Inte Gloerich, Geert Lovink, Patrick de Vries u.a. (Hg.)

MoneyLab Reader 2. Overcoming the Hype

2018

https://doi.org/10.25969/mediarep/19277

Veröffentlichungsversion / published version

Buch / book

MONEYLAB

READER 2

OVERCOMING THE HYPE

EDITED BY
INTE GLOERICH
GEERT LOVINK
PATRICIA DE VRIES

INC READER #11

MONEYLAB

READER 2

OVERCOMING THE HYPE

MoneyLab Reader 2: Overcoming the Hype
Editors: Inte Gloerich, Geert Lovink and Patricia de Vries
Copy editing: Ed Graham
Cover design: Anastasia Kubrak
Design: Inte Gloerich
EPUB development: Inte Gloerich
Printer: Drukkerij Tuijtel, Hardinxveld-Giessendam
Publisher: Institute of Network Cultures, Amsterdam, 2018
ISBN: 978-94-92302-19-9

Contact
Institute of Network Cultures
Phone: +31 (0)20 595 1865
email: info@networkcultures.org
web: www.networkcultures.org

Order a copy or download this publication freely at: networkcultures.org/publications.
Join: MoneyLab mailinglist: listcultures.org/mailman/listinfo/moneylab_listcultures.org.
Subscribe to the INC newsletter: networkcultures.org/newsletter.

This publication is supported by the Amsterdam University of Applied Sciences and many crowdfunding donors. In particular we would like to thank **Josephine Bosma**, **May Hen** and **Peter Lunenfeld** for their generous contributions. MoneyLab Reader 2 is part of the State Machines project. This project has been funded with the support from the European Commission. This communication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Thanks to everyone at INC, to all of the authors for their contributions, Ed Graham for his keen copy-editing eye, Anastasia Kubrak for her exciting design, Leila Ueberschlag and Nicoleta Pana for their successful crowdfunding campaign, and our partners in the State Machines project, Aksioma, Drugo More, Furtherfield, and NeMe, for their inspiring work.

MONEYLAB

READER 2

OVERCOMING THE HYPE

EDITED BY
INTE GLOERICH
GEERT LOVINK
AND **PATRICIA DE VRIES**
INC READER #11

Previously published INC Readers
The INC Reader series is derived from conference contributions and produced by the Institute of Network Cultures. The publications in this series are available in EPUB, PDF form, and a print run of 2000 copies.

INC Reader #10: Geert Lovink, Nathaniel Tkacz and Patricia de Vries (eds), *MoneyLab Reader: An Intervention in Digital Economy*, 2015.

INC Reader #9: René König and Miriam Rasch (eds), *Society of the Query: Reflections on Web Search*, 2014.

INC Reader #8: Geert Lovink and Miriam Rasch (eds), *Unlike Us: Social Media Monopolies and Their Alternatives*, 2013.

INC Reader #7: Geert Lovink and Nathaniel Tkacz (eds), *Critical Point of View: A Wikipedia Reader*, 2011.

INC Reader #6: Geert Lovink and Rachel Somers Miles (eds), *Video Vortex Reader II: Moving Images Beyond YouTube*, 2011.

INC Reader #5: Scott McQuire, Meredith Martin and Sabine Niederer (eds), *Urban Screens Reader*, 2009.

INC Reader #4: Geert Lovink and Sabine Niederer (eds), *Video Vortex Reader: Responses to YouTube*, 2008.

INC Reader #3: Geert Lovink and Ned Rossiter (eds), *MyCreativity Reader: A Critique of Creative Industries,* 2007.

INC Reader #2: Katrien Jacobs, Marije Janssen and Mateo Pasquinelli (eds), *C'LICK ME: A Netporn Studies Reader*, 2007.

INC Reader #1: Geert Lovink and Soenke Zehle (eds), *Incommunicade Reader*, 2005.

All INC Readers, and other publications like the *Network Notebooks* series, *INC Longforms,* and *Theory on Demand*, can be downloaded and read for free.
See networkcultures.org/publications.

CONTENTS

CRITIQUES OF THE GRAND SCHEMES

ALTERNATIVES IN FINANCIAL IMAGINATION

APPENDICES

OVERCOMING THE BLOCKCHAIN AND CYBERCURRENCY HYPE: INTRODUCTION TO MONEYLAB READER 2

INTE GLOERICH,
GEERT LOVINK,
AND PATRICIA DE VRIES

OVERCOMING THE BLOCKCHAIN AND CYBERCURRENCY HYPE: INTRODUCTION TO MONEYLAB READER 2

INTE GLOERICH, GEERT LOVINK, AND PATRICIA DE VRIES

From place to place, to those many still left open,
where there's perplexity and darkness but also gaps and rapture…
—Wisława Szymborska, *Labyrinth*

Welcome to *Overcoming the Hype*. This second MoneyLab Reader prods emerging, rising, crashing and burning digital money memes. Ever since its inception, in 2013, the MoneyLab project tinkers with digital money and finance experiments. We question persistent beliefs, from Calvinist austerity, growth, and up-scaling, to trustless automated decision-making, and freedom on the dark web, from (anarcho-)capitalist dreams of the days of yore to the special sauce of neoliberal entrepreneurialism and its right-wing libertarian counterparts.

Entering the 10th year of the global financial crisis, it still remains a difficult yet crucial task to distinguish old wine from its fancy new bottles. We need to recognize the ruling financial system in its ostensible alternatives. Neoliberal concepts and convictions such as growth, scale and free markets are often repackaged in mystifying and depoliticizing wrapping paper such as 'sustainable', 'parallel', 'local economies', 'co-ops', 'disruption', 'universal basic income (UBI)', and 'flexibility' but lack or misfire structural and systemic critique, or cleverly shadow-box their way around it. We are 'willing slaves of capital', as Frédéric Lordon wrote,[1] and if we trust the Believers, we will soon be (neo-)liberated by internet-based, autonomous payment systems or UBI.

With the monopoly of Central Banks crumbling, the very definition of money is up for grabs. MoneyLab considers blockchain technology, cybercurrencies and other experiments with value exchanges as spaces of political contestation and possibility. Designing internet-based payment and network-based revenue models is a political project, and one with an equally important aesthetic program. MoneyLab asks designers, geeks, researchers, artists and activists: what role can criticism play when technology accelerates? And how can we work together to make a difference?

Over the past years, the Cyberworld fantasies of yesteryear have been rekindled, in updated and automated form, in stories about invincible, decentralized blockchains and heroic crypto-currencies, promoted as a refreshed parallel universe of digital value storage that can weather any storm as well as overcome the incessant global financial crisis. This tweet by Brett Scott pretty much sums up the MoneyLab critique of the

1 Frédéric Lordon, *Willing Slaves of Capital: Spinoza and Marx on Desire,* New York, NY: Verso Books, 2014.

hype: 'Crypto logic 101: Bitcoin is worth holding onto because it will become worth more Why will it be worth more? Because more people will start using it But aren't they just holding it, rather than using it? Yeah, but eventually we'll use it What for? To cash out into US dollars.'[2] For many, such Bitcoin critique is Maoist-style self-criticism. There is not much intellectual clout in constantly having to 'reveal' the bubble nature of financial schemes. For fintech speculators, there is no deeper value in crypto-currencies, only possible profits in buying and selling after an uncertain period of hoarding. For them, Ethereum is just another financial asset, accumulated under the sign of 'collective self-interest'.

The question of how digital money can actually be woven into the broader architecture of the internet is not their concern in the least. Due to speculation fever, the larger debate around what design of digital money would be desirable has come to a complete hold. What remains are security questions of wallets and exchanges, the use of crypto-currencies inside countries in crisis (such as Venezuela), as payment method in the case of ransomware, and as carrier in (illegal) cross-border transactions.

While blockchain technology offers some interesting visions on future scenarios, most of the potential has been swallowed up by business logistics. Decentralized, free software approaches have been sidelined along the way. Unfortunately, the new toys are often ideologically damaged, dead on arrival or corrupted early on by a handful of fund managers looking for ways to jump the crypto-currency bandwagon. Blockchain technology, too, raises fresh concerns over citizen privacy and the rise of financial surveillance, and while a cashless society looms closer, the virtues of paper money are rekindled. As crypto-currencies are so far failing as payment systems, it is important to diversify the issue of alternative internet-based revenue models and complement it with community funding, subscription-based support (such as Patreon), local barter exchanges, mobile money, and blockchain solutions that are disconnected from any speculative crypto-currencies.

Chained on a block, automated, wireless, digitized and cashless: money has become a virtual medium of exchange, an interface, yet another speculative asset, and therefore highly vulnerable to political currents, sudden glitches such as stock market crashes, infrastructure breakdowns, miscalculations, cyberwar, ransomware, and the five elements of nature.

With Yanis Varoufakis we say: there's no such thing as apolitical money.[3] And there is no such thing as an apolitical crisis. Ever since the 2008 'crisis,' financial activism has played a role for people's parties in Europe, demanding transparent, open, and more democratic forms of governance. Populist policies, regardless of being left or right wing, inherently form around a general desire to unhook politics from fi-

2 @Suitpossum, 'Crypto logic 101: Bitcoin is worth holding onto because it will become worth more Why will it be worth more? Because more people will start using it But aren't they just holding it, rather than using it? Yeah, but eventually we'll use it What for? To cash out into US dollars.', Twitter post, 13 November 2017, 9:38 AM, https://twitter.com/Suitpossum/status/929991744648810496.

3 Yanis Varoufakis, *And the Weak Suffer What They Must?* London: Penguin Random House, 2016, pp. 98-99.

nancial corruption. As popular people's parties near an electoral majority, what can be learned from these types of decentralized, bottom-up movements? Campaigns for UBI and transparent participatory budgeting should also be contextualized from an increasing awareness of financial corruption and economic inequality. As political reformation spreads through Europe, small alterations within local and national governments have been made, but are these improvements minor repairs to a broken system?

For Valarie Solanas, author the radical-feminist-punk-anarcho *Scum Manifesto* (1967), real liberation does not come from economic equality. Part satire, part political science-fiction, part pamphlet, *Scum Manifesto* states that economic equality amounts to nothing other than 'co-managing the shit pile.' Solanas therefore argues for what could be labelled as a fully automated society without a money system. The real challenge we are facing, Solanas observes quite appositely, is a conflict between those that buy into the money-work system and those that refuse the money-work system altogether.[4] Today, fifty years later, the money-work system is still wading nostril-deep through a quagmire of systemic malaise and oppressions of various kinds and degrees. Automation is considered both the Pearly Gate and the Final Countdown. Concern over wealth distribution, poverty, precarity and accountability has given rise to both political populism and a financial counterculture. If we want the 'whole bloody bakery,' and not some leftover bird-crumbs, we need to go the core, and reimagine and redefine the power of money itself.

The black box of finance has been etched into the imagination of the public and there has rarely been a more generous context to manifest working alternatives for the 99%. Cooperative platforms, decentralized technologies and direct democracy movements indicate profound attempts to rebalance the distribution of wealth and power. As resistance towards poverty, precarity, tax havens, algorithmic speculation, and financial crimes grows, the challenge ahead is to find ways to improve and sustain such financial experimentations and do more than 'fail better'.

In amongst the cacophony of economic dissent of the past decennium, some brave the 'shit pile' and invent practical solutions to protect their livelihoods and design new ways to distribute value and make a living. Rather than wait to implement changes in traditional legislation, they are attempting to transform governance by writing smart contracts into decentralized systems. Programmers and designers quickly meet the increasing demand for decentralized services by building infrastructures that harness the scope of the network and rely on the database to enforce new forms of governance with smart contracts. In their efforts, artists offer perspectives on how collective ownership can provide security or establish terms for contracts and licenses that enable equitable incomes.

Platform coops are not just ethically responsible alternatives to exploitative on-demand business models: they offer practical solutions for providing social security and equitable income for the 'unnescessariat'. Writers and publishers also endeavor to create working solutions that circumvent extractive platform monopolies. Musi-

4 Valerie Solanas, *Scum Manifesto*, New York, NY: Verso Books, 2004.

cians are equally desperate to reshape an industry that, in an attempt to stamp out piracy, has turned digital streaming into a murky, penniless revenue model that only serves platform-based superiority. They all join a growing precarious class of creative workers desperate for an exit strategy from exploitative platform monopolies and inequitable licenses that siphon off and centralize profits. From p2p distribution models to collective piracy, print and digital publishing, all demonstrate intuitive alternative means to survive within a digital economy. MoneyLab continues to investigate these and other attempts to circumvent and overcome the challenges faced in the austerity economy.

For god's sake, don't take financial advice from cryptographers.
—Matthew Green

MoneyLab steps away from old-school critique of the political economy. It is justified to make pyramid schemes and parasitic logic inside fintech software visible, but this is not yet a strategy for change. In his dialogue with Krystian Woznicki, Brian Massumi explains how we can move beyond the accelerationist agenda of 'outsmarting' capitalism with IT innovations through 'adventure capital'. The new models (also expanded upon by the Economic Space Agency in this Reader) 'would be owned collectively, without division into individual shares, and would be only used to further the activities of the collective.' A key idea that is pushed further, here, is the trustless automatic execution of contracts with the aim to 'refuse any formal decision-making procedures, whether vote-based or consensus-based.' The idea would be to 'activate tendencies agitating at the infra-individual level [...] generating a surplus value of life that is irreducibly collective, and entirely event-based.' Terms developed in this context are 'event-derivative' and 'occurency'. The overall aim is 'to hijack cutting-edge tools of runaway speculative finance', to become more speculative than the speculators, turning the dark casino parasite logic of financial capital into a gift economy.[5] The MoneyLab line is here to bring together radical critique with an equally radical imagination. We will never accept having our ruthless negative attacks be played out against a so-called constructive form of New Age positivism. Experiments at MoneyLab are notoriously beyond good and evil, and do not accept any *Denkverbot.*

We need to get a critical understanding of the nature of the Financial Intellect. What is the social expression of all these alternative efforts? We're not only producing software and platforms. Our class-in-becoming is well aware that the internet and its infrastructure no longer is a tool, a means to something else. There is no more money outside the digital. Production can no longer be situated outside of digital flows through networks. In the past, geeks tickered with obscure operating systems. No one cared. Today, geeks are entering highly attractive, dangerous territory. As apprentices they enter a Faustian workshop where digital alchemists are creating money out of nothing (but energy…). Let's return to Goethe to find out how this episode will end. Is it time to rewrite and update your Goethe? Do you agree with Johan Sjerpstra's statement: 'I think of crime when I'm in a crypto state of mind'?

5 Brian Massumi and Krystian Woznicki, *After the Planes: A Dialogue about Movement, Perception and Politics*, Berlin: Diamondpaper, 2017, pp. 146-147.

Whereas the first MoneyLab Reader from 2015 dealt with payment systems, money theory, critical currencies and projects that accelerated our financial imagination, this second Reader presents an update on alternative models such as platform cooperativism (Trebor Scholz), debates around universal basic income (Patrice Riemens; Dmytri Kleiner), and cashless society (Brett Scott). The idea of a coin of the commons that was proposed in the first Reader is now embedded in a broader concept of a Commonfare society that combats widespread precarity (General Intellect) like that evidenced by crowdfunding campaigns for medical procedures (Silvio Lorusso). In 2015 we still wondered whether internet banking was the real killer app. We're now witnessing the unforgiving consequences of the demonitization project in India (Tripta Chandola). The Panama and Paradise Papers showed the true cash cows of tax evaporation/evasion are to be found at the top of financial hierarchies; still the US government continues to double down on petty welfare fraud and individual freedom for the poor (Nathalie Maréchal). Monetary and financial instruments subject society to their automated visions through data captures and surveillance (Emily Rosamond), while popular representations of the financial sector fail to move beyond the epic tale of the Wall Street (anti-)hero (David Hollanders).

Two approaches stand out in both MoneyLab Readers. First of all, the critique of right-wing libertarian tendencies inside fintech is not expressed out of some resentment but always coupled with alternative practices. The second angle is the way in which we integrate artists and art projects into the larger picture. The art contributions here are neither illustrations nor isolated pieces. We see art as a vehicle to focus on the very basics of value creation and exchange. That being said, MoneyLab does not want to repeat the old Romantic chestnut of the artistic genius evading the political and climatic dissipation of Western capitalist civilization. We repeat, we do not believe an automated workforce or blockchained currencies will found a new global social order routed in equity, love and solidarity. We do aim for broadening a critical space for the deconstruction of capitalist realism,[6] and to enlarge and diversify digital non-capitalist imaginaries, concepts, activities, and exchanges of value. As a result, some authors critically engage with a diverse array of waxing and waning practices that have been over-coated, overlooked or overrated by capitalist realists. Others work to broaden the scope of our economic imaginaries. Taken together they form a necessary contribution to overcome the hype and a counterargument to capitalist realists that cannot think of alternatives outside of their self-maintained capitalist cage.

We start off with such a priori complexity withdrawal and capitalist realism (Patricia Reed) and move on to questions such as: how do we imagine ourselves as part of the world/system called necro-capitalism (Nina Power)? What happens when digital money invades our lives as apps, stored and traded on our intimate smart devices (Nathaniel Tkacz & Pablo Velasco)? How can we cut through the algo-mysticism that surrounds supposedly disruptive financial technology (Martin Zeilinger) and see the power relations that they perpetuate (Robert Herian)? How did we end up with the vision of blockchain marriages in which vows are seen as smart contracts (Max Dovey)? Can 'code is law' be subverted by rebelliousness and wokeness on the

6 Mark Fisher, *Capitalist Realism: Is There no Alternative?* London: Zero Books, 2009.

blockchain (Jaya Klara Brekke) or can economic spaces be programmed to be modular and flexible in nature (Economic Space Agency)? Tokenization as art form (Laura Lotti) and the financialization of the arts (Max Haiven) are both already implemented phenomena. What does human agency mean among algorithm-based, market-driven Internet of Things objects that transact increasingly independently (Rachel O'Dwyer)?

Fintech rushes through our veins, causing a whirlwind of concepts in our head, featuring all the possibilities and alternatives that our imagination and political spaces can bring. Welcome back to MoneyLab.

