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THE ROLE OF STANDARD FORM CONTRACTS IN AN INFORMATION SOCIETY AND SMART CONTRACT FURTURE

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Introduction

2017 was said to be the "year of the smart contract" (Gilson, 2017)—a technology praised as having the potential to revolutionize the future (Cassano, 2014), smart contracts are based on an idea proposed by Nick Szabo in 1994 that describes a set of protocols that make use blockchain technology (like Bitcoin) to create small, automated 'machines,' which execute easily automated transactions with cryptocurrencies. They utilize "immutable, unstoppable, and irrefutable computer code" that, due to being tamper and revision proof, are said to be able to replace centralized governance and third party institutions (Szabo, 1996), the goal of many blockchain proponents (Wall, 2016). Since their successful implementation with the Ethereum blockchain in 2015, smart contracts have recently been adopted by Microsoft, Intel, and more than two dozen banks (Foley, 2017) and have been at the center of discussions for several national and international governments institutions and the entire, worldwide financial industry.

While smart contracts seemingly promise an a decentralized, networked environment similar to the ideal information society proposed by Castells (1996, 2007), smart contracts (and blockchain more generally) suggest that technology can *enforce* the "same rules for everyone," rather than just facilitate a platform. Although smart contracts may not substitute standard-form contracts (SFCs) in a 1:1 ratio, their similarities to many types of SFCs is apparent and should be explored. Further, since SFCs tend to appear "routine" and "superficial," the unequal position of the adherent (often users), including a lack of negotiating power and significant impact on user freedoms, is often masked in a digital environment, which only benefits drafters (DeNardis, 2012). Thus, this project looks critically at possible implementations of smart contracts, suggesting

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this analytical view is needed so as to ensure the inequities of previous SFCs are not codified into this new technology.

Issues: Standard form contracts and ToS Agreements

A common feature of commercial relationships, standard-form contracts (SFCs) have been a product of organized commerce in some fields (e.g. marine shipping, banking) for many centuries, and in others (e.g. mass production industries) more recently as a modern form of a business service contract for consumers (Sales, 1953; Burke, 2000). Defined as legal agreements that contain written, fixed terms in advance of a person using a service, SFCs account for the vast majority of contracts—it is estimated that more than 99% of all contracts used in commercial and consumer transactions are SFCs (Patterson, 2010). Modern SFCs have many positives: they encourage trade by increasing transactional efficiency, and decrease transaction costs through reduced negotiation (Hillman and Rachlinski, 2001). However, SFCs have also been questioned for their potential abuses as they leave one party (i.e. the adherent, or the entity who is being served) subject to the will of the other (i.e. the drafter, or the entity providing the service). Hence, as SFCs are "accompanied by inequality of bargaining power," it is much more likely that they will be "used as instruments of economic oppression" (Mulcahy, 2008).

One relevant example that can be used as a case study of SFCs' inequities is the current genre of Terms of Service (ToS) that appears either as a link in the margins of webpages (*browsewrap*) or as a step that requires explicit agreement (*clickwrap)* (Moringiello & Reynolds, 2007). What is constituted as agreement in these settings is far from the traditional "meeting of the minds" description previously used to determine the status of a contract (Preston and McCann, 2011). Moreover, combined with lack of negotiating options and commonly used mandatory arbitration clauses, this form tends to prompt a "private conversation" between drafters and courts (Horton, 2009). Additionally, overbroad, legally prosecutable descriptions of 'authorized use' are allowed under the outdated provisions of the Computer Fraud and Abuse Act (CFAA), such as in the current ACLU case which aims to protect researchers from being charged with normal activity (e.g. data scraping or 'test' accounts), citing a 'chilling effect' from these contractual affordances (i.e. Sandvig v. Lynch, 2016).

