theorized in writing by Nick Szabo back in 1997.²⁷ Smart contracts are “computer programs that can automatically execute the terms of a contract.”²⁸ By integrating smart contracts into blockchains, access to

¹⁸ See Bitnodes, <https://bitnodes.21.co/> (last visited Mar. 9, 2016).

¹⁹ See Running A Full Node, BITCOINCORE, <https://Bitcoin.org/en/full-node#what-is-a-full-node> (last visited Dec. 2, 2016); see also Jameson Loop, *Bitcoin Nodes: How Many is Enough*, <https://medium.com/@lopp/bitcoin-nodes-how-many-is-enough-9b8e8f6fd2cf#.teg5zyb07> (last visited Dec. 2, 2016).

²⁰ See Crowe, *supra* note 12.

²¹ See *id.*

²² See Petrasic & Bornfreund, *supra* note 11.

²³ See Crowe, *supra* note 12. A superb explanation of Bitcoin and its underlying technology is set forth in this volume by Allison Caffarone and Meg Holzer. See Caffarone & Holzer, *supra* note 8.

²⁴ See Petrasic & Bornfreund, *supra* note 11.

²⁵ See *id.*

²⁶ See *id.*

²⁷ Nick Szabo, *Smart Contracts: Formalizing and Securing Public Networks*, FIRST MONDAY, Sept. 1997, <http://ojsphi.org/ojs/index.php/fm/article/view/548/469>.

²⁸ John Weru Maina, *Cryptocurrency Burst Makes Smart Contracts A Reality, What Happened to Ethereum?*, CRYPTOCOINSNEWS (Jan. 27, 2015), <https://www.cryptocoinsnews.com/cryptocurrency-burst-makes-smart-contracts-reality-happened-ethereum>.

goods, services, and property could be automated, triggered by ownership status as evidenced by the blockchain. For example:

Suppose a car loan is implemented via a smart contract. Further suppose that to start the car you need a key that has a digital authorization code. Part of the smart contract could be that the digital code is valid for so long as the borrower timely makes payments. But if the borrower is in default, the borrower's authorization code is deactivated, thus rendering the car unusable to the borrower. Of course, a new authorization code could be authorized for the lender to take possession of the car.²⁹

The range of possibilities enabled by Bitcoin and blockchain, as set forth above, in addition to others yet unimagined, is unquestionably quite vast. Whatever their ultimate future, Bitcoin and blockchain will leave their marks on society. Whether in their current instantiation, or in some evolved manifestation, these phenomena will inevitably change how certain things are done. Not surprisingly, on this conclusion a general consensus has been reached. Apart from this not particularly profound, nor particularly detailed assessment, however, opinions diverge.

A fundamental question that has yet to be completely resolved is the very nature of Bitcoin specifically, and virtual currency in general. In other words, what exactly is Bitcoin? Is it a currency? Is it a commodity? Is it a security? How Bitcoin is characterized can have profound effects upon its treatment under the law, including the regulations and regulatory agencies to which it is subjected. Commentators and regulators alike differ over how Bitcoin ought best to be characterized.³⁰ Further complicating matters is the fact that different forms of virtual currency might best be characterized differently. Further still, arguably an identical currency could be characterized differently depending upon the context of its usage.

In his contribution to this volume, Gary Kalbaugh discusses how various agencies and parties have approached virtual currencies such as Bitcoin.³¹ The U.S. Commodity Futures Trading Commission ("CFTC") has determined that virtual currency is a commodity and not a currency.³² This determination was driven, at least in part, by CFTC's observation that "Bitcoin and other virtual currencies are distinct from 'real' currencies ... that are designated as legal tender."³³ Similarly, FinCEN's definition of currency as "legal tender" precludes treating Bitcoin and other virtual currencies as actual currency.³⁴

Without much explanation, the IRS, in a "Frequently Asked Questions" section of an advisory on virtual currency, declared that "virtual currency is not treated as currency that could generate foreign currency gain or loss for U.S. federal tax purposes."³⁵ Complicating

²⁹ James Gattoal & Elsa S. Broeker, *Bitcoin And Beyond: Current And Future Regulation Of Virtual Currencies*, 9 ENTREPRENEURIAL BUS. L.J. 429, 467 (2015).

³⁰ See generally Meghan E. Griffiths, *Virtual Currency Businesses: An Analysis of the Evolving Regulatory Landscape*, 16 TEX. TECH. ADMIN. L.J. 303 (2015).

³¹ See Kalbaugh, *supra* note 8.

³² *Id.*

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.*

matters, some courts have held that virtual currencies such as Bitcoin constitute “money, albeit not currency.”³⁶

In commenting upon these approaches, Professor Kalbaugh makes two observations. *First*, he points out how the CFTC’s categorization of virtual currency as a commodity self-servingly acts to expand the scope of the CFTC’s jurisdiction.³⁷ *Second*, he warns that by basing its determination on the concept of legal tender, the CFTC (and other agencies employing that approach, such as FinCEN) risks regulatory volatility, since “the mere act of designating virtual currency as legal tender,” which any sovereign could do, threatens to undermine its “primary argument for a virtual currency such as Bitcoin being deemed ... not a currency.”³⁸

In their contribution to this volume, Allison Caffarone and Meg Holzer examine a Florida court’s struggles in addressing Bitcoin in the context of the money service business and anti-money laundering statutes.³⁹ The court’s difficulty was fueled, in large part, by a lack of guidance with respect to virtual currency – either regulatory or legislative).⁴⁰ According to Caffarone and Holzer, the court erred terribly in its various conclusions regarding Bitcoin and how to characterize those who engaged in certain Bitcoin transactions.⁴¹ This case underscores the importance of reaching a firmer understanding as to what virtual currency is, and illustrates the problems that will continue to plague courts, regulators, and industry participants until this is achieved.

In the face of such confusion and uncertainty, Bitcoin users and purveyors, along with the users and purveyors of other virtual currencies, need to fumble their way through an unclear and dimly lit legal and regulatory environment. Attorneys have the challenging task of advising clients in this environment, armed with whatever precedent and regulatory guidance they can get their hands on.

Perhaps equally daunting is the responsibility of regulators and lawmakers, whose task it is to establish rules that safeguard consumers and markets without stifling growth and innovation. This balance is difficult to maintain when the subject under regulation is familiar and well-known; it becomes nearly impossible to get right when dealing with something as new and alien as virtual currency.

³⁶ *Id.*

³⁷ *See id.* at 6.

³⁸ *Id.*

³⁹ *See* Caffarone & Holzer, *supra* note 8.

⁴⁰ *Id.*

⁴¹ *See id.*