References

Fisher, Mark. *Capitalist Realism: Is There no Alternative?* London: Zero Books, 2009.

Lordon, Frédéric. *Willing Slaves of Capital: Spinoza and Marx on Desire*, New York, NY: Verso Books, 2014.

Massumi, Brian, and Krystian Woznicki. *After the Planes: A Dialogue about Movement, Perception and Politics*, Berlin: Diamondpaper, 2017.

Solanas, Valerie. *Scum Manifesto*, New York, NY: Verso Books, 2004.

Varoufakis, Yanis. *And the Weak Suffer What They Must?* London: Penguin Random House, 2016.

OPTIMIST REALISM: FINANCE AND THE POLITICIZATION OF ANTICIPATION

PATRICIA REED

OPTIMIST REALISM: FINANCE AND THE POLITICIZATION OF ANTICIPATION

PATRICIA REED

With almost a decade since the climax of the 2008 global financial crisis, two poignant, parallel phenomena can be noted. On the one hand, the financial sector seems to have lost little grip on capital-power (or 'finance-power').[1] Banks have been bailed out, financial 'services' have returned to 'business as usual' and, more generally (despite policy papers otherwise),[2] austerity and growth (debt and credit), the neoliberal *yin* and *yang par excellence,* persist as the 'necessary' creed for economic advancement. On the other hand, we have seen a popular consciousness-raising regarding today's gaping inequality; this is due in part to widespread, global protest movements (notably *Occupy!* and its infamous 'we are the 99%' refrain), and to the sheer material/existential effects our order has fostered as it has extended its tentacles over time. The aftermath of the crisis has produced what many on the left have been clamoring for: A popular deflation in the ideological promise of the neoliberal myth. The latter's 'internal contradictions' and inability to deliver on pledges of trickle-down prosperity have become blatantly apparent far beyond the walls of academic discourse. Yet, in what ought to have been a pivotal context for political mobilization towards alternative horizons of socio-economic justice (or even modest restructuring), we have seen, rather, an entirely more frightening, neo-fascist political reality emerge. Why is it that we are not seizing this momentous, mythical deflation towards the politicization of a new socio-economic model bending towards the service of the many? The answers to this arguably naïve question are of course numerous, and there are certainly powerful vested interests and peoples who gain from status-quo crises and social instability. However it would be equally naïve to suggest this debilitating and regressive 'change' can be reduced to problems exclusively in the frame of personal greed and self-interest; as problems located entirely within the domain of morality. I'd like to direct attention to two interwoven factors that have, to my mind, played an important role in driving our current political landscape, and ultimately how new socio-economic conceptions may find *mesopolitical*[3] potential in making claims on one of the distinguishing markers of our era: the transformation of temporality itself.

Put succinctly, two interconnected factors blocking the transformative capacities of this ideological deflationary moment include what could be called 'complexity withdrawal', and the persistent naturalization of capitalism (what Mark Fisher notably

1 Suhail Malik, 'The Ontology of Finance: Price, Power, and the Arkhéderivative', in Robin Mackay (ed.), *Collapse Volume VIII,* Falmouth: Urbanomic, 2014, p. 637.

2 Jonathan D. Ostry, Prakash Loungani, and Davide Furceri, 'Neoliberalism: Oversold?', *Finance and Development* 53.2 (June 2016), http://www.imf.org/external/pubs/ft/fandd/2016/06/ostry.htm.

3 Isabelle Stengers interviewed by Brian Massumi and Erin Manning, 'History through the Middle: Between Macro and Mesopolitics', *Inflexions: A Journal for Research-Creation* 3 (October 2009), http://www.senselab.ca/inflexions/volume_3/node_i3/stengers_en_inflexions_vol03.html.

coined as 'Capitalist Realism' — an obstinacy he insisted could survive beyond the collapse of the *neoliberal* capitalist paradigm).[4] Let's start with the second formulation, as it feeds-forward into the first.

Petrified Futurity

Capitalist Realism indexes not only our economic condition, but more pervasively, the 'atmosphere' of political resignation which denies the possibility for any other socio-economic structural scenario. This 'atmosphere' permeates both conscious and unconscious life, including the arena of cultural production (music, art, film, etc.) where instead of seeing boundless innovation (a capitalist premise), we seem caught in retroparalysis: loops of re-makes and pop-cultural revivalism,[5] where substantial technological development devolves into trivial consumer gadgetry.[6] Within such an atmosphere, mental distress and illness has also proliferated as a debilitating symptom of the behavioral imperatives this naturalization entails. This is in the way one is compelled to 'govern from within' to adapt to the world successfully in full, entrepreneurial self-reliance. Such naturalization is internalized as the only system compatible with 'innate' humanness, where this picture of 'innateness' is both self-referential and self-reinforcing, coercing the human into a narrow mold wherein the incentive of accumulation through competition is isomorphic with our 'intrinsic' selfishness and self-interest (those very social biases buttressing neoclassical economics, upon which neoliberalism is built). In this framing, capitalism is upheld as the only system commensurate with the 'nature' of the human; to suggest otherwise is to fall prey to folly, almost as nonsensical as fighting the fact of gravity on earth. The diagnosis Fisher puts forth, quite pointedly, is that Capitalist Realism petrifies politics because it stifles our imaginative and perspectival horizons. The axiom then gets extrapolated: if futurity is always a political project and politics is dead-locked, our future, as such, has become cancelled — a point to which we will return.

Complexity Withdrawal

The second factor leading to our inability to seize upon this neoliberal deflationary moment is what I like to call 'complexity withdrawal'. As a response to the debilitating effects of globalization (understood only in its negative delineation, as rampant financialization and corporatization), we have seen a retreat to nationalisms, based on assurances of economic betterment through isolationism, coupled with identitarian essentialisms. Such tendencies can be read as a reflex against the complexity of globalization (again, construed only negatively); making things simpler, graspable and (relatively) immediate as a *reaction* against the intractability of today's interconnected reality. Because Capitalist Realism imbues in us a domineering condition of political impotence, there is nothing to anticipate besides catastrophe and the dystopian. With nothing to look forward to, we can only look back; eyes fixated on romanticized histories (for very few, and those that never were), to 'make great' again with full Westphalian vigor. Capitalist Realism nourishes complexity withdrawal, where its hold over political transformation renders any demand for counter-hegemonic-scaled change

4 Mark Fisher, *Capitalist Realism: Is There No Alternative*, London: Zero Books, 2009.

5 Ibid., p. 7.

6 Exemplified by the proliferation of 'Weird Face Apps', where highly sophisticated machine learning and A.I. systems are used for quite trivial, entertainment-rich outputs: face matching celebrity-likeness, for example.

unthinkable, unsensible, unimaginable. It locks us into (at best) modest proportions, at odds with the scale of the system we seek to contest. The engagement with complexity certainly does not offer the guarantee of causal immediacy, nor 'fixable' or fully determinate outcomes. But the withdrawal from it disengages the potentiality for counter-hegemony, understood as an *emergent* phenomenon (and not a prefigured template) between agency (human intentions) and structure (non-human factors).[7] Our current theoretical landscape often also echoes this hopelessness; densely packed with dismal-to-horrific non-futural diagnoses. These meditations are quite accurate, in the sense that one cannot disagree with the course they carefully plot. Yet does not the surety of their description and unwillingness to propose alternatives inadvertently reinforce the 'changeless-change'[8] of capitalist realism itself, despite the oppositional claims made against it? Such scenarios demonstrate the futility in substantially confronting capitalist hegemony based on grounds of sheer criticism (as an end) or moral rejection, without contributing to the libidinal imaginings and/or functional diagrams of alternative possibilities. When the production of theory declines to engage with the propositional, there remains little optimism for material practice or a pragmatics of just, futural speculation to emerge. The omission of optimism from (non)-politics today, and indeed much of social life in general can, as Rory Rowan has written, '…tacitly legitimate the lessons of individualized quietude taught by conservatives who tell us that the 'small, happy life' offers deliverance from the dangerous delusion of collective transformation […] Just as blind optimism risks lubricating existing forms of power, an equally blind pessimism risks stunting the collective capacities required to oppose them.'[9] What is asserted here is the need for an *optimist realism*, not one where we conceive of the inevitability of 'progress' through wishful thinking, or transformation actionable through heroic will — but an optimism tethered to our capacity *for* artificiality.[10] That is, to the plasticity of politics embedded in, and constrained by reality that is partially constructable by us, whilst simultaneously indifferent and invariant to us.

Denaturalizing (A)Social Myths

Before proceeding, let me emphasize an important point. What we can glean from the articulation of these double forces of capitalist realism and complexity withdrawal, is that any alternative socio-economic paradigm requires not only the modeling of a new system, but the profound denaturalization of the (a)social myth of 'human nature' through which capitalism is repeatedly performed, in*corp*orated and enabled. To advocate exclusively for a remodeling of our economic system as an external *thing*, reinforces the Silicon Valley doctrine of what Evgeny Morozov termed 'solutionism', wherein problems can be remedied through techno-scientific innovations alone.[11] Such solutionism (at ease and quite profitable within neoliberalism) may placate symptoms, but leaves underlying causes untouched. A Fitbit (or any activity tracker) may

7 Alex Williams, 'Complexity & Hegemony', PhD diss., London: University of East London, 2015.

8 Sebastian Olma, *In Defense of Serendipity: For a Radical Politics of Innovation*, London: Repeater Press, 2016.

9 Rory Rowan, 'Extinction as Usual?: Geo-Social Futures and Left Optimism', *e-flux Supercommunity,* 31 July 2015, http://supercommunity.e-flux.com/texts/extinction-as-usual-geo-social-futures-and-left-optimism/.

10 Hannah Arendt, *On Revolution*, New York: Penguin Books, 1963, p. 20.

11 Ian Tucker, 'Evgeny Morozov: "We are abandoning all the checks and balances"', *The Guardian*, 9 March 2013, https://www.theguardian.com/technology/2013/mar/09/evgeny-morozov-technology-solutionism-interview.

tell us we need to do more exercise or notify us of high blood-pressure, but it addresses nothing of the socio-economic, and indeed *mental* landscape where stress and lack-of time (the high estimation of busy-ness) are the everyday consequences of our existing hegemony of life's demands, for example. The solutionist doctrine transforms socio-structural and ideological problems into private, behavioral ones that can be surmounted on one's own (more discipline!). This bolsters the very emphasis of personal responsibility and self-governance that sustain neoliberalism. Because of the inadequacy of solutionism, the transition to an inexistent system we might temporarily call 'postcapitalism' (since we don't yet know what it is, and therefore how to name it), requires a movement on two planes: the external transformation of the system itself (of valuation, tokening, distribution, production, labor, exchange, etc.), coupled with an internal transformation of our collective self-conception of the 'human' as well. Leveraging the entanglements between conceptual ideality and physical reality,[12] it is along these mutually contaminating vectors of human self-understanding and material functionalism where an 'optimist realism' needs to take hold.

Any mode of social ordering requires bodies, ideas and processes to sustain it — whether these conceptual predispositions are explicitly known, or silently embodied through everyday gestures. The habituation of these modes reinforces underlying assumptions in a positive feedback dynamic, normalizing these social concepts into a quasi-natural order. The logic of our neoliberal order is no different; it requires constituent human actors (and the systems through which they engage) to behave within a landscape of naturalized myths. These myths are necessary for cohesion, but are always artificial and subject to revision. In *Capitalist Realism*, these myths mapping who we are as humans have been petrified and treated as the only system accommodating our 'nature'; a brutally ironic enablement of our 'nature' that destroys the very biosphere we need for even the most basic biological life support. As a denaturalizing demand, optimist realism must begin with the labor of separating norm (myth) from fact. Such a labor can be encapsulated by the concept of alienation — of articulating chasms between norm and fact, not to attain some telos of scientific facticity as a guiding social horizon, but in an effort to retrain the myths of social cohesion we need towards the care of the many. As a capacity to separate what is towards what could be, alienation can no longer be conceived as a strictly negative force of disconnection, but must be embraced for its abstractive capacities to separate from what is before us as a naturalized logic, towards a speculative investment of future possibilities, requiring alien myths of human 'givenness'.

Operationalizing Derivative Temporality

When politics (in both its imaginative and infra/-structural forms) is trapped in stagnation, it's purchase on futurity is cancelled.[13] This, however, does not mean the future is absolutely annulled, but it signals the displacement of the future from the domain of politics. Where can we locate the future today? From the perspective of power and pragmatics, the future has been coopted by the category of finance; the future has dissolved (*and* bifurcated) into *futures*. One cannot begin to describe

12 Ray Brassier, 'The View from Nowhere', *Journal for Politics, Gender and Culture* 8.2 (Summer 2011), pp. 6-23.

13 Mark Fisher, 'The Slow Cancellation of the Future', Lecture: MaMa, Zagreb, Croatia, 2014, https://www.youtube.com/watch?v=aCgkLICTskQ.

the paradigm of financialization without emphasizing the particular shift in temporal operations it has brought about — far more elaborate than the common lamentation of pure 'out of control speed'. As Elena Esposito has made clear, in classical forms of capitalism (like industrial production) the present was sacrificed for the future, insofar as one would reinvest current profits to generate increased future revenues. With finance this temporal relationship is reversed: one spends money one *expects* to accrue at a future date in the present.[14] In its more virtuous form, finance, predicated on credit, can 'exploit in the present the *openness* [my emphasis] of the future'[15] — meaning that one imposes constraints on the future (the debt / responsibility for repayment accrued through credit) to construct a more prosperous one, which would not have been possible without having *initiated* the constraint.[16] This process points to the underlying recursivity of the operations (and power dynamics) involved in construction of futurity today.

Deploying the derivative as the defining object through which to parse the set of generic operations qualified as 'finance', Suhail Malik highlights the potency of *anticipation* in this reorganized temporality of our political economy, wherein a price in a future that has not yet happened, is expected, and that future (*unknowable*) eventuality is operationalized for gains.[17] The force of anticipation as it were, isn't simply blind chance wagering (and waiting) on what the future will be (analogies to finance reduced to mere 'gambling' are insufficient); it is the very *enactment* (or forcing) of anticipation (the investment) that influences and molds not only the actualization of the future, but transforms the present as well *because* anticipation imposes constraints/enablers on existing, current possibilities. What we have here, is what Esposito identified as 'Retrospective Causation' where effects (*actualized* futures) depend on causes, for which they themselves (performatively) operate as causal agents.[18] Armen Avanessian and Malik extend this radical temporal shift outside of pure finance through to society in general, where their 'Time-Complex' model applies to large-scale, integrated capitalist societies on the whole. The Time-Complex indexes the operationalization of the future on the present, as a condition for 'judgements, calculations and actions in the present [like] predictive analytics in big data, derivatives, [and] global supply chains', setting up an order where the future *precedes* the present; where the speculative mode is a socio-technical condition enabled by computational infrastructures.[19] In this temporal order, conventions of rationality break down, since all quasi-knowledge we may possess is always in the form of unknowns, as risks — prompting Malik to call for a 'Risk Rationality' commensurate with complex societies, wherein we may *think* the future, but we cannot know it. This ability to think the future unknown, *is* the anticipatory; it is the *logic* of

14 Elena Esposito, 'The Construction of Unpredictability', *Fear of Content*, Berlin Biennale 9, 2016, http://bb9.berlinbiennale.de/the-construction-of-unpredictability/.

15 Ibid.

16 Ibid.

17 Armen Avanessian and Suhail Malik, 'The Time-Complex. Postcontemporary', *Fear of Content*, Berlin Biennale 9, 2016, http://bb9.berlinbiennale.de/the-time-complex-postcontemporary/.

18 Elena Esposito, *The Future of Futures: The Time of Money in Financing and Society*, Northampton: Edward Elgar Publishing, 2011, p. 16.

19 Suhail Malik, 'Why a Rationalist Art', lecture organized by Glass Bead, Les Laboratoires d'Aubervilliers, Paris, 20 February 2016, http://www.glass-bead.org/audio-research/suhail-malik/?lang=enview.

the derivative (as a cipher for finance) that has come to define the distinct operations and causal modalities of our complex societies. This logic of the functioning of anticipation *qua* an unactualized future is the enactment of *planning* (a claim, as we know, not only on the future, but on the present as well), leading to J.W. Mason's insistence on the need to politicize this constitutive quality of finance:

> …the financial system is […] where conscious planning takes its most fully developed form under capitalism. Banks are, in Schumpeter's phrase, the private equivalent of Gosplan, the Soviet planning agency. Their lending decisions determine what new projects will get a share of society's resources, and suspend — or enforce — the 'judgment of the market' on money-losing enterprises.
>
> A socialist program must respond to both these faces of finance. We oppose the power of finance if we want to progressively reduce the extent to which human life is organized around the accumulation of money. We embrace the planning already inherent in finance because we want to expand the domain of conscious choice, and reduce the domain of blind necessity.[20]

Such a call to socialize the *anticipatory* operation of finance is precisely what is captured by an Optimist Realism. It is a complicit position strategically responding to the causal affordances organising contemporary reality today, to demonopolize (or uncancel) the future (and the present) from the purview of the very few, who are the only beneficiaries in the *design* of finance as it is. The call for the socialization of the anticipatory *function* of finance, must equally assume the politicization of uncertainty itself as a risk-rationality — for as we know, in any complex system, outcomes are never fully determinate, but are more aligned with qualities of steering, weighting, and guiding. Furthermore, hijacking the logic of finance for socialized and not private means/ends also equates with an exit from the logic of scarcity as an economic governing rational (manifest as austerity). The sheer wealth created in the financial sector is at roughly 20 times that of world GDP,[21] pointing to an instrumentalized *irrationality* at work today. Although operationalizing gains on a quasi 'openness' of the future, the design of finance itself already constrains what those contingent affordances could be, in line with its molding of individualized profit incentives. Despite the power *for* futurity performed in the financial derivative function, when it is *constrained* by the *interface* of private-gains, it can only ever benefit the few. In this way, the radical contingency of future unknowns are domesticated, pre and post-emptively coerced into the mold of 'naturalized' private interest under capitalist realist affordances; gains made in its own logical image. If, under finance, our reality has never been more susceptible to fictional (unactual, anticipatory) procedures, it is time to politicize this mode of effectual retrospective causation and make claims on this operation.