Analysis

If we apply these issues from digitizing ToS agreements to smart contracts, we can draw some early parallels. 'Agreement' for smart contracts takes many forms, including digital signatures or commitment to the block; however, smart contracts have the potential to have a wide variety of functions and could be between two individuals, two firms, or even between two other smart contracts. One example of 'agreement' that could be used to replace arbitration takes the form of a 'consensus' implemented by some smart contract applications, where token holders are chosen at random to vote on issues, similar to juries; yet due to the incentives to participate, often these votes are not objective (Othman, 2017). Additionally, as some scholars have began to note, the proponents of smart contracts may be overlooking some of the previous social mechanisms in contracts, such as 'good faith clauses' or purposefully vague terms that

allow for future renegotiation between the two parties, which are difficult to implement in code into this new environment (Levy, 2017). Lastly, older policies like the Sarbanes-Oxley Act (2002) which applies to the destruction and alteration of business records, could, like the CFAA, be applied in a similarly overbroad way if each smart contract transaction is determined to be a record, which could have prosecutable consequences for average users. Thus, in the networked, information society, as the issues of SFCs have only been exacerbated as ToS have retreated from paper contracts to conspicuously hidden hyperlinks, and critical work needs to be done to ensure smart contracts do not replicate these inequities.

References

Burke, J.A (2000). "Contract as Commodity: A Nonfiction Approach," Seton Hall Legislative Journal.

Cassano, J. (2014). "What are Smart Contracts? Cryptocurrency's Killer App." *Fast Company.* Retrieved from: https://www.fastcompany.com/3035723/app-economy/smart-contracts-could-be-cryptocurrencys-killer-app

Castells, M. (1996). *The Rise of the Network Society, The Information Age: Economy, Society, and Culture*, Vol. I. Oxford: Blackwell Publishers.

Castells, M. (2007). "Communication, Power and Counter-power in the Network Society" *International Journal of Communication* (1), p. 238-266.

DeNardis, L. (2012). *The Global War for Internet Governance*. New Haven: Yale University Press.

Foley, M. Jo. (2017). "Microsoft, Intel, banks form Enterprise Ethereum blockchain alliance." *ZD Net.* Retrieved from: http://www.zdnet.com/article/microsoft-intel-banks-form-enterprise-ethereum-blockchain-alliance/

Gilson, C.. (2017). "Lightning's Elizabeth Stark: 2017 Will Be the Year of Smart Contracts." *The Cointelegraph.* Retrieved from: https://cointelegraph.com/news/lightnings-elizabeth-stark-2017-will-be-the-year-of-smart-contracts

Hillman, R. A. and J. J. Rachlinski. (2001). "Standard-Form Contracts in the Electronic Age." Available at SSRN: https://ssrn.com/abstract=287819 or http://dx.doi.org/10.2139/ssrn.287819

Horton, D. (2009). The Shadow Terms: Contract Procedure and Unilateral Amendments. *UCLA Law Review.* 605.

Levy, K. C. (2017). "Book-Smart, Not Street-Smart: Blockchain-Based Smart

Contracts and The Social Workings of Law." *Engaging Science, Technology, and Society* (3), p. 1-15.

Moringiello & Reynolds. (2007). Survey of Law of Cyberspace: Electronic Contracting Cases 2006-2007. *The Business Lawyer,* Vol. 63.

Othram, Abraham. (2017). "Smart contracts will need human juries." *Financial Times.* Retrieved https://ftalphaville.ft.com/2017/07/11/2191240/guest-post-smart-contracts-will-need-human-juries/ from

Patterson, M. R. (2010). Standardization of Standard-Form Contracts: Competition and Contract Implications, *William & Mary Law Review* 52(2).

Preston, C. & Eli W. McCann. (2011). Unwrapping Shrinkwraps, Clickwraps, and Browsewraps: How the Law Went Wrong from Horse Traders to the Law of the Horse. *BYU Journal of Public Law.* Vol. 26.

Sales, H.B. (1953). "Standard From Contracts." *The Modern Law Review.* Vol. 16(3). p. 318-342.

Szabo, N. (1996). "Smart Contracts: Building Blocks for Digital Markets." *Alamut.* Retrieved from http://www.alamut.com/subj/economics/nick_szabo/smart Contracts.html

Mulcahy, L. (2008). *Contract Law in Perspective, 5th ed.* New York : Taylor & Francis.

n.a. (2016). "Sandvig v. Lynch — Challenge to CFAA Prohibition on Uncovering Racial Discrimination Online." *ACLU.* Retrieved from: https://www.aclu.org/cases/sandvig-v-lynch-challenge-cfaa-prohibition-uncovering-racial-discrimination-online

Wall, Larry. (2016). "Smart Contracts" in a Complex World." *Federal Reserve Bank of Atlanta.* Retrieved from: https://www.frbatlanta.org/cenfis/publications/ notesfromthevault/1607