If the contingency of the future has more agency than ever, due to the speculative force of uncertainty and modes of temporal causation at work in contemporary reality, when it remains bound to the interfacial paradigm of finance (as it is currently designed),

20 J.W. Mason, 'Socialize Finance', *Jacobin*, 28 November 2016, https://www.jacobinmag.com/2016/11/finance-banks-capitalism-markets-socialism-planning/.

21 Randy Martin, 'Dance and Finance — Social Kinesthetics and Derivative Logics', lecture. EMPAC, Troy, NY, 9 October 2013, http://empac.rpi.edu/events/2013/fall/other-words/randy-martin.

our future will remain but beneficial for the (increasingly) few. In his seminal book, *The Stack*, Benjamin Bratton defines the interface (beyond the screen-based, button with words GUI's we are accustomed to) in the generic, as 'any point of contact between two complex systems that governs the conditions of exchange between those systems' where a 'diagram plus computation equals interface'.[22] Additionally, the interface can not only make complexity *tractable* (the problem of complexity withdrawal), fostering interactive accessibility that not only arbitrates translations of signals bidirectionally across disparate domains, but most importantly, where the interface 'fixes and limits' navigational possibility, 'narrativizing' the meaning of those very possibilities.[23]

Because the politics of the interface operate in both directions, there is a potency here isomorphic to finance-power not to be undervalued; we cannot lose sight of the force of narrative anticipation, of other ionose sight of th embedding themselves into the diagramming of those very navigational limits. This, of course, is not to advocate for 'ideal' optimism, where we can simply re-narrativize a 'better world', as if the stakes are purely imaginary and plastic, totally susceptible to fictional procedures. Reality is simultaneously shaped by us, indifferent to us, *and* invariant to us, and our subsequent narratives for reverse uptake need to mobilize these constraints. For narrative forces to politically and substantially engage in the reciprocal dynamics of the interface, they too must entangle themselves in the reciprocal dynamics between ideality and reality, not as a space of dreamy whimsy, but in ramifying the anticipatory. That is, not just presenting or narrating what a new, just socio-economic order could be, but in enacting the anticipation such novel transitions afford as a corresponding onionnting or nar. The anticipatory, as a mobile uncertain concept is always unknowlable, never without risk, but always potential. To be sure, this potential is volatile; susceptible to both utopian and dystopian promises. It conditions the very he veryonthout risk, but always potential. To be sure, this potentialfuturity can never be an excuse for inertia nertiaxcuseout risk, bution and social speculation. The future will only ever be contingent and anticipatory; to resign ourselves from its molding otherwise, simply because we cannot *guarantee* its outcome, is a pessimistic resignation in denying the mutability of *the given*, a conceptual calcification that holds, at present, the guaranteed stagnation of politics under finance power. A pessimism that is only 'affordable' by the few who are not acutely threatened (or may even benefit from) existing interfacial givens. We need to alienate the naturalized myths of who we are as human creatures (what incentivizes us as social animals) for reverse up-take, retraining our interfaces for a mode of futurity premised on collective care, separating from our debilitating narratives of self-enclosed sufficiency.

22 Benjamin H. Bratton, *The Stack: On Software and Sovereignty*, Cambridge, MA: MIT Press, 2015, p. 220.

23 Ibid., p. 219.

References

Arendt, Hannah. *On Revolution*, New York: Penguin Books, 1963.

Avanessian, Armen and Suhail Malik. 'The Time-Complex. Postcontemporary', *Fear of Content*, Berlin Biennale 9, 2016, http://bb9.berlinbiennale.de/the-time-complex-postcontemporary/.

Brassier, Ray. 'The View from Nowhere', *Journal for Politics, Gender and Culture* 8.2 (Summer 2011).

Bratton, Benjamin H. *The Stack: On Software and Sovereignty*, Cambridge, MA: MIT Press, 2015.

Esposito, Elena. *The Future of Futures: The Time of Money in Financing and Society*, Northampton: Edward Elgar Publishing, 2011.

_____. 'The Construction of Unpredictability', *Fear of Content*, Berlin Biennale 9, 2016, http://bb9.berlinbiennale.de/the-construction-of-unpredictability/.

Fisher, Mark. *Capitalist Realism: Is There No Alternative*, London: Zero Books, 2009.

_____. 'The Slow Cancellation of the Future', Lecture: MaMa, Zagreb, Croatia, 2014, https://www.youtube.com/watch?v=aCgkLICTskQ.

Malik, Suhail. 'The Ontology of Finance: Price, Power, and the Arkhéderivative', in Robin Mackay (ed.) *Collapse Volume VIII,* Falmouth: Urbanomic, 2014.

_____. 'Why a Rationalist Art', lecture organized by Glass Bead, Les Laboratoires d'Aubervilliers, Paris, 20 February 2016, http://www.glass-bead.org/audio-research/suhail-malik/?lang=enview.

Martin, Randy. 'Dance and Finance — Social Kinesthetics and Derivative Logics', lecture. EMPAC, Troy, NY, 9 October 2013, http://empac.rpi.edu/events/2013/fall/other-words/randy-martin.

Mason, J.W. 'Socialize Finance', *Jacobin*, 28 November 2016, https://www.jacobinmag.com/2016/11/finance-banks-capitalism-markets-socialism-planning/.

Olma, Sebastian. *In Defense of Serendipity: For a Radical Politics of Innovation*, London: Repeater Press, 2016.

Ostry, Jonathan D., Prakash Loungani, and Davide Furceri. 'Neoliberalism: Oversold?', *Finance and Development* 53.2 (June 2016), http://www.imf.org/external/pubs/ft/fandd/2016/06/ostry.htm.

Rowan, Rory. 'Extinction as Usual?: Geo-Social Futures and Left Optimism', *e-flux Supercommunity,* (31 July 2015), http://supercommunity.e-flux.com/texts/extinction-as-usual-geo-social-futures-and-left-optimism/.

Stengers, Isabelle. Interviewed by Brian Massumi and Erin Manning, 'History through the Middle: Between Macro and Mesopolitics' *Inflexions: A Journal for Research-Creation* 3 (October 2009), http://www.senselab.ca/inflexions/volume_3/node_i3/stengers_en_inflexions_vol03.html.

Tucker, Ian. 'Evgeny Morozov: 'We are abandoning all the checks and balances" *The Guardian*, 9 March 2013, https://www.theguardian.com/technology/2013/mar/09/evgeny-morozov-technology-solutionism-interview.

Williams, Alex. 'Complexity & Hegemony' PhD diss., London: University of East London, 2015.

NECRO-CAPITALISM AND COUNTER-IMAGES

NINA POWER

NECRO-CAPITALISM AND COUNTER-IMAGES

NINA POWER

We are still flooded with images. The images that capitalism has of itself — a series of never-ceasing electric pulses travelling at light speed across the globe, perhaps — and the images we have of our relation to it. We might regard ourselves as 'postcapitalist' subjects, as citizens, as consumers, as neoliberalized individuals, or as members of collectives, communes and communities, as members of a religious or ethnic group, a political party, or as geographical beings, or even as members of a certain kind of internationalism, global humanism, or cosmic wholeness. It matters a lot how we understand who we are — as an isolated body, as part of a collective body, as a depressed subject, as a worker, a carer — and it matters how we conceive of ourselves in relation to broader abstractions that we have no individual control over. Relatedly, how we respond to the futures that are spoken about in our name, but not necessarily in the name of everyone, give us an image of what is possible. One of the hardest tasks before us lies in untangling what particular images of the world mean — which images of capital come from capital itself, and which from alternatives to it? Which abstractions damage us, and which offer us images of hope? What should we be mapping and how should we be acting? Where do our enemies lie — in front of us, or hidden? When we talk about the future, what are saying we believe in? Dare we talk about the future when so much of the present lies in ruins around us?

Recent left proposals have called for a strong constructive attempt to bring about certain futures — here automation will replace horrible work, Universal Basic Income will ensure that no one (or at least those in particular countries) will be absolutely poor and platforms, from online to governmental, will be taken over by those with a sustainable plan for the future, against those who seek to exhaust the earth and enslave humanity in the name of profit for a small few.[1] 'Postcapitalist' thinkers like Paul Mason attempt to describe new political subjects, following the death of older images (the proletariat, above all else): 'By creating millions of networked people, financially exploited but with the whole of human intelligence one thumb-swipe away, info-capitalism has created a new agent of change in history: the educated and connected human being'.[2] These educated and connected beings lie at one end of the production chain, a kind of canny consumer. What change might these 'new agents' bring about? Must they by necessity forget the routes through which the instruments they swipe come about? Is the connected human being immune from reactionary ideas, cult-like thinking or hatred? Franco 'Bifo' Beradi identifies three aspects of what he calls the 'looming war':

> The first front is the neoliberal power that is tightening its grip of governance, pursuing the agenda of austerity and privatization. The second front is the anti-global Trumpism based on white resentment and working-class despair. The third front,

1 See Nick Srnicek and Alex Williams, *Inventing the Future,* London: Verso, 2015.
2 Paul Mason, 'The End of Capitalism Has Begun', *The Guardian*, 17 July 2015, https://www.theguardian.com/books/2015/jul/17/postcapitalism-end-of-capitalism-begun.

> taking place largely back-stage, is the growing necro-empire of terrorism, in all its different shapes of religious bigotry, national rage and economic strategy, that I identify as necro-capital.[3]

Included in this diagnosis is a mixture of governmental power, economic strategy, racial politics, religious impulses, and violence. We are immediately familiar with the 'war' that Bifo describes, and we can point to images, forces and activism that directly seeks to oppose this war with a militant kind of peace: a call for a return to social democratic politics, re-nationalization of public services, government funding of education; anti-racist politics and the 'second civil rights movement' in the form of Black Lives Matter protests in the US, UK and elsewhere; an endless call for tolerance in the face of nationalist and religious violence. But what exactly is necro-capital? Elsewhere, Bifo describes it in the following way:

> Neoliberal deregulation has opened the way to a regime of worldwide necro-economy: the all-encompassing law of competition has cancelled out moral prescriptions and legal regulations. Since its earliest phases, Thatcher's neoliberal philosophy prescribed war among individuals. Hobbes, Darwin, and Hayek have all been summoned to conceptualize the end of social civilization, the end of peace. Forget about the religious or ideological labels of the agents of massive violence, and look at their true nature. Take the Sinaloa Cartel and Daesh and compare them to Blackwater and Exxon Mobil. They have much more in common than you may think. Their common goal is to extract the maximum amount of money from their investments in the most exciting products of the contemporary economy: terror, horror, and death. Necro-capitalism is the emerging economic order of the world.[4]

Bifo's concludes with the stark claim that 'at the end, suicide'.[5] Neoliberalism, itself based on the resurrection of the Hobbesian 'war of all against all', has, according to Bifo, given way to a necro-neoliberalism that seeks to profit off of excitement in 'terror, horror and death'.[6] There is no doubt that war, drugs, sex, trafficking in bodies, terrorism are extremely profitable. The individual and collective corpses generated by these trades are sometimes circulated as images if they are deemed both palatable and shocking enough (think of the image of Alan Kurdi, the Syrian Kurdish boy whose drowned corpse was rendered horribly iconic by international media). But these images do not seem to generate a political depth but merely a kind of brief, horrified, sentimental response. Instead of opening houses to refugees, campaigning for open borders and safe passage, Western populations forget about these images within a matter of days. Necro-capitalism is also the profiting of the images of the dead, and we can talk about necro-capitalism as a kind of visual field as well as an economic tendency. We might also pause here for a moment here and ask a question that crosses economics and aesthetics — why exactly are 'terror, horror

3 Franco 'Bifo' Berardi, *Futurability: The Age of Impotence and the Horizon of Possibility,* London: Verso, 2017, p. 41.

4 Franco 'Bifo' Berardi, 'The Coming Global War: Is There Any Way Out?', *e-flux journal* 69 (January 2016), http://www.e-flux.com/journal/69/60582/the-coming-global-civil-war-is-there-any-way-out/.

5 Ibid.

6. Ibid.

and death' exciting? Why are there markets in these emotions and states of being? How do fictional and real images of violence contribute to the idea made material that these primal fears and forces are in any way something desirable?

Achille Mbembe's work on 'Necropolitics' has been extremely important for thinking about the real relationships at the heart of politics. He writes: '[i]nstead of considering reason as the truth of the subject, we can look to other foundational categories that are less abstract and more tactile, such as life and death'.[7] Mbembe, through a reading of Hegel, Bataille and Foucault that centres upon the relationship between politics, violence and death, points out the central role of slavery in any worthwhile conception of history: 'the humanity of the slave appears as the perfect figure of a shadow. Indeed, the slave condition results from a triple loss: loss of a "home", loss of rights over his or her body, and loss of political status. This triple loss is identical with absolute domination, natal alienation, and social death (expulsion from humanity altogether).'[8] The slave, Mbembe states, is kept alive, but in a permanent 'state of injury'.[9] Slave life, Mbembe claims, is a form of 'death-in-life'. By combining Bifo and Mbembe's analyses, we can say that necro-capitalism is not simply the profiting from violence and terror, but is predicated upon violence and terror, and the entire history of humanity must be seen in this light if we are to understand how death and life are central to both aesthetics and economics, no matter how much both pretend to beauty or normality.

I am interested in ways of thinking about an anti-necro-capitalism that, in the first place, takes seriously the subjects and the suffering constructed by this kind of economy. I am interested in an aesthetics that recognises the power of violent images, and refuses to accept that all images are equal. We might be cynical, 'open to anything and everything', be worried about censorship, keep our safe search off, pride ourselves on our ability to watch graphic violence, to 'take' the most violent scenes of murder, rape and torture, but if we lose the ability to differentiate between real violence and fictionalized violence, because we have watched too many films and played too many games, then we are easy prey for necro-capitalism. It is difficult to make this argument, though, without appearing to take a moralistic or censorious approach. Yet, we should remember that we already live online in a world in which we are protected from certain images by people paid very little: 'content moderation' workers for Facebook, largely based in the Philippines, must see 'pornography, gore, minors, sexual solicitation, sexual body parts/images, racism' and remove these images and texts before users might also see them.[10] The psychological toll of this work is extreme and many of these workers quickly experience burnout. We may seek out images that horrify and terrorize us, but many workers do not have this choice.

By recognizing our complicity in the production and reproduction of violent words and images, we can begin to think and work with care to undoing the lust for pain that sustains necro-capitalism. But how is this possible when so many revolutionary images are themselves saturated in blood? Perhaps one of the images that most symbolizes

7 Achille Mbembe, 'Necropolitics', trans. Libby Mientjes, *Public Culture* 15.1 (2003): 14.
8 Ibid., p. 21.
9. Ibid., p. 21.
10 Adrian Chen, 'The Laborers who keep Dick Pics and Beheadings out of your Facebook Feed', *Wired*, 23 October 2014, https://www.wired.com/2014/10/content-moderation/.

necro-capitalism is beheading/decapitation — used by IS in their videos in particular as a warning to Westerners and other Muslims, as well as a recruiting tool for those whose bloodlust has been triggered. If we concern ourselves with images of beheading — after all, what did peasants do to monarchs, revolutionaries to their enemies — are we contributing to the same 'terror, horror and death' that Bifo identifies as central to necro-capitalism?

Against the violence of video-taped beheadings, I want to resurrect some ideas of positive acephalism, of political subjects that begin without heads. Hobbes's famous frontispiece to *Leviathan*, the sovereign head with the multitudinous body, is perhaps the clearest, and certainly one of the oldest, images we have of the state conceived of as a literal 'head' as well as a metaphorical 'head' of state. We know that, or we are *supposed* to know that, without the head the body will die. But each person in the multitude has a head, and none of these will stop working just because the crown has lost his 'crown'. In *Stasis*, Agamben discusses the various historical readings of the famous frontispiece to Hobbes's *Leviathan* (1651), noting that in the manuscript prepared for Charles II, the tiny men that make up the body of the Leviathan were turned outwards to face the monarch, whereas in the other, main, frontispiece they face upwards towards the head of the sovereign. Both editions, in fact, therefore present the 'same' image, just for different readers. Pointing out that the Leviathan in the image appears *behind* the earth, and possibly in or above the sea, Agamben notes that the 'mortal-God' does not then reside in the city but outside it, in a kind of no-man's-land: 'The Common-wealth — the body political — does not coincide with the physical body of the city'.[11] The city in the image is also bereft of people, as they are all making up the body of the sovereign.

These two frontispieces may be 366 years old, but I think it has at least two things to tell us: one, that we should never be too hasty to give up on ideas of sovereignty and the state — even when platform and techno-capitalism seems to present us with models of horizontalism and globalism. States are repressive — the surveillance state, undercover policing, and border control – and privatization and franchising does not diminish the ultimate power of the state. The head in the shape of the ruling class is a false head, a head that pretends we need it when it is in fact parasitic upon the body of those who labor. And there are other reasons why decapitation seems so unpalatable. As Freud noted in a short text, 'Medusa's Head' from 1922, simply 'To decapitate = to castrate'. The fear of decapitation is an intensely sexed question. As Freud continues: 'The terror of Medusa is thus a terror of castration that is linked to the sight of something. Numerous analyses have made us familiar with the occasion for this: it occurs when a boy, who has hitherto been unwilling to believe the threat of castration, catches sight of the female genitals, probably those of an adult, surrounded by hair, and essentially those of his mother'.[12] Women, on this analysis, are *already* decapitated, headless. Why not then assume the role of the decapitated, the acephalic (and the aphallic!) from the start? What politics would follow?

11 Giorgio Agamben, *Stasis: Civil War as a Political Paradigm (Homo Sacer, II, 2),* trans. Nicholas Heron, Edinburgh: University Press, 2015, pp. 27-29.

12 Sigmund Freud, 'Medusa's Head', 1922.

The voiceless head, the head that is removed by force: perhaps is there some power here. How can we take back this always already decapitated and castrated position from those who would seek to behead us many times over? In Bataille's 'Programme (Relative to *Acéphale*)' from 1936, he writes the following: 'Realize the universal accomplishment of personal being in the irony of the animal world and through the revelation of an acephalic universe, one of play, not of state or duty'.[13] The final point in the programme says: 'Affirm the value of violence and the will to aggression insofar as they are the foundation of all power'.[14] Understanding the nature of violence, affirming it even, underpins Bataille's call for a headless universe, one where man war and labour out of duty, guilt or coercion. Bataille begins with the acceptance of destruction and violence — 'Take part in the destruction of the existing world, with eyes open to the world to come'[15] — in a way that might not accord with whatever residual feelings of pacifism, humanism and preservation we might want to hang onto. But, at the same time, it acknowledges the reality of aggression as a fundamental, perhaps the fundamental feature, of human life. Acephalism, understood as the revelation of a headless universe, a universe without rules, despite the need of those who wish to lead to invent them, is a playful, creative endeavour. It loathes the fascist state as much as it loathes the monarchical state, though is profoundly aware of those forces that can lead to the former taking hold.

Capital likes to *pretend* it is acephalic, as if networks are spontaneously generated from markets, but as austerity has shown us, it needs the state to squeeze those without money in order to bail out and redirect finance upwards. Capital pretends to hate the state, but needs it to maintain its own self-image. For many people, the state stripped of any public aspect, is merely repressive: courts, prisons, borders, refugee camps. What would it mean to seriously consider removing these apparatuses, of leading a collective, stateless life? It is necro-capital that makes us immediately conceive of such a decapitated existence as immediately one of scarcity and violence. But it is necro-capital that constructs the conditions for scarcity and violence, that replicates and profits from such conditions, from food to images and everything else. What images do we have of the energy that constitutes such a world? We do not think enough about how various kinds of energy constitutes our economics and our politics, and how our images of technological futures, however they are managed (by the state, or by multinational corporations), depend upon presumptions about what energy is and where it comes from. As Bataille puts it elsewhere:

> Man's disregard for the material basis of his life still causes him to err in a serious way. Humanity exploits given material resources, but by restricting them as it does to a resolution of the immediate difficulties it encounters […] it assigns to the forces it employs an end which they cannot have. Beyond our immediate ends, man's activity in fact pursues the useless and infinite fulfilment of the universe.[16]

13 Georges Bataille, 'Programme (Relative to *Acéphale*)', *The Bataille Reader*, Fred Botting and Scott Wilson (eds), Oxford: Blackwell, 1997, p. 121.

14 Ibid., p. 121.

15 Ibid., p. 121.

16 Georges Bataille, 'The Meaning of General Economy', *The Bataille Reader*, op. cit., 183.

Is necro-capital an attempt, in the most destructive way possible, to pretend that there is control over the material basis of our lives? Is it the excess energy generated by capitalism, fed back into a system that thinks nothing of monetizing pain and slaughter? For Bataille, it is the sun that provides humanity with a model of energy without exchange ('The origin and essence of our wealth are given in the radiation of the sun, which dispenses energy — wealth — without any return'[17]). Does necro-capitalism proceed under the image of a black sun? We forget the sky too often in our political and economic analyses, ceding the language of 'horizons' to dusty philosophies and the heavens to religion. If we imagine instead that the sky is our 'head', we will not need leaders with their heads pretending to look down, all the while dealing in the most corrupt things imaginable. Necro-capitalism is a beast of many heads, all of which start to resemble each other. But they forget where their energy comes from, preferring instead to dwell in the most destructive impulses. Those of us who do not believe in heads can nevertheless turn ours to the sky for an image of the world that understands that one does not need to traffic in violence to understand its power.

But we could also turn to another mythical character, another beast with many heads: the Hydra. As Peter Linebaugh points out:

> From the beginning of English colonial expansion in the early seventeenth century through the metropolitan industrialization of the early nineteenth, rulers referred to the Hercules-hydra myth to describe the difficulty of imposing order on increasingly global systems of labor. They variously designated dispossessed commoners, transported felons, indentured servants, religious radicals, pirates, urban laborers, soldiers, sailors, and African slaves as the numerous, ever-changing heads of the monster. But the heads, though originally brought into productive combination by their Herculean rulers, soon developed among themselves new forms of cooperation against those rulers, from mutinies and strikes to riots and insurrections and revolution.[18]

The horrors of necro-capitalism, the history of human violence, and the making economic of horror in slavery and exploitation, are seemingly insurmountable. Yet we must become better readers of images that neutralize us and make us complicit in this violence, and look and think instead towards images of alternative worlds that do not thrive upon and promote violence. Somewhere between acephalism and the many-headed hydra. This position would not pretend that destructive images and actions do not exist, or must be ignored, but rather understands the temptation and power of such a vision of the world. We should not seek to protect ourselves from horrible images, or rely on others to do the hard labour of image selection, but rather cultivate powerful political images that dialectically reverse necro-capitalist desires. Aggression may be a central feature of human life, but it can be addressed if it is understood, and channelled away from cruelty towards compassion and care.[19]

17 Georges Bataille, 'Laws of General Economy', *The Bataille Reader*, op. cit., 189.

18 Peter Linebaugh and Marcus Rediker, *The Many Headed Hydra: Sailors, Slaves, Commoners and the Hidden History of the Revolutionary Atlantic,* Boston, MA: Beacon Press, 2000, pp. 3-4.

19 Parts of this text draw upon earlier work done for the Amsterdam Sonic Acts festival, 2017.

References

Agamben, Giorgio. *Stasis: Civil War as a Political Paradigm (Homo Sacer, II, 2),* trans. Nicholas Heron, Edinburgh: University Press, 2015.

Bataille, Georges. *The Bataille Reader*, Fred Botting and Scott Wilson (eds), Oxford: Blackwell, 1997.

Berardi, Franco 'Bifo'. 'The Coming Global War: Is There Any Way Out?', *e-flux journal* 69 (January 2016), http://www.e-flux.com/journal/69/60582/the-coming-global-civil-war-is-there-any-way-out/.

_____. *Futurability: The Age of Impotence and the Horizon of Possibility,* London: Verso, 2017.

Chen, Adrian. 'The Laborers who keep Dick Pics and Beheadings out of your Facebook Feed', *Wired*, 23 October 2014, https://www.wired.com/2014/10/content-moderation/.

Freud, Sigmund. 'Medusa's Head', 1922.

Linebaugh, Peter, and Marcus Rediker. *The Many Headed Hydra: Sailors, Slaves, Commoners and the Hidden History of the Revolutionary Atlantic,* Boston, MA: Beacon Press, 2000.

Mason, Paul. 'The End of Capitalism Has Begun', *The Guardian*, 17 July 2015, https://www.theguardian.com/books/2015/jul/17/postcapitalism-end-of-capitalism-begun.

Mbembe, Achille. 'Necropolitics', trans. Libby Mientjes, *Public Culture* 15.1 (2003).

Srnicek, Nick and Alex Williams. *Inventing the Future,* London: Verso, 2015.

EXPERIENCE MONEY

NATHANIEL TKACZ
AND PABLO R. VELASCO

EXPERIENCE MONEY

NATHANIEL TKACZ AND PABLO R. VELASCO

Appification

Industry researchers and anthropologists in the 'payment space' are talking of a 'Cambrian explosion of payments'.[1] The explosion is Cambrian, explains Bill Maurer, 'in that new body forms, adaptations of existing structures, and novel relationships in a variegating ecology of retail payment are coming into being all at once'.[2] Readers with an interest in the payment space are no doubt familiar with some of these ways to pay (or otherwise transfer), from M-PESA to Venmo, Bitcoin to Alipay, and while not all rely on the bundle of technologies we (still) call the phone, it is doubtful there would be talk of such an explosion without the prior explosion of these digital devices.

Part of what is happening with payments is a becoming-money-like of phones, of phones substituting for other money artefacts such as cash or card. Of course, it is by no means a straightforward substitution: the becoming-money-like of phones is equally a becoming-phone-like of money. And since the phone is always already a bundle or stack of technologies, what is happening with money and what that might mean more generally in terms of (political) economy is anything but clear.

As Maurer points out, payments made through phones involve 'adaptations of existing infrastructures'. Just at the level of phone hardware, for example, he points out how payment software variously makes use of the phone's camera, display and earphone jack, none of which were intended for payment. In addition to these novel material adaptations, something (at least) as significant is happening as money-practices — paying, transferring, budgeting, converting, investing, and so on — are increasingly encoded as software. Money is becoming 'appified'.

Another way to get at this 'explosion' in the payment space is precisely to look to the major app stores — and indeed one does find rapid growth in money-related apps over the last five years.[3] In the form of applications, internet banking services from Natwest, Barclays or Lloyds (in the UK) sit alongside payment processors such as Paypal. There are any number of Bitcoin wallets, and the new generation of 'smart' or 'challenger' banking and payment apps such as Monzo, Monese, or Yolt. Then there are the 1st party platform apps, such as Android Pay and Google Wallet, or Apple Pay and Apple Wallet. As a further, fractal, iteration on this platform-app dynamic, Apple Wallet is also fashioned as its own mini-platform of sorts, a kind of wallet-as-

1 Bill Maurer, 'Blockchains Are a Diamond's Best Friend: Zelizer for the Bitcoin Moment,' in Nina Bandelj, Frederick F. Wherry, and Viviana A. Zelizer (eds), *Money Talks: Explaining How Money Really Works*, Princeton, NJ: Princeton University Press, 2017, pp. 215–29; Taylor Nelms, '"Ecuador Bans Bitcoin"! A Monetary Mix-Up,' *King's Review Magazine*, 20 October 2015, http://kingsreview.co.uk/articles/ecuador-bans-bitcoin-a-monetary-mix-up/.

2 Maurer, 'Blockchains Are a Diamond's Best Friend', p. 215.

3 Of course, both the Apple App Store and Google's Play Store have experienced significant app growth in general.

platform, where users can connect to other apps (British Airways, Starbucks, Hotels.com, Expedia, Airbnb, Eventbrite, etc.). Wallet will 'store your boarding passes, tickets, reward cards, coupons and gift cards in one place'.[4]

These money apps push and pull money in different directions. They code its functionality in different ways, ways that 'operationalise' the sociological theories of money as 'marked' developed by writers like Viviana Zelizer:[5] apps for moving money across borders; for saving and managing finances; for gift-giving; for playful gestures; for gambling; for retail payments; for specific platform transactions; for spending in *this* space, *this* store, *this* thing, *now*, for *you* and you only.[6] The notion of money as 'universal equivalent' is superseded by money as situated, 'embodied interaction'.[7] And thus, the spectrum of monetary situations become available for *appification*. There is much to be said about monetary appification: how it reconfigures hardware and infrastructures; how it realigns industries and industry players (banks, mobile network operators, software companies, merchants and so on), creating new allegiances and competitors; how it is part of a privatisation of money-space; or, indeed, how it expands money's materiality and augments its functionality (or not), while blurring the distinction between money as artefact and process or milieu, for example. In what follows, we limit ourselves to a discussion of what we see as the *becoming experiential* of money; that is, of money becoming subjected to specific design techniques and framings *as experience*. As we shall see, experience (design) informs how the vast majority of money-related apps are made. It is a way of doing things; a set (or sets) of principles and corresponding methods. Experience is also the criterion upon which apps are evaluated and the 'value proposition' upon which new apps are brought into being. A turn to experience, then, helps us understand something of the cultural logics of this so-called Cambrian explosion. It provides one way into thinking about what is happening to money as it is remediated through phones, and where we might look to gain a critical purchase on the present in terms of political and cultural economy.

Experience

While money has long been the subject of design (in terms of materials, preventing counterfeit, or for symbolic ends), as app the entire money-sphere is subject to a particular kind of design mediation. Money is becoming a subset of the user experience. Understood through the lens of user experience, money's commonly-attributed functions — as medium, measure, store, etc. — persist, but only inasmuch as money is now also something else. This new experience 'layer' of mediation does not cancel

4 As much as Android and Apple Pay have a significant competitive advantage as the native offerings of their respective appospheres, neither has made inroads comparable to their Chinese counterparts. Alipay, for example, reportedly has 450 million users, and a 54% share of China's $5.5 trillion mobile payments market. Alipay's main competitor is WeixinPay (or WeChat Pay), which currently has 37% of the market. See Louise Lucas, 'Ant Financial claims doubling of daily users', *Financial Times*, 17 May 2017, https://www.ft.com/content/8925ad98-3add-11e7-821a-6027b8a20f23?mhq5j=e2.

5 Viviana A. Zelizer, *Economic Lives: How Culture Shapes the Economy*, Princeton, NJ: Princeton University Press, 2010; Viviana A. Zelizer, *The Social Meaning of Money: Pin Money, Paychecks, Poor Relief, and Other Currencies*, Princeton, NJ: Princeton University Press, 1997.

6 Wendy Hui Kyong Chun, *Updating to Remain the Same: Habitual New Media*, Cambridge, MA: MIT Press, 2016.

7 Paul Dourish, *Where the Action Is: The Foundations of Embodied Interaction*, Cambridge, MA: MIT Press, 2004.

out other functions, although, as we will see, it is not the case of money-as-usual. What is experience in this context? There are at least two trajectories that converge in money-as-experience, one economic and one design-based.

The significance of experience as an economic concept was perhaps first explored by Alvin Toffler in *Future Shock*.[8] Toffler wrote of the rise of the 'experiential industries', which specialises in neither goods or services but experiences, experiences which in turn becomes central to the mediation of these other sources of value (goods and services):

> Bankers and brokers, real estate and insurance companies will employ the most carefully chosen decor, music, closed circuit color television, engineered tastes and smells, along with the most advanced mixed-media equipment to heighten (or neutralize) the psychological charge that accompanies even the most routine transaction. No important service will be offered to the consumer before it has been analyzed by teams of behavioral engineers to improve its psychic loading.[9]

Experience, in this regard, pans much of the contemporary 'culture industries', and is always explicitly part of an economic relation. It appears as a kind of extra layer (similar to how design itself was understood at the time), but Toffler also imagines such experiences floating more freely: 'The experience is, so to speak, the frosting on the cake. As we advance into the future, however, more and more experiences will be sold strictly on their own merits, exactly as if they *were* things'.[10]

Roughly 30 years after *Future Shock*, Joseph Pine and James Gilmore wrote their influential book, *The Experience Economy*.[11] These authors similarly distinguish experience from goods and services:

> Experiences represent an existing but previously unarticulated genre of economic output. Decoupling experiences from services in accounting for what businesses create opens up possibilities for extraordinary economic expansion just as recognizing services as a distinct and legitimate offering led to a vibrant economic foundation in the face of a declining industrial base.[12]

For these authors, experience is separated out as a new 'unit of value', which emerges through 'mass customization' and where 'every business is a stage, and therefore work is theatre'.[13] Mass customization is achieved through different forms of 'staging'. If this sounds like an operationalization of Erving Goffman's seminal *Frame Analysis* — where theatre is used as a primary example to elucidate the 'framing' of everyday experience — it is because it is.[14] *The Experience Economy* reads like a

8 Alvin Toffler, *Future Shock*, New York: Bantam Books, 1970. p. 226.
9 Ibid., p. 228.
10 Ibid.
11 B. Joseph Pine and James H. Gilmore, *The Experience Economy: Work Is Theater & Every Business a Stage*, Brighton: Harvard Business School Press, 1999.
12 Ibid.
13 Ibid.
14 Erving Goffman and Bennett Berger, *Frame Analysis: An Essay on the Organization of Experience*, New Edition, Boston, MA: Northeastern University Press, 1986.

business undergraduate mistakenly took a course in sociology, and read Goffman as if he were a business guru. The result is employees and managers reimagined as actors and places of work reimagined as different types of theatre. Find yourself in a dynamic environment? Strategy: Improv Theatre. How about a familiar, routine situation? Platform Theatre. As industrial production retreats from the overdeveloped nations and services reach their limits, the staging of experiences, Pine and Gilmore suggest, 'provides the key to future economic growth'.[15]

By the time *The Experience Economy* was reissued in 2011, the authors could write of Apple as the new masters of experience: 'what store is now the envy of every mall owner and developer? Apple. Why? Customers clearly flock there not only for the goods but also the store experience…'.[16] A year after this reissue, Carmine Gallo published her book length account of this development in *The Apple Experience*.[17] Gallo continues to rely on theatrical metaphors, with discussions of scripts and stage setting, heroes and villains, but also give experience an expanded set of coordinates. In a chapter dedicated to creating 'wow moments', for example, readers are treated to an opening epigraph from neuroscientist John Medina: 'The brain remembers the emotional components of an experience better than any other aspect'.[18] The staging of experiences comes to refer explicitly to a cognitive and emotional actor, with the task of experience *design*, in this chapter at least, to create 'emotionally charged events'. Apple's famous Super Bowl ad '1984' is reframed as the prototypical 'wow moment'. Whatever else there is to say about this ad, it certainly can be read as a kind of experience proposition (as the voiceover proclaims): 'And you'll see why 1984 won't be like *1984*'.[19]

It is with Apple that the two trajectories of experience as designed encounter and source of economic value reach their apotheosis. Of course, experience as 'unit of value' and as design practice are deeply interwoven, but they can be separated out. Designing for 'the user experience'[20] is precisely a *practice*, a way of designing that differs from other design traditions, and one in which economic considerations (of experience) become backgrounded and only re-enter at specific moments of the design process.

User experience (UX) design falls within what has been called the 'third paradigm' of Human-Computer Interaction (HCI) as influentially described by Steve Harrison, Deborah Tatar, and Phoebe Sengers.[21] These authors summarise the first paradigm as engineering and 'human factors' led, with a focus on 'optimizing man-machine fit'; the second was based in cognitive science and focusing on how the computer

15 B. Joseph Pine and James H. Gilmore, *The Experience Economy, Updated Edition*, Boston, MA: Harvard Business Review Press, 2011.

16 Pine and Gilmore, *The Experience Economy*.

17 Carmine Gallo, *The Apple Experience: Secrets to Building Insanely Great Customer Loyalty*, New York, NY: McGraw-Hill Education, 2012.

18 Ibid., 143.

19 Ridley Scott, *Apple - 1984*, https://www.youtube.com/watch?v=R706isyDrqI.

20 Jesse James Garrett, *Elements of User Experience: User-Centered Design for the Web*, 1st edition, Indianapolis, IN: New Riders, 2002.

21 Steve Harrison, Deborah Tatar, and Phoebe Sengers, 'The Three Paradigms of HCI', SIGCHI Conherence on Human Factors in Computing Systems, San Jose, CA, 2007, https://www.researchgate.net/publication/215835951_The_three_paradigms_of_HCI.

and 'human mind' interact; while the third paradigm is described as a 'phenomenological matrix', one which takes into account things like affect, embodiment, situated meaning, values and social issues.[22] In a different take on this history, Microsoft researcher Jonathan Grudin defines the third 'face' (in his terms) through the rise of 'discretionary use'.[23] His idea correlates with the rise of the PC (and later mobile devices), which place computers outside the workplace and the practice of work itself. Discretionary use is use beyond work; use that, at least in some aspects, is reconfigured as consumption.[24]

Research under the 'third paradigm' attained heightened influence as computational objects increasingly entered the everyday – the becoming 'ubiquitous' of computing.[25] Pioneering work by HCI researchers at Xerox PARC, including Lucy Suchman on 'situated action' and Paul Dourish on 'embodied interaction', offered convincing criticisms of the instrumental and Cartesian underpinnings of earlier approaches to HCI, while also drawing on sociological and phenomenological insights to advance their own agendas.[26] Donald Norman, who was foundational to the second 'cognitive' paradigm of HCI, revised his earlier position and also began focusing on things like 'emotional design'.[27] In this third paradigm, the user of technology was thoroughly reworked; now depicted in situations closer to Geertz's Balinese Cockfights than the formalised cognitive task and office workflows of days past.[28] The term 'user' itself came under attack by Norman and others as being too tainted by these older paradigms. Norman started championing ordinary 'people' and suggesting technology 'should get out of the way' — the so-called invisible paradigm — while others suggested UX should lose its 'U' and focus solely on experiences. So, users and situations become decidedly thicker, and claims to knowing the user attained new empirical coordinates. Users were now placed in 'user scenarios' within larger 'user journeys'; they were now in a world full of rich experiences and the task of design was to focus on these. Even when 'real' users were missing in action, designers invented detailed but effectively fictitious characters or 'personas'. While products and services remain important throughout these changes, experience design begins from this position (of experience) and works backwards through to the product or service.

Drawing insights from behavioural psychology, cognitive approaches to interaction design had already assumed users were not rational and this assumption was carried into the experience paradigm. It's not to say that cognitive approaches

22 Harrison, Tatar, and Sengers, 'The Three Paradigms of HCI'.
23 Jonathan Grudin, 'Three Faces of Human — Computer Interaction', *IEEE Annals of the History of Computing* 27.4 (October 2005): 46–62.
24 Soren Bro Pold and Christian Ulrik Andersen, 'Controlled Consumption Culture: When Digital Culture Becomes Software Business,' in Paul D. Miller and Svitlana Matviyenko (eds), *The Imaginary App*, Cambridge, MA: MIT Press, 2014, pp. 17–34.
25 Mark Weiser, 'Ubiquitous Computing,' *Ubiquitous Computing*, 2017, http://www.ubiq.com/hypertext/weiser/UbiHome.html.
26 Lucy A. Suchman, *Plans and Situated Actions: The Problem of Human-Machine Communication*, Cambridge: Cambridge University Press, 1985); Dourish, *Where the Action Is*.
27 Donald Norman, *Emotional Design: Why We Love (or Hate) Everyday Things,* New York, NY: Basic Books, 2005.
28 Clifford Geertz, *The Interpretation of Cultures*, New Ed edition, New York, NY: Basic Books, 1977.

presumed an irrational user, but rather a full spectrum of cognitive 'behaviours' were put on the table. Indeed, the very premise of the second paradigm was that designers and engineers could not assume in advance that users would use as intended by design; Engelbart-style 'augmenting' of the human intellect through the interface was not a given.[29] Industry books like *Don't Make Me Think*[30] and *Designing with the Mind in Mind*[31] provided practical advice on designing for the cognitively-flawed user.

This a-rational or behavioural user underpins much contemporary interaction design, where creating a desired experience is evaluated in terms of its capacity to elicit specific behaviours. Here, the design of experience to shape behaviour explicitly blends socio-cultural, psychological and behavioural-economic insights, as seen in the well-documented form of 'nudging'.[32] The most sinister of the cognitive-behavioural approaches at the level of experience design are manifested as 'dark' design patterns, which deliberately aim to trick and misguide users by preying on their cognitive weaknesses.[33] However, deliberate attempts to nudge and deceive are only the most obvious instances of experiences that are always already designed to direct cognition.

Thus, while there is a thickness to the imagined, designed and real experiences of the user, a lingering instrumentality necessarily exists in the user experience as subject of design. Experiences are designed to 'act upon' the user to enact a change or achieve a designed outcome. While cognition is not the only target of design, as the locus of decision-making and other, lower-level responses,[34] the cognitive element is often privileged. The behavioural economists, for example, are now inclined to speak of designing 'choice architectures', material environments constructed to encourage specific choices (over others), while also producing an active, decision-making user – a user understood as decision-maker, and one who *must* decide in order to validate the premise of the (choice) architecture.

This cognitive-behavioural user has its roots in behavioural psychology, where the mind or psyche were black-boxed. The psychological way of knowing came to revolve around creating controlled experiments, which focused on observing the cognitive behaviours of subjects.[35] This black-boxing of the mind and privileging of a peculiar form of empiricism proved attractive to a generation of economists who had become interested in testing the presumed utility-maximising individual underpinning neoclassical

29 Douglas C. Engelbart, 'Augmenting Human Intellect: A Conceptual Framework,' *Doug Engelbart Institute*, 1962, http://www.dougengelbart.org/pubs/augment-3906.html.

30 Steve Krug, *Don't Make Me Think!: A Common Sense Approach to Web Usability*, 2nd edition, Berkeley, CA: New Riders, 2005.

31 Jeff Johnson, *Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Rules*, 1st edition, Burlington, MA: Morgan Kaufmann, 2010.

32 Cass R. Sunstein and Richard H. Thaler, *Nudge: Improving Decisions About Health, Wealth and Happiness*, London: Penguin, 2012.

33 See D. Berry and M. Dieter (eds), *Postdigital Aesthetics: Art, Computation And Design*, 2015 edition, New York, NY: Palgrave Macmillan, 2015; Harry Brignull, 'Dark Patterns', 2017, https://darkpatterns.org/.

34 See Daniel Kahneman, *Thinking, Fast and Slow*, London: Penguin, 2012.

35 John A. Mills, *Control: A History of Behavioral Psychology*, New York, NY: NYU Press, 2000.

economics and they used experiments to undermine this rational figure at the heart of economics.[36] Such a black-boxing of the mind attains a new specificity and a new function in the experience paradigm.

While the process of design may well involve qualitative or even ethnographic modes of inquiry, the actual interfacing of user and experience, when people use money apps, for example, lends itself to behavioural insights (and methods) because the actual user is generally only registered as a series of digital traces. That is, while the user may be 'in' an experience in all its symbolic richness, the interaction is fed back through the interface as a string of data signals.[37] While early web design was barely conscious of the 'informating'[38] dimension of digital communication, today experiences come jam-packed with any number of behavioural data points and these are used to measure the performance of the experience (in terms of conversion rates, for example), but also as a set of coordinates for conducting experiments.[39] A/B and multivariate testing, which roll out subtly different versions of an interface to different users and then measure the resulting behaviours against a predefined criteria, are based precisely on the experience as an unfolding experiment, and as constituted through behaviours which are not only the basis of 'knowing' but also acting. This post-ethnographic and post-demographic[40] user (as data signals) moves to the centre of design considerations as the actual users of applications scales into the millions. Indeed, as initially designed experiences (and their ethnographically thick users) are set wild into the digital everyday, the scaling of behavioural data and reframing of experience as experiment suggest the third paradigm may be morphing into something else. These hybrid *experiements*, increasingly form the modus operandi of innovation in platform capitalism. In the case of data-driven *experiments*, we are literally talking about quasi-blind innovation. A data-design hybrid authority replaces the Schumpeterian heroic entrepreneur. The experience economy is guided by the invisible hand of behaviour.

The Cambrian explosion in the 'payments space' is an implosion of money as exchange and a rebirth of money as experience. Experience becomes a distinct value proposition — indeed, a selling point — upon which any number of money-sphere applications can lay claim. Experience is staging, performance, scripting, instrumentalized Goffmanian framing; it is a new 'unit of value', a *1984* 'wow moment'. But it is also a worldview of ethnographic thickness attached to design practice. Experience is where people are (embodied, situated), what they have (affects, emotions, behaviours) and what design actively (re)creates, acts upon and experiments on; experience hovers between methodology and worldview.

---

36 Richard H. Thaler, *Misbehaving: The Making of Behavioural Economics*, 1st edition, London: Penguin, 2015; Daniel Kahneman, *Thinking, Fast and Slow*; Floris Heukelom, *Behavioral Economics: A History*, Cambridge: Cambridge University Press, 2014.

37 Frieder Nake, 'Human-Computer Interaction: Signs and Signals Interfacing,' *Languages of Design 2*, 1994, pp. 193–205.

38 Shoshana Zuboff, 'Big Other: Surveillance Capitalism and the Prospects of an Information Civilization', *Journal of Information Technology* 30.1 (March 2015): 75.

39 Gary Angel, *Measuring the Digital World: Using Digital Analytics to Drive Better Digital Experiences*, 1st edition, Upper Saddle River, NJ: Pearson FT Press, 2015; Zuboff, 'Big Other: Surveillance Capitalism and the Prospects of an Information Civilization'.

40 Richard Rogers, *Digital Methods*, Cambrige, MA: MIT Press, 2013.

Apple Pay

To consider this recasting of money as experience, let's return to Apple. Apple Pay was publicly introduced at the launch event for the iPhone 6 in 2014. After a general introduction to the then new iPhone 6, Apple CEO Tim Cook strolls (back) onto the stage and announces that he'd 'like to talk about an entirely new category of service'.[41] After a lengthy pause, he continues, 'And it's all about the wallet'. A bulky black leather wallet appears on the screen behind Cook; it is held slightly ajar to reveal a couple of bank cards and some unruly bills. 'Our vision' he continues, 'is to replace this.' Apple Pay is presented as the first step in this vision. The audience is given an overview of the payments industry in the US (four trillion US dollars annually, 200 million transactions processed daily), after which Cook's rhetoric takes a turn: 'That's 200 million times we scramble for our credit cards, and go through what is a fairly antiquated payment process'. He provides a short and somewhat elaborate video of a woman paying for a store purchase using a Visa bank card: she fumbles around with her purse; the card is difficult to pry out of its slot; ID is required; the magstripe doesn't read; the card is returned with a receipt, and both need to be sorted away. The bank card — and its magstripe technology — come under full attack: it's 'five decades old'; 'outdated and vulnerable'; 'it's so easy to lose your card or have it compromised'.

Cook goes on to acknowledge that many have already tried and failed to create a mobile wallet which gains a foothold in the payment business. 'Why is this?', he ponders,

> It's because as it turns out most people that have worked on this have started by focusing on creating a business model that was centred around their self-interest, instead of focusing on the user experience. We love this kind of problem. This is exactly what Apple does best.

The audience is reintroduced to the scenario of the woman paying in store. This time she is equipped with Apple Pay. At the register, the store keeper once again announces the total. The woman holds her phone to a wireless payment terminal and presses her thumb on the iPhone's fingerprint scanner. A small beep confirms the transaction is complete. 'That's it!', Cook announces. And again, 'That's it!' He shows the video again, in case the audience 'blinked' and missed it. At that point, Cook leaves the stage to Eddy Cue (Senior VP of Software and Services) to go through all the technical details. While these details surely matter a great deal when it comes to evaluating the actual functioning of Apple Pay, the main work is already done. 'That's it' is Apply Pay's 'wow moment'.

In the first video Cook establishes payment as a theatre of experience. It is a woman in a store, with a handbag and a purse. It is a shopkeeper, a bench, goods and bags, swipe terminals and cash registers. It involves communication, both verbal and gestural, and a range of bodily movements — grasping, sorting, swiping, pulling, glancing, reading, and so on. Swipe cards appear as the main villains, sup-

41 Apple, *Apple - September Event 2014*, 2014, https://www.youtube.com/watch?v=38IqQpwPe7s; Note: all subsequent references to Tim Cook are taken from this video. The relevant section begins at the 43-minute mark.

ported by purses, swipe terminals and ID checks. Apple Pay emerges as the understated hero; it rewrites the script, taking the user on a new, simpler journey.

We will not speculate too much on the strategic behavioural dimensions of this re-scripted experience, but the temporal changes alone — That's it! — is presumably relevant to the so-called purchase or conversion 'funnel', particularly at the final point of purchase. It would also presumably impact the user's 'present bias' (a privileging of the present when making decisions), by reducing opportunities for consumer reflexivity. Such speculation is in fact not necessary as Apple overtly advertises the behavioural dimensions of Apple Pay on the company's developer site, where early adopters provide testimony of the benefits of switching to Pay.[42] Consider a selection of these testimonies:

> A product manager from Groupon: 'Apple Pay has facilitated greater real-time commerce, improved conversion and enhanced the overall Groupon mobile experience.'
>
> A product director from Indiegogo: 'We've seen a 250% increase in our conversion rate with Apple Pay.'
>
> A 'VP of Product' from Chairish: 'With Apple Pay, our conversion rate has tripled.'
>
> The CEO of Fancy: 'Apple Pay customers have a 30% higher purchase frequency than other users.'

Each of these testimonies is followed with further elaboration from Apple's copy writers: 'new customers can purchase a deal with a single tap'; 'the DoorDash team removed friction from the checkout experience for new users'; 'With Apple Pay, there's no need for payment method selection or data entry, resulting in an optimal customer experience'; and 'With a better first time experience, customers come back more frequently.' The 'value proposition' of Apple Pay is an improved payment experience resulting in higher sales conversion rates. That is, as experience money, Apple Pay promises to leave its owners hands (or phones?) more often and more efficiently than other ways to pay.

Critical Coordinates

Whether or not Apple Pay (Android Pay, Samsung Pay, Alipay, WeChat Pay, Paypal, or the like) will establish itself as the *killer app* for payments is secondary to the general rise of experience money. Competition in the payment space and the larger app ecology is being forged in terms of this re-scripting of experience. What to make of this experience money?

Experience money should trouble classical and neoclassical economists because it introduces a behavioural, a-rational, actor into the market, *a priori*. That is, experience money *acts on* users through the very process of facilitating market activity. The behavioural approach to economics also finds itself in an odd situation: the insight it

42 Apple. 'Apple Pay - Apple Developer', https://developer.apple.com/apple-pay/; Note: all subsequent testimonials are taken from this page.

borrows from behavioural psychology to better account for empirical economic activity (with regards to neoclassical approaches) is now already written into the empirical. Attempts to explain economic realities from this position therefore suffer from a type of ontological circularity. In other words, behavioural economics is having its 'engine not a camera' moment.[43] This should not trouble too many readers of MoneyLab, who hail from more critical and creative horizons. Indeed, it suggests the empirical realities of experience money can be used as ammunition against attempts to explain economic activity by the means just mentioned. But we might also ask some more fundamental questions.

As Apple, Google, Alibaba, Tencent and others continue the march into banking, payment, transfer and other services traditionally the preserve of banks and credit card companies, the distance between global finance and digital cultures further collapses. What would it mean to take these players and their experiential interventions as the basis for a critique of political economy? When four of the top five most valuable public companies (Apple, Alphabet, Microsoft and Amazon) are all experimenting with experience money, this question is pressing. What does criticism look like, when its object is an economy of experiences? What can we learn from these experience-mongers? Future interventions must learn from and act upon this experiential state of the art.

References

Angel, Gary. *Measuring the Digital World: Using Digital Analytics to Drive Better Digital Experiences*, 1st edition, Upper Saddle River, NJ: Pearson FT Press, 2015.

Apple, *Apple - September Event 2014*, 2014, https://www.youtube.com/watch?v=38IqQpwPe7s.

_____. 'Apple Pay - Apple Developer', https://developer.apple.com/apple-pay/.

Berry, D. and M. Dieter (eds), *Postdigital Aesthetics: Art, Computation And Design*, 2015 edition, New York, NY: Palgrave Macmillan, 2015.

Brignull, Harry. 'Dark Patterns', 2017, https://darkpatterns.org/.

Chun, Wendy Hui Kyong. *Updating to Remain the Same: Habitual New Media*, Cambridge, MA: MIT Press, 2016.

Dourish, Paul. *Where the Action Is: The Foundations of Embodied Interaction*, New Ed edition, Cambridge, MA: MIT Press, 2004.

Engelbart, Douglas C. 'Augmenting Human Intellect: A Conceptual Framework,' *Doug Engelbart Institute*, 1962, http://www.dougengelbart.org/pubs/augment-3906.html.

Harrison, Steve, Deborah Tatar, and Phoebe Sengers, 'The Three Paradigms of HCI', SIGCHI Conherence on Human Factors in Computing Systems, San Jose, CA, 2007, https://www.researchgate.net/publication/215835951_The_three_paradigms_of_HCI.

Gallo, Carmine. *The Apple Experience: Secrets to Building Insanely Great Customer Loyalty*, New York, NY: McGraw-Hill Education, 2012.

Garrett, Jesse James. *Elements of User Experience: User-Centered Design for the Web*, 1st edition, Indianapolis, IN: New Riders, 2002.

Geertz, Clifford. *The Interpretation of Cultures*, New Ed edition, New York, NY: Basic Books, 1977.

Goffman, Erving and Bennett Berger. *Frame Analysis: An Essay on the Organization of Experience*, New edition, Boston, MA: Northeastern University Press, 1986.

Grudin, Jonathan. 'Three Faces of Human -- Computer Interaction.', *IEEE Annals of the History of Computing* 27.4 (October 2005).

Floris Heukelom, *Behavioral Economics: A History*, Cambridge: Cambridge University Press, 2014.

Johnson, Jeff. *Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design*

43 Donald Mackenzie, *An Engine, Not a Camera: How Financial Models Shape Markets*, Cambridge, MA: The MIT Press, 2008.

Rules, 1st edition, Burlington, MA: Morgan Kaufmann, 2010.

Kahneman, Daniel. *Thinking, Fast and Slow*, London: Penguin, 2012.

Krug, Steve. *Don't Make Me Think!: A Common Sense Approach to Web Usability*, 2nd edition, Berkeley, CA: New Riders, 2005.

Lucas, Louise. 'Ant Financial claims doubling of daily users', *Financial Times*, 17 May 2017, https://www.ft.com/content/8925ad98-3add-11e7-821a-6027b8a20f23?mhq5j=e2.

Mackenzie, Donald. *An Engine, Not a Camera: How Financial Models Shape Markets*, Cambridge, MA: The MIT Press, 2008.

Maurer, Bill. 'Blockchains Are a Diamond's Best Friend: Zelizer for the Bitcoin Moment,' in Nina Bandelj, Frederick F. Wherry, and Viviana A. Zelizer (eds), *Money Talks: Explaining How Money Really Works*, Princeton, NJ: Princeton University Press, 2017.

Mills, John A. *Control: A History of Behavioral Psychology*, New York, NY: NYU Press, 2000.

Nake, Frieder. 'Human-Computer Interaction: Signs and Signals Interfacing,' *Languages of Design 2*, 1994.

Nelms, Taylor. '"Ecuador Bans Bitcoin"! A Monetary Mix-Up,' *King's Review Magazine*, 20 October 2015, http://kingsreview.co.uk/articles/ecuador-bans-bitcoin-a-monetary-mix-up/.

Norman, Donald. *Emotional Design: Why We Love (or Hate) Everyday Things by Norman, Don,* New York, NY: Basic Books, 2005.

Pine, B. Joseph and James H. Gilmore. *The Experience Economy: Work Is Theater & Every Business a Stage*, Brighton: Harvard Business School Press, 1999.

Pold, Soren Bro and Christian Ulrik Andersen. 'Controlled Consumption Culture: When Digital Culture Becomes Software Business', in Paul D. Miller and Svitlana Matviyenko (eds), *The Imaginary App*, Cambridge, MA: MIT Press, 2014.

Rogers, Richard. *Digital Methods*, Cambrige, MA: MIT Press, 2013.

Scott, Ridley. *Apple - 1984*, https://www.youtube.com/watch?v=R706isyDrqI.

Suchman, Lucy A. *Plans and Situated Actions: The Problem of Human-Machine Communication*, Cambridge: Cambridge University Press, 1985.

Sunstein, Cass R. and Richard H. Thaler. *Nudge: Improving Decisions About Health, Wealth and Happiness*, London: Penguin, 2012.

Thaler, Richard H. *Misbehaving: The Making of Behavioural Economics*, 1st edition, London: Penguin, 2015.

Toffler, Alvin. *Future Shock*, New York, NY: Bantam Books, 1970.

Weiser, Mark. 'Ubiquitous Computing,' *Ubiquitous Computing*, 2017, http://www.ubiq.com/hypertext/weiser/UbiHome.html.

Zelizer, Viviana A. *The Social Meaning of Money: Pin Money, Paychecks, Poor Relief, and Other Currencies*, Princeton, NJ: Princeton University Press, 1997.

_____. *Economic Lives: How Culture Shapes the Economy*, Princeton, NJ: Princeton University Press, 2010.

Zuboff, Shoshana. 'Big Other: Surveillance Capitalism and the Prospects of an Information Civilization', *Journal of Information Technology* 30.1 (March 2015).

BLOCKCHAIN AND THE DISTRIBUTED REPRODUCTION OF CAPITALIST CLASS POWER

ROBERT HERIAN

BLOCKCHAIN AND THE DISTRIBUTED REPRODUCTION OF CAPITALIST CLASS POWER

ROBERT HERIAN

Discussing computer operating systems, the economist Joseph Stiglitz argues that, 'Just as it's very convenient for everyone to speak the same language, it's very convenient for everyone to use the same operating system'.[1] There's a simple and plain truth in what he says. And in what can now be seen as a clear echo of the prevailing trend in Distributed Ledger Technology (DLT), or blockchain research, as well as development off the back of financial technologies markets towards multi-domain usages, Stiglitz continues by suggesting that, '[i]ncreasing interconnectivity across the world naturally leads to standardisation. Those with a monopoly over the standard that is chosen benefit'.[2] Blockchain may not presently be a standard owned or intellectually controlled by a single economic actor, but there are certainly a growing number of consortia made up of major legacy financial and tech players hoping to benefit from it. But will this remain the case in the near future, and does it really matter if the development of blockchain technology ends up under the control of, say, one tech giant?

In a very short space of time, arguably the last three to five years, blockchain has risen to capture the feverish imagination of capitalists and entrepreneurs alike across the globe. There is now a morass of such players scrambling over one another in fierce competition to be the winners in this latest round of onanistic technological innovation. Fuelled almost exclusively by hyperbole and, contrary to the nature of the technology itself, a gradual centralization and aggregation of peripheral technological practices that is a direct result of the influence of capitalist logic, blockchain is rapidly emerging as a profitable mainstream means for generating the surplus interventions, accumulations, exploitations and reproductions demanded by the capitalist imagination. Under the duel banners of 'innovation' and 'progress' blockchain has become the means *du jour* for the reproduction of capitalist class power through 'world changing' technology in the so-called fourth-industrial age in which advanced Western capitalist societies now imagine themselves.[3] And the forward thrust of blockchain innovation is furious, with record levels of investment as of 2016/17 measured in billions of dollars of venture capital.[4]

1 Joseph E. Stiglitz, *The Price of Inequality*, London: Penguin, 2013, p. 56.

2 Ibid., p. 56.

3 For some commentators it is less an 'age' and more another industrial revolution. For example, Klaus Schwab, the founder and executive chairman of the World Economic Forum. See Klaus Schwab, *The Fourth Industrial Revolution*, New York, NY: Crown, 2017.

4 See James Ovenden, 'Blockchain Top Trends in 2017: What Lies Ahead for One of the World's Most Exciting Technologies?', *The Innovation Enterprise,* 29 November 2016, https://channels.theinnovationenterprise.com/articles/blockchain-top-trends-in-2017.

Capital and 'Disruptive' Innovation: An Entrepreneurial Love Affair

The issue of blockchain as a means of reproducing capitalist class power does not begin (or end for that matter) with the technology itself but with people. Those who engineer and build the technology might care about blockchain solely as an intellectual challenge. The extent to which it is possible to separate those who, for instance, engineer a piece of software or build a platform from those who seek to exploit the technology (for the purposes of not simply generating personal fortunes in the short to medium term but also for the sheer thrill of the process of being an active economic subject) becomes less clear when they are one and the same person, namely a so-called tech entrepreneur. For this cabal of tech-minded libertarians and anarcho-capitalists blockchain technology offers an opportunity to leverage new markets and enable, as David Golumbia argues, 'a wide range of extractive and exploitative business practices' that ultimately 'increase the power of corporations and capital outside the scope of any attempts by democratic polities to constrain them'.[5] When discussing technology it is easy to forget the people behind it. Likewise, it is easy for those self-same people to hide behind the technology and ultimately use it to both facilitate and conceal their desires and motivations. Desires that can be markedly different from those to which the technology appears to be aimed — or, at least, towards which they tell the world the technology is aimed.

A single basic technological form with many different uses is the Holy Grail of technological innovation in engineering terms. Just as Stiglitz suggests in the quote earlier. But the economics of these innovations make happy reading for many as well. The reason is simple. If you don't need to spend time or money changing technology to make it fit multiple applications then you are likely to have the gift of a technological 'organizational form' that is highly cost-effective and organizationally efficient.[6] It is trite these days to highlight capital's insistence on superseding the old with the new, whether via material obsolescence or some other form of cynical immaterial manipulation of one's personal and subjective desires (advertising, marketing etc.). We must recognise what the process of making way for (or forcing) the new represents in this context however: a deeply ideological and often highly cynical process that determines the accrual of benefits into only a few sets of hands, and the onward march of capitalist class power through the creation of a constant tension between (supposed) problems and (necessary) solutions.

Much like the comic plotlines of the hit HBO comedy *Silicon Valley*, entrepreneurial narratives of progress and innovation are fraught with fanciful thinking and dream-like logic that see problems as always already indexed to solutions and *vice versa*, *ad infinitum*. Central to the reproduction of capitalist class power on this score is the necessity of a call to duty of individuals willing to play the game of problem versus solution. Akin to Louis Althusser's interpellated economic subjects, entrepreneurs don't just answer this call (the hail) made by capitalism, however; they locate their object of desire in the internal reason and (il)logic of capital. Entrepreneurs fall in love with

5 David Golumbia, *The Politics of Bitcoin: Software as Right-Wing Extremism*, Minneapolis, MN: University of Minnesota Press, 2016, p. 69.

6 David Harvey, *Seventeen Contradictions and the End of Capitalism*, London: Profile Books, 2015, p. 92.

innovation, they enjoy the promise of it, and it becomes their 'passion'.[7] As such they tell themselves that ideas not income are important, whilst searching, via a cycle of success and failure, for the one big idea that will secure their fortune.[8]

For entrepreneurs and capitalists alike the aim is always to unearth innovations and technologies that 'disrupt', which are capable of creating more competition and markets. Blockchain is a prime example of just such a 'disruptive' technology, hence why it forms the latest chapter in the enduring love story between capital and innovation. But it is important not to confuse technology with innovation. The latter 'is what capitalism consists in and what every capitalist concern has got to live in'.[9] Innovation, like progress, is rooted in historical contingency and narratives of power. 'The idea of innovation is the idea of progress stripped of the aspirations of the Enlightenment, scrubbed clean of the horrors of the twentieth century, and relieved of its critics', says Jill Lepore, '[d]isruptive innovation goes further, holding out the hope of salvation against the very damnation it describes: disrupt, and you will be saved'.[10]

Let's be honest, however: what passes for technological revolution and disruption are entirely vacuous notions in many of the contexts in which they are celebrated. First and foremost, because nothing actually is disrupted by them. Instead the so-called disruptive technologies sustain and reinforce the *status quo*. In my book, disruption is, a lot of the time, radically *conservative*. Why? Simply because the economic base (*infrastructure*) of capitalism, the very reason why the technology is developed and deployed in the first place, always remains unchanged when exposed to the supposed cosmological forces of disruption. Not only is disruption often a conservative enterprise, it is nothing more than rearranging the furniture in a room but then trying to convince people it's a different room. There is no shift, radical or otherwise, in what Althusser calls, 'the determination in the last instance of what happens in the upper 'floors' (of the superstructure) by what happens in the economic base'.[11] Far from being shaken by innovation, capitalism, like it does post-crises, flourishes thanks to the tinkering of entrepreneurs who like to believe they are changing the world and are champions of social justice. As Joseph Schumpeter says (albeit from another side of the debate), innovation as technological mutation only 'incessantly revolutionizes the economic structure *from within*'.[12]

The economic base flourishes as an embodiment of ideas and practices that have underpinned capitalism, largely unchanged, since Adam Smith. Innovation has never interrupted the conditions nor the normal course of the ambitions of capital. Quite the opposite. Time and again, capital is reinforced and reinvigorated by the love shown it by economic subjects keen to prostrate themselves at the feet of God-like market

7 Louis Althusser, *On Ideology*, London: Verso, 2008.

8 A popular term in Silicon Valley for those entrepreneurs who aim to build companies from the ground up is 'bootstrappers', the classic image derived from the late 19th century fiction of Horatio Alger who painted the romanticism of the American Dream in terms of the plucky ingenuity of the underdog who climbs the ladder to prosperity.

9 Joseph A. Schumpeter, *Capitalism, Socialism and Democracy*, London: Routledge, 2010, p. 73.

10 Jill Lepore, 'The Disruption Machine: What the Gospel of Innovation Gets Wrong', *The New Yorker*, 23 June 2014, http://www.newyorker.com/magazine/2014/06/23/the-disruption-machine.

11 Althusser, *On Ideology*, p. 8-9.

12 Schumpeter, *Capitalism, Socialism and Democracy*, p. 73.

forces, and recite evolving incantations of technological innovation. The technology might change but, in this process, it is the only thing that does. Only subtle and ineffectual disruptions to the narratives surrounding desires, needs and motivations (i.e. *problems*), that the technology is mobilized to address (i.e. *solutions*), occur. Narratives that can themselves be constantly rephrased or even 'leveraged' by capital in order to, for example, justify the pleasure of incessant innovation and why more individuals and businesses ought to indulge in risk in the name of innovation. 'The advocates of disruption have an affinity with circular arguments', claims Lepore, 'if an established company doesn't disrupt, it will fail, and if it fails it must be because it didn't disrupt. When a start-up fails, that's a success, since epidemic failure is a hallmark of disruptive innovation'.[13]

Insofar as it can only truly be understood within the confines of its own logic and reason, disruption is perhaps best understood as a story of self-love. As an ethos, disruption services the self-regarding needs and desires of the capitalist class. That's why we can think of it as a form of onanistic self-love that ultimately reinforces the ideological dominance of capital. Entrepreneurs are preachers of innovation and the natural foot-soldiers, narrators and story-tellers of capital. With spiritualized fervour, their narratives are constructed to rationalize innovation for innovation sake, and innovation as *the* Good. But the fact that the same old stories of how this or that technology will change the world for the betterment of all are parroted by entrepreneurs only makes them all the more disingenuous. What's more, it highlights that behind the pretence of such stories are the basic demands of capital steering the desires of the entrepreneur. As a computer science graduate of Stanford University, the intellectual heart of Silicon Valley, put it when asked by the University's magazine to comment on the truth of the motivations of entrepreneurs and the start-up culture he had experienced there: 'entrepreneurs like to "put that spin on it, that we're going to change the world […] A lot of times, for lack of a better word, that's just bullshit", he said. "The bottom line is that people want to make money"'.[14]

'We have seen that the function of entrepreneurs is to reform or revolutionize the pattern of production by exploiting an invention', claims Joseph Schumpeter, 'or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way'.[15] Schumpeter's statement paints entrepreneurs as revolutionaries, but let us once again ask: beyond superficialities, what are entrepreneurs really interested in changing, let alone revolting against? Entrepreneurs adopt risk and sacrifice themselves in the name of capital in situations that function as arenas for the *display* of risk and sacrifice. Failure (not success) is the *sine qua non* of what it means to engage in authentic modern business practices. It's as though the myth of Sisyphus has become a principle for the modern entrepreneur to live by, and the world of blockchain is merely the latest stage for the drama to play out on.

Technology > Efficiency > Monopoly

The strategies employed by capitalism regarding the role and place of technologies have remained largely unchanged for two centuries. It is something that is echoed in Althusser's claim as to the radical eternity of (capitalist) ideology: 'The peculiarity of

13 Lepore, 'The Disruption Machine'.

14 Fiona Kelliher, 'The Privilege to Fail: For Startup Founders at Stanford, "Anti-Establishment" and Privilege Go Hand in Hand', *The Stanford Daily Magazine* 1.5 (7 April 2017): 9.

15 Schumpeter, *Capitalism, Socialism and Democracy*, p. 117.

ideology is that it is endowed with a structure and a functioning such as to make it a non-historical reality, i.e. an *omni-historical* reality, in the sense in which that structure and functioning are immutable, present in the same form throughout what we can call history'.[16] Amid the many technologies put into the service of capital over the course of two hundred years, some have proven of use in multiple domains of industry.

Steam power is a classic example from the rise of industrial capitalism in the 19th century, and now there are various computational forms such as blockchain that appear to fulfil the same multi-domain criteria. As cost-effective and efficient, the success engendered by technologies such as these is directly attributable to desires for accelerated innovation and their ability to produce a greater surplus for less labour input, or what André Gorz calls the pushing back of 'the frontier of the *sufficient*'.[17]

Efficiency is only one measure of innovative success. Yet, in contemporary Western capitalist societies, efficiency has become *the* measure of what it means for commercial (and social) spheres to function properly. In short, in all walks of life efficiency is good and inefficiency is bad. This determination is rooted in the fundamental logic of capitalism, namely 'to maximise profits, facilitate endless capital accumulation and reproduce capitalist class power'.[18] Innovation has, under capitalism, become a byword for greater efficiency and the aggregation of advantages sought by capital to secure dominance over all social, cultural and political domains. Hence '*the* founding myth of liberal economic theory' in the form of perfect (utopian) competitive markets is exactly that, a *myth.*[19] Instead the logic of economic reason, the aggregation of advantages sought by capital, ultimately points elsewhere, namely monopoly.[20]

Even apparent radical exponents of the decentralized liberal nature of capitalism such as Ludwig Von Mises cannot help but acknowledge the intractability of monopolies in capitalist reasoning. As Von Mises admits, the centralization of capitalist power in monopolies demonstrates that one's fellow capitalists have managed to find a way to yield greater profits, which is, after all, precisely the aim.[21] And where profit is the aim it is also that which must ultimately be respected. Therefore, innovation must be examined in light of what it can facilitate not in terms of competition and the growth of markets, at least not as ends in themselves, but rather, in terms of consolidation and monopoly.[22]

16 Althusser, *On Ideology*, p. 35.
17 André Gorz, *Critique of Economic Reason*, London: Verso, 1989, p. 115.
18 Harvey, *Seventeen Contradictions and the End of Capitalism*, pp. 96-97.
19 Ibid., p. 132.
20 The tendency towards monopolization is not simply defined in terms of an individual or corporation assuming complete control over a particular resource, but also assumes more subtle forms, such as monopoly rents and pricing that have the effect of restricting the production of certain commodities (see, for example Joseph E. Stiglitz, *The Price of Inequality*; Thomas Piketty, *Capital in the Twenty-First Century*, trans. Arthur Goldhammer, Cambridge, MA and London: The Belknap Press of Harvard University Press, 2014. Notwithstanding the subtlety however, a singular logic remains apparent, one predicated on its own peculiar efficiencies. Hence, one of the most economical (i.e. efficient) ways for an individual to yield the greatest profits for themselves is to deny the source of those profits to others.
21 Ludwig Von Mises, *Liberalism: The Classical Tradition*, Bettina Bien Greaves (ed.), Indianapolis, IN: Liberty Fund, 2005, p. 65.
22 Even Schumpeter admits as much. See for example: Schumpeter, *Capitalism, Socialism and Democracy*, pp. 68-69.

After all, both competition and markets are inherently risk-based, uncertain (unpredictable) and messy, all features that threaten profit and thus also the associated reproduction of capitalist class power. If competition and markets can either be avoided entirely or made to perform or act less like ordinary manifestations of competition and markets do, as largely risk-free entities for instance, then this is the direction in which economic reason under capitalism will ultimately pull. It is the way that entrepreneurs will pave for their capitalist masters. Certainty and immutability, both of which can be achieved in non-competitive monopolies, are highly favoured by capital on this basis.[23]

Blockchain (De)centralization

Blockchain came to prominence in 2007/08 with cryptocurrencies. Instrumental in solving the so-called 'double-spend' problem, blockchain represented a novel approach to anonymous, secure, distributed and decentralized exchange practices that enabled cryptocurrency communities to circumvent mainstream, traditional and legacy modes of centralized capitalism — what Satoshi Nakamoto referred to as 'not going through financial institutions'.[24] However, as blockchain moves rapidly through its latest round of iterations (blockchain 2.0) expectations are that it will help solve far more than just financial transaction issues. For some the goal is to restore the decentralized make-up of the internet, in its entirety.[25]

'Decentralisation', as David Harvey claims, 'is one of the best means to preserve highly centralized power, because it masks the nature of this centralized power behind a veneer of individual liberty'.[26] In this brief statement Harvey manages perfectly to describe what we are told blockchain is supposed to achieve, and what it is actually being geared-up to achieve in the service of capital. Decentralization is a structural reality in the way blockchain functions. Fine. But if desires that tend towards and are in many cases rooted in centralization are what ultimately inform and are, more importantly, funding blockchain research and development then decentralization very quickly becomes a tool of centralization.

As ideological modalities, cryptocurrencies are by and large situated within the scope of high libertarianism and anarcho-capitalism.[27] This is, therefore, the soil from which blockchain in its contemporary form grew. Blockchain 2.0 possess the same DNA but is under the influence of far more mainstream and orthodox forms of capitalism. This means more capitalism and less anarchism. Also, the 'disruption' of orthodox

23 To some extent law is a form of social organisation that capital has long expected to make the (business) world more certain and predictable. For its part law often ends up in the face of technological proliferation looking highly conservative, which is not helped by instances of law's rather ineffectual relationship with technology. A classic example in England and Wales concerns the failure to implement an electronic conveyancing system. See, for example, Michael Cross, 'Society Backs Reform of "Distracting" E-Conveyancing Law', *The Law Society Gazette*, 2016, https://www.lawgazette.co.uk/news/society-backs-reform-of-distracting-e-conveyancing-law/5057115.article.

24 Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, 2008, https://bitcoin.org/bitcoin.pdf, p. 1

25 See Kelliher, 'The Privilege to Fail', p. 8.

26 Harvey, *Seventeen Contradictions and the End of Capitalism*.

27 See for example Samuel Edward Konkin III, *New Libertarian Manifesto*, Koman Publishing, 1983, https://web.archive.org/web/20120223021118/http://agorism.info/NewLibertarianManifesto.pdf; and, Fiona Kelliher, 'The Privilege to Fail', p. 9.

financial models proposed by Nakamoto has not translated into the actual disruption of the fundamental logic of capitalism underlying the research, development and use of cryptocurrencies and blockchain. In the hands of entrepreneurs who service their capitalist masters, therefore, blockchain is providing a means of (*re*-)centralizing certain networks and systems rather than decentralizing them.[28]

Appearing to contradict the centralizing tendencies of capitalist class power (the fact that capital seeks monopoly), it is believed by the faithful that blockchain reproduces new freedoms and libertarian class power across distributed, decentralized computational nodes.[29] In accordance with a liberal myth of capitalism that favours more markets and more competition in order to countermand the threat of monopoly and centralization, blockchain creates the perfect illusion of decentralization. Those who insist on decentralization as the essence of blockchain's libertarian credentials are misguided.[30] Captured by the 'force-field of contemporary capitalism' each fragmented node instead plays a part in sustaining the dominance of capitalism's economic reason.[31] One thing is for sure, blockchain is now firmly established as a play-thing of legacy capitalist institutions and the various startups who come begging to the table for crumbs in order to satisfy their desire for failure. As Lepore argues, 'the upstarts who work at startups' are told by venture capitalists and investors 'forget rules, obligations, your conscience, loyalty, a sense of the commonwealth. If you start a business and it succeeds, sell it and take the cash. Don't look back. Never pause. Disrupt or be disrupted'.[32]

Innovation is and has always been 'immediately perceived as opening new avenues for economic growth', countering the threat to capital of finite economic expansion and consequently heralding the dawn of a new and expansive 'vision imposed by a widening of technological horizons'.[33] Yet innovation for innovation sake, if that is the

28 Centralization is a problematic concept in this context precisely because it is often seen and spoken about by the likes of Hayek, for example, as symptomatic of anti-capitalist (communist) tendencies rather than the ultimate aim for capital itself. As a product of capitalist economic reason and a logic that privileges efficiency as essential to maximising accumulation and profit however, centralization *qua* monopoly clearly offers a 'solution' to the messy uncertainty ('problems') of competition and markets faced by stakeholders of capitalism. In other words, given the choice between negotiating with other stakeholders in the marketplace, or the ultimate concentration and consolidation of resources, wealth and power in one pair of hands, capitalist logic and reason favours the latter. As Marx claimed in his definition of the *law of centralization*: 'Capital aggregates into great masses in one hand because, elsewhere, it is taken out of many hands' (Karl Marx, *Capital: Volume 2*, London: J.M. Dent & Sons Ltd., 1930, p. 691).

29 As David Golumbia claims: 'From a cyberlibertarian perspective, governments – *all* governments, not simply whatever current 'bad' government we describe as doing wrong – exist *only* to curtail the freedom that is inherently negative […] to be 'free' simply *is* to be 'free' from government' (David Golumbia, *The Politics of Bitcoin*, p. 6).

30 Blockchain might appear to represent a breakthrough for anarcho-capitalists seeking the complete absence of government from cyberspace. But, at least from the perspective of left critique, the vacuum left by the retreat of the State threatens to be filled, even more than at present, by the insidious forces of economic reason that colonise and cannibalise the political. The State may not be the best option as a force in the development or control of blockchain, but the alternative in the form of capitalism is hardly an improvement. What both positions share however is the ability to conceal the centralization that begets decentralization.

31 Lorenzo Chiesa and Alberto Toscano, 'Agape and the Anonymous Religion of Atheism', *Angelaki Journal of Theoretical Humanities* 12.1 (April 2007): 118.

32 Lepore, 'The Disruption Machine'.

33 Robert Heilbroner, *The Worldly Philosophers*, London: Penguin, 2000, pp. 102-103.

truth of what we are more often than not faced with, straddles a line between barbarism and civilization, and produces, as André Gorz argues, an ‘a-critical submission to the technological imperatives of any kind of machinery whatsoever’.[34]

Blockchain research, development and use is suffused by capitalist class power. Far from being wholly novel or causing any radical shifts in the socioeconomic world (what entrepreneurs like to imagine as ‘disruption’), blockchain, at least as we presently find it, can simply be added to the long list of technologies that have been drafted into the service of capital. This in order to reinforce and guarantee the reproduction of capitalist class power. Even Joseph Schumpeter’s notion of ‘creative destruction’ that only revolutionizes capitalism ‘from within’ reflects the type of ‘innovative’ capitalist strategy that blockchain is truly part of.[35] And so blockchain really only deserves to be understood in light of the fundamental aims of capitalism. This makes critique of the technology and its sociocultural affects, rather than a-critical fetishization of *the new*, central to understanding what is at stake from blockchain now and in the near future.

References

Althusser, Louis. *On Ideology*, London: Verso, 2008.

Chiesa, Lorenzo and Alberto Toscano. ‘Agape and the Anonymous Religion of Atheism’, *Angelaki Journal of Theoretical Humanities* 12.1 (April 2007).

Cross, Michael. ‘Society Backs Reform of “Distracting” E-Conveyancing Law’, *The Law Society Gazette*, 2016, https://www.lawgazette.co.uk/news/society-backs-reform-of-distracting-e-conveyancing-law/5057115.article.

Golumbia, David. *The Politics of Bitcoin: Software as Right-Wing Extremism*, Minneapolis, MN: University of Minnesota Press, 2016.

Gorz, André. *Critique of Economic Reason*, London: Verso, 1989.

Harvey, David. *Seventeen Contradictions and the End of Capitalism*, London: Profile Books, 2015.

Heilbroner, Robert. *The Worldly Philosophers*, London: Penguin, 2000.

Kelliher, Fiona. ‘The Privilege to Fail. For Startup Founders at Stanford, “Anti-Establishment” and Privilege Go Hand in Hand’, *The Stanford Daily Magazine* 1.5 (7 April 2017).

Konkin III, Samuel Edward. *New Libertarian Manifesto*. Koman Publishing, 1983, https://web.archive.org/web/20120223021118/http://agorism.info/NewLibertarianManifesto.pdf.

Lepore, Jill. ‘The Disruption Machine: What the Gospel of Innovation Gets Wrong’, *The New Yorker*, 23 June 2014, http://www.newyorker.com/magazine/2014/06/23/the-disruption-machine.

Marx, Karl. *Capital: Volume 2*, London: J.M. Dent & Sons Ltd., 1930.

Mises, Ludwig Von. *Liberalism: The Classical Tradition*, Bettina Bien Greaves (ed.), Indianapolis: Liberty Fund, 2005.

Nakamoto, Satoshi. *Bitcoin: A Peer-to-Peer Electronic Cash System*, 2008, https://bitcoin.org/bitcoin.pdf.

Ovenden, James. ‘Blockchain Top Trends in 2017: What Lies Ahead for One of the World’s Most Exciting Technologies?’, *The Innovation Enterprise,* 29 November 2016, https://channels.theinnovationenterprise.com/articles/blockchain-top-trends-in-2017.

Piketty, Thomas. *Capital in the Twenty-First Century,* trans. Arthur Goldhammer, Cambridge, MA and London: The Belknap Press of Harvard University Press, 2014.

Schumpeter, Joseph A. *Capitalism, Socialism and Democracy*, London: Routledge, 2010.

Schwab, Klaus. *The Fourth Industrial Revolution*, New York, NY: Crown, 2017.

Stiglitz, Joseph E. *The Price of Inequality*, London: Penguin, 2013.

34 Gorz, *Critique of Economic Reason*, p. 87.

35 Schumpeter, *Capitalism, Socialism and Democracy*.

POSTCARDS FROM THE WORLD OF DECENTRALIZED MONEY: A STORY IN THREE PARTS

JAYA KLARA BREKKE

POSTCARDS FROM THE WORLD OF DECENTRALIZED MONEY: A STORY IN THREE PARTS

JAYA KLARA BREKKE

Part 1: Alienation, I love you

Barcelona city centre, in an office, 6th floor, 2015
The sunrays were streaming in through the windows, lighting up the faces of a gathering of city council activists, local Bitcoin entrepreneurs, Faircoin anarchists, Freecoin freaks[1] and some levelheaded and very dedicated complementary currency organizers.

Sometimes a single sentence can overshadow plenty of otherwise profound conversation, so I am going to draw up some quick notes on these profundities before letting loose about the statement that echoed in my mind since that afternoon. This is just to tell you that on that spring day in Barcelona there was much interesting and inspiring talk, covering things like:

– the political implications of different currency designs;
– how competitive mining in the Bitcoin *proof-of-work* consensus protocol for verifying transactions might be replaced by a *proof-of-cooperation* collaborative process of automated mining turns;[2]
– how multi-signature cryptocurrency wallets can allow for things like communally held digital wallets, 'money totems';[3]
– how functional coding languages, and bringing code closer to natural languages, can contribute towards intelligibility of complex systems;
– how this is essential for empowering and involving people in the development of systems that increasingly shape their/our lives, including future money infrastructures;
– how the city of Barcelona is working on developing a social currency for poverty reduction and public services;[4]
– that there is a need and interest amongst those present in establishing how these different currencies, for different functions and geographies, interface with each other in some form of common bank to facilitate a currency eco-system;[5]

(… and much, much more that has informed me in my thinking, writing and presentations[6]).

---

1 I mean freaks in the original sense, not 'weirdos' (read Shelton's Fabulous Furry Freak Brothers for reference).
2 See Thomas König and Enric Duran, 'FairCoin2 White Paper', *Fair-coin.org,* June 2016, https://fair-coin.org/de/faircoin2-white-paper/.
3 See 'D5.5 Implementation of Digital Social Currency Infrastructure', *Dcentproject.eu*, p. 30 September 2015, https://dcentproject.eu/wp-content/uploads/2015/10/D5.5-Implementation-of-digital-social-currency-infrastructure-.pdf.
4 See for example Clara Blanchar, 'Barcelona Contrará con una Moneda Social Propia Pese al Recelo del Banco de España', *El Pais*, 15 November 2016, https://elpais.com/ccaa/2016/11/14/catalunya/1479126762_781950.html.
5 https://bankofthecommons.coop/.
6 See http://distributingchains.org and http://www.jayapapaya.net.

And so the conversations and presentations continued, blah, b-b-bla blah, blockchain, until suddenly the interesting talk took a surreal, slow-motion turn, and I heard:

> Then we can have a truly free market!

Rewind a bit; this was the conclusion of a story by a person working for the progressive Barcelona City Council, *Barcelona En Comu,* on their social currency project. The person had been explicating how technology now allowed for the creation of currencies that can do all kinds of fun and interesting things. And after mentioning a few of these, like self-destructing money — which I agree is very interesting and refers in part to the concept of *demurrage*[7] where money loses value over time, which has the effect of encouraging circulation instead of accumulation — the person gave an example of how such currencies might allow us to *assign value* to the *things we truly value*. In this proposed scenario, a child might draw a drawing, which might indeed be valued by a few members of a community, a grandfather or a neighbor; so why not actually *value* it, and translate it into a value token? This could then be spent in the local bar on some locally brewed beer… Value assigned freely by anyone to anything we value, instead of what banks or bosses value, then we can have

a truly
free
market.[8]

Now, it would be unfair to read this brief example, a clumsy brain dump and play on words haphazardly thrown into the discussion that afternoon, as the position of the city council on social currencies. It isn't, and the Barcelona social currency is not the topic of this story. No, what I want to talk about here is how blockchain technology seems to have spun lots of people into strange, contradictory and entirely unexpected positions on money, markets, power and technology, and my attempts at regaining some stable ground.

What caught me was the glee with which this person wanted to incorporate a child drawing into the circuits and demands of productive activity.

The statement by this municipalist activist, although not representative of policy as such, does point to a broader proposal of possibly monetizing new forms of activity,

7 I heartedly encourage anyone to explore the history and social effects of demurrage currencies — see for example Lietaer's fascinating excavation of demurrage and the incredible prosperity of Medieval Europe in B. Lieataer, *The Mystery of Money: Beyond Greed and Scarcity*, Munich: Riemann Verlag, 2000, pp. 140-203, see also http://www.lietaer.com and https://dcentproject.eu/wp-content/uploads/2015/03/design_of_social_digital_currency_publication.pdf and https://dcentproject.eu/wp-content/uploads/2014/06/D3.4-Field-research-currency_FINAL-v2.pdf.

8 Part of the reason it was surprising was because usually, a political economy of the progressive left would take the position that the 'free market' is a myth because it in fact relies heavily on police enforcement, pro-business government policies and legal processes. The notion of automated governance and law in crypto-currencies is no exception — it's just that some aspects of such regulation would be somehow encoded for automated enforcement. It is no closer to some 'free' or 'natural' state than government, it is just a radically different form or method of government.

work done 'for the social good' and so on. It also points to creating new currencies as a way to incentivize efforts that are needed in a community, while relieving pressures from a lack of income from increased unemployment and the dwindling of any welfare support. The background to this is on the one hand a critique of the ways that giant tech companies monetize our social relations and everyday activities through data markets, responding by demanding a wage for these activities they are profiting from, or better yet, wresting these systems from the hands of these companies and running them via public institutions, inventing new currencies to make sure that this work is now paid for. On the other, the anarchist extension of this analysis is: why run them publicly when we can run them ourselves through peer-to-peer networks?

While I might agree with the sentiment — dignifying with an appropriate wage what might otherwise be an exploitative/extractive situation — it can be hard to see how this doesn't also expand the realms of work and the reach of what is considered tradable. Suddenly, instead of limiting the amount we have to work and keeping certain valued things outside of market dynamics, activities that would normally constitute our free time are made tradable.

I am not going to replicate here a critique that has already been articulated by others[9] about how blockchain is the ultimate vehicle for reproducing neoliberal subjectivity, which amounts to something along the lines of:

the explosive arrival of blockchain technology has splintered neo-liberalism into tiny shards that instead of being destroyed have rained down and pierced into all of us and our stuff, turning all our things into capital/assets and all of our endeavors into work/financial speculation.

There is some hard truth in that. My punk friends are checking the Bitcoin exchange charts daily and diversifying their portfolios into NEO,[10] OMG,[11] Dash,[12] and Ether,[13] banding together to form asset management coops and the like,[14] while other anarchist compañera/os are looking into ways of digitizing and scaling the bartering economy. This is an idea that aligns in an eerie fashion with the ambition of FinTech entrepreneurs of creating not just an *Internet of Things* and *Internet Of Money*, but indeed also what we might call an automated *Economy Of Thing*s that would allow 'any object to be rented, sold or shared — without middlemen'.[15] (A truly free market — where even money itself is disintermediated, replaced by self-trading objects and interlocking reputation systems?)

---

9 See for example Rachel O'Dwyer, 'The Revolution will (Not) be Decentralized: Blockchains', *Commons Transition,* 11 June 2015, http://commonstransition.org/the-revolution-will-not-be-decentralised-blockchains/ and David Golumbia, 'Bitcoin as Politics: Distributed Right Wing Extremism', in Geert Lovink, Nathaniel Tkacz and Patricia de Vries (eds), *MoneyLab Reader: An Intervention in Digital Economy,* Amsterdam: Institute of Network Cultures, 2015, pp. 117-131.

10 https://neo.org.

11 https://omg.omise.co.

12 https://www.dash.org.

13 https://www.ethereum.org.

14 I take part in these activities myself, so be careful and do NOT read this as a criticism of my friends.

15 See for example https://slock.it.

There is much to be worked out, in terms of the politics and what such new behaviors and developments mean in terms of power and efforts to systematize equal access and solidarity. Part of me doesn't mind seeing my friends, some of which have been left tight for cash in the recent economic downturns, find other ways to *get rich fast*, whether through DIY speculation or new forms of employment. Making money can feel brilliantly empowering. I also think the processes of subjectification are still open and more complicated than simply replicating a capitalist logic/subjectivity. For now, it is hard to see much beyond the replication of speculative behaviors because we are in the middle of a gold rush — everyone running head- over-heals to grab a bit (more on this in the next stories.) But for now the monopoly of money has been broken and, for a moment at least, there is experimentation going on that is neither in the hands of any state nor any corporation.[16]

With Bitcoin and the invention of the blockchain,[17] money became programmable and open source and, in the years since, has inspired much experimentation and creativity in this new intersection of computation, currencies, governance and accounting. This new field allows for very fine-grained (re)programming of the medium of money, from what constitutes, and how to measure, value-generating activity to the setting of parameters on the means and conditions of exchange – what is spendable, where and by whom. This also means that the design and programming of money allows for evermore complex means for behavioral engineering, remunerating some behavior over others in ways that can target and apply to some people rather than others.

Money — store of value, a means of exchange or social engineering? I say this not as some sort of gloomy commentary on contemporary society, but as a caution against assuming that bright-eyed intentions of doing good via blockchain currencies necessarily has the effects one might assume. In particular, in efforts that target (the word is perhaps revealing) poverty and the poor.

I would like to offer up just one hopefully helpful concept for thinking through the swirling, changing power dynamics of blockchain and new currency designs: access.

What makes a currency powerful? The fact that it grants access to things, people, services and places. The choice of what you want to monetize or not is power. Allowing or disallowing access via particular currencies is power. The more universal the currency, the more powerful it is. We are most used to this in terms of national currencies granting access to things within a given territory (and the presence of the dollar in other territories as evidence of empire etc.) But programmable currencies can/will also mediate access in relation to different industries, product ranges, demographic, behavior, brand, reputation, identity etc. in an ever more fine-grained manner.

What used to be generalized for a particular territory is about to fracture into layers of differential access — not necessarily a bad thing; this is indeed what a 'currency ecosystem' entails. However, when developing and designing such new political econo-

16 So far this is the case for Bitcoin at least, the first blockchain project, and still very much an experiment run by a community of computer scientists, programmers and enthusiasts.

17 See Satoshi Nakamoto, 'Bitcoin: A Peer-to-Peer Electronic Cash System', *Bitcoin.org*, October 2008, https://bitcoin.org/bitcoin.pdf.

mies, the ways differential access relates to inequality, identity and personal/ collective histories needs to be carefully analyzed. Differential conditions on access for specific goods or services can be disempowering and oppressive or empowering and exclusive, depending on whether you are *the one who gets to determine* the conditions for access. This is how inequality plays a significant role in the effects of differential access.

In a private conversation at a local Barcelona neighborhood street party, a city councilor in fact voiced some of these concerns. That any social currency project aimed at the poor has the danger of creeping towards behavioral engineering whereby for example remuneration is accessed on the conditions of good behavior and is only spendable for certain goods at certified shops. Instead, she said, ideally a social currency project should aim for generalized access to public services, including for the middle class, instead of determined by finely monitored personal or class conditions. Just to mention one example.

So, how, then, did I come to love alienation? That afternoon on the 6th floor in Barcelona, I had a moment of feeling that the only good aspect of the hyper-exploitative free market — you know, the 'free' bit — was slipping away, and I was being chained to an immutable record of past fuck-ups by a vast crowd of smiling activists telling me it's for the common good. I realized I LIKE the fact that cold cash doesn't care about me, you or anyone else. A public utility[18] for general use regardless of who you are.

Money gets blamed for a lot of things. It is seen as the root of all Evil, generating greed and creating alienation by putting a cold medium between our productive efforts and the fulfillment of our needs. But that gap between what was done to get the $$$ and the ability to spend it, the very attribute of *alienation*, money as the universal equalizer, is indeed also an equalizer in the sense that an outcast with a pound coin can spend that pound coin the same way as a respectable priest. A freedom of sorts, from the tyrannical opinions of others. Not necessarily a bad thing. Do NOT misunderstand — I am not saying that cash or the market is neutral. My point is the opposite, that now that money is open for redesign, it is the contingencies rather than intentions that are going to determine the effects, and so, rather than relying on existing political economic assumptions, attention needs to be paid to these.

Strange things can happen in an attempt to humanize the market in the context of automated global network technology. Which in my mind that afternoon looked a little something like bartering + blockchain = possibly the worst of the village with the worst of the metropolis, trade secured by an immutable reputation system in which the repressive whispers of village grannies are instantaneously globally relayed through hyper-connected nodes, lending them a veneer of objectivity while enforcing differential and finely catered mob-justice through alienated smart contract systems. Just to mention yet another dystopian projection for blockchain tech. My point is that a concern for the broader social good can quickly become a sinister endeavor when equipped with the possibilities of powerful, networked technologies.

18 For some good insight into the privatization of cash, see Brett Scott, 'Hang on to your Cash. This dash to Digitise Payments is Dangerous', *The Guardian*, 13 September 2017, https://www.theguardian.com/commentisfree/2017/sep/13/cash-digitise-payments-money-cashless/.

That afternoon in Barcelona I had a sudden wave of premature nostalgia for cash. Nobody cared who I was, nobody cared where my money came from, I could use it to get my Turkish menemen on an easy Sunday morning and that felt great. Alienation, I love you and I miss you already.

Part 2: A tribute to those who will never be peers

Bitcoin github repo, August 1st, 2017

This day in Bitcoin-landia had been marked as the culmination and possible final resolution of a conflict that had been raging for some three to four years. The conflict was about an existing hard limit on the data-size of blocks on the Bitcoin blockchain, set to 1MB — whether and how it should be increased. And today was the day the protocol was going to be hard-and-soft forked[19] into several versions for how to move forward on this question and the development of the project overall.

Other authors have written excellent informative pieces about the politicized nature of what, to some, might seem an obscure technical question and the ways in which it in fact reflects very different understandings of decentralization, power and governance.[20] The story I want to address here is slightly more *meta*. Here is what I think is really at stake in the Bitcoin scaling conflict: The possible shaping of new types of subjectivity.[21]

Bitcoin was first introduced in 2008 as a proposal for a peer-to-peer electronic money system. In this enticing combination of network technology, cryptography and a systems-architecture-that-pays-for-its-own-security-through-some-basic-market-logics the idea was that we could get rid of the need for authorities, like banks, to guarantee relations and trust between people who don't know each other, replacing such trust with cryptographic proof, and thereby run global money systems through networks of peers.

The experiment has since grown immensely — in numbers of people, places, organizations and companies involved, and value moved through the system. It is now facing a

19 A fork refers to when a change is made to the protocol that might not be agreed upon by everyone in the network so that different versions are run by different nodes. A hardfork is a change to the protocol that makes it incompatible with the previous version, essentially splitting the network, while a softfork is still compatible with the previous version. See https://www.btcforkmonitor.info/.

20 See especially van Aaron van Wirdum, 'On Consensus, or Why Bitcoin's Blocksize Presents a Political Trade-Off', *Bitcoin Magazine,* 15 January 2016, https://bitcoinmagazine.com/articles/on-consensus-or-why-bitcoin-s-block-size-presents-a-political-trade-off-1452887468/ and 'Why Some Changes to Bitcoin Require Consensus: Bitcoin's 4 Layers', *Bitcoin Magazine,* 26 February 2016, https://bitcoinmagazine.com/articles/why-some-changes-to-bitcoin-require-consensus-bitcoin-s-layers-1456512578/.

21 I chose the word subjectivity here (instead of 'identity', 'persona', or 'self') because it is interior and exterior, personal and political, it is shaped by the systems and contexts we inhabit as much as our personal evolution, decisions and development. And it is shaped through and in relation to the systems we engage with.

problem of scaling. If you read through crypto-currency news sites,[22] Twitter,[23] threads on Reddit[24] and commentary on Medium,[25] the conflict over scaling was brought on by a concern that the increasing number of transactions were clogging the network because of the hard limit on size of blocks of transactions that were being verified. Some therefore argue the hard limit needs to be increased, while others are wary of such a development as it might centralize aspects of the network and have therefore developed other solutions.[26]

The point is that there are different versions of what decentralization and scaling means and what is important in terms of use-cases and features and the future of the system. While some want to out-compete existing payment systems (Pay-pal, Visa, Mastercard), possibly risking centralization of aspects of the network in the process, others want to hold out on such ambitions in order to keep moving towards something entirely different, a vision, perhaps, of Bitcoin more as a vast and still open-ended scientific experiment[27] than (or in addition to) a new global payment system.

Let's look closer at the word 'scale'. Scale has many different meanings: increase in quantity, size, volume and geographical spread. I would like to introduce another vector to the concept of scale — *differentiation*. As the Bitcoin network grows, the fact that you have increasingly differentiated users, uses, and roles means that the nature of the network changes, as do questions of power.

Here's where I am going with this: for a system to be peer-to-peer you need to have a network of, well, *peers*. The assumptions that are usually associated with peer-to-peer, such as horizontality, decentralized power, neutrality, equality and openness can only be considered true if those involved indeed are peers. As more and more people get invested, and are interacting with and developing different aspects of the system, these applications, interactions and people will be *different*, have different capabilities, experiences, abilities and needs (and hey, that do not necessarily run a full client, contribute to or fork the code base.)

This is a tribute to all those who are never going to (be able to) be peers. They might be busy doing other useful things.

---

22 See van Aaron van Wirdum, 'On Consensus, or Why Bitcoin's Blocksize Presents a Political Trade-Off'.

23 See for example @sthenc, 'Confession: I was briefly a Bitcoin Classic supporter, before learning more about how bitcoin works.', Twitter post, 4 December 2016, 12:11 AM, https://twitter.com/sthenc/status/805187632929964032.

24 For example VonnDooom, 'Informative BTC vs BCH Articles?', *Reddit*, 6 August 2017, https://np.reddit.com/r/BitcoinMarkets/comments/6rxw7k/informative_btc_vs_bch_articles/.

25 See for example Valery Vavilov, 'Keep Calm and Bitcoin On', *Medium,* 18 January 2016, https://medium.com/@BitFuryGroup/keep-calm-and-bitcoin-on-4f29d581276 or Mike Hearn, 'The Resolution of the Bitcoin Experiment', *Medium,* 14 January 2016, https://blog.plan99.net/the-resolution-of-the-bitcoin-experiment-dabb30201f7/.

26 See Aaron van Wirdum, 'Segregated Witness, Part 1: How a Clever Hack Could Significantly Increase Bitcoin's Potential', *Bitcoin Magazine,* 19 December 2015, https://bitcoinmagazine.com/articles/segregated-witness-part-how-a-clever-hack-could-significantly-increase-bitcoin-s-potential-1450553618/.

27 Jaromil in 'Kaiser Report: Make Bitcoin Great Again (Summer Solutions E1099)', *Youtube*, 20 July 2017, https://www.youtube.com/watch?v=GiXAaa_cvbk&feature=youtu.be/.

'Peer' is one of those curious words that (potentially) means both a person and a node in a technical network. In Bitcoin, a peer would be *miners* and *full nodes* that verify and secure the network, but it also alludes to these people who contribute, are developers and researchers and so on. There is indeed an incredibly active and lively network of actual peers that maintain, experiment with and develop Bitcoin. But I would dare say that most interactions with the infrastructure are no longer by miners nor full nodes, but by people transacting using exchanges and wallets that they probably don't even hold the keys to.

The scaling conflict is not only about increasing block sizes on the blockchain, it is also about Bitcoin having reached such a scale that it can no longer be thought of as composed by peers.

The conflict and now quite high stakes of this infrastructure raises questions of accountability in the decisions being made — by developers, by miners and full nodes (see #UASF). Some aspects of the infrastructure provide an outstanding basis for this: 'commits' and contributions to the code are transparent, the developer's mailing list is all open and there is an impressive amount of glossaries and guides for those who want to look into it. But to benefit from such openness requires not an insignificant level of literacy, time and interest, and the big rifts and murky rumors that have characterized the scaling conflict are not easy to comprehend. Many people are left having to trust the word of some over the word of another (an ironic condition for what is supposed to be a trustless system[28]).

It might be fair to say that a lot of non-peer interactions are by users that we might want to call 'DIY financial speculators', who should take full responsibility for any risk they get themselves involved in. The project started in a sense as a giddy experiment in which the scientists, cryptographers and hackers involved were only really accountable to themselves and their own curiosity and tinkering. And certainly there is an element of this still, the project is as of yet a vast collaborative effort of enthusiasts. Why should they bother about such people?

If the infrastructure is indeed to grow and have use beyond speculation while still staying true to non-state, non-corporate sentiments, then it might be the time to recognize and consider new subjectivities that would form in the process, and the fact that not all of them are going to be peers. So who do we consider to be part of this new constituency and how do we take care of them? Are they 'users' or something else? If a state is supposedly accountable to 'citizens', a corporation is accountable to 'customers' or 'clients' and platforms are accountable to 'users', who are peer-to-peer networks accountable to? When peer-to-peer networks scale how do they deal with *differentiation* and the emergence of non-peers who are dependent on the system? From a less conspiratorial perspective, regulation might be considered a response to this condition in order to ensure accountability. But surely it must be possible to work out some more

28 Trustless refers to the concept of a system that works even if actors within it cannot be trusted. This idea, particular to networks of computers, is assumed to be applicable to other realms such that with the blockchain one would not have to trust institutions, banks or authorities with transactions and balances of accounts as these would be replaced by cryptographic proof instead.

interesting ways to go about accountability and taking care of differences and differential capacities that feel better than the-long-arm-of-the-law, or that do not entail black holes of tedious reporting, nor automated village granny reputation systems…

Unless this is worked out, and until then, this project of 'disintermediation' for those who are not peers is actually a project of *re*intermediation — simply swapping one set of intermediaries (the banks, politicians and legal system) for another (developers, computer scientists and network technology), or, even worse, *adding* another layer of intermediation and complexity.

Part 3: Be woke, be free

In a café, somewhere recently in old Europa
What do these two stories have in common? They are both really a caution against double-speak. I have nothing against double-speak as a cunning strategy and not even that much when it is used as a cynical marketing ploy, but when it is used unconsciously — you, fooling yourself — that, my friend, is unforgivable.

There is a sense that we are in a unique period, that the doors to the money-press have been flung open and we have limited time before the police come running. Literally? Sure, maybe that too,[29] but I actually mean it more broadly in the sense of Ranciere: *the police as the re-establishment of some form of order.*

In contrast to the 'police', (let's carry on a bit with Ranciere) his understanding of 'politics' refers to those moments when a given order is disrupted[30] and renegotiated and new subjectivities emerge as recognized actors. Ranciere calls this *a redistribution of the sensible* — literally, what and who is seen, who counts and is able to act in a given space, is changed, and redistributed across new spaces. This age of cryptocurrencies most definitely resonates with such a description — new subjectivities are emerging, new spaces are being developed (literally) in which those who were not supposed to be able to do certain things, like issue new kinds of money and authorize transactions — they are enthusiastically doing so, defining new conditions and spaces for these actions.

But wait, so where exactly are we now? We are in a café, somewhere in the old Europa, and with me, nibbling a slice of cake, is a European Commission expert advisor, a highly respected computer-engineering professor and soon to join us is a successful blockchain entrepreneur. A bit of intellectual posturing, some networking and the conversation winds its way to the question of what big themes and issues are pressing and how best to structure R&D funding for these. *'The boring sounding problem of taxation might actually be the most urgent and worthwhile to solve'* says the computer engineer. And that is what stuck with me from that conversation.

29 See for example the story of E-Gold.
30 I just want to declare that while I used to be I am no longer a fan of 'disruption'. It has been thoroughly coopted for purposes of chasing competitive advantage rather than freeing up new spaces of doing and being. Instead we are constantly disrupted in all kinds of ways whether we like it or not. Preservation seems more radical these days than disruption.

I would put it differently: the problem, strictly speaking, is of redistribution, for which taxation is the awkward solution we have today, ensuring commonly held and essential infrastructures, services and wealth. But I agree that redistribution is absolutely one of the most urgent and worthwhile problems to work out in a way that is meaningful and effective.

The question of redistribution addresses what many projects of decentralization and local autonomy (or sure, individual autonomy if you're one of those assholes) tend to overlook, a point I have tried to make a few times throughout this short story: that pre-existing conditions of inequality and access to resources means that what might seem progressive can easily be distorted into a nightmare. What looks like *Ah! Nice! Local autonomy and decentralization of power* might in fact simply be decentralization of risk. There is no such thing as a level playing field, land is luscious and bountiful in some parts and contaminated and toxic in others.

If you find yourself bright-eyed before these shiny new architectures, enthusiastically contributing to a machine for automating utopia, take a moment to blink, squint and look again at what you are doing and if it really does, should or ever will live up to the promises on whichever website banner. Be woke so you can stay free when the police come knocking.

So far, redistribution efforts that I have seen in crypto have taken place through two different strategies: collective speculation in which the aim is essentially to take advantage of a window of opportunity, use and abuse the crypto bubble, cash out and give it to cash-strapped solidarity projects. The other is currency creation. There are many different ways that money systems can be designed and programmed. With a rapidly growing field of possibilities that we are facing, literacy in such matters and especially an awareness of the distorting effects of contingencies and interfaces between systems is urgently needed. I believe that currency designers as a new profession, who are able to map contingencies across scales and disciplines, are going to be in high demand. It would be brilliant if some talented, sharp and empathetic heads could look seriously at redistribution and the organization of solidarity across scales.

So, what *would* happen when cops arrive and catch us covered in ink and paper? What would the re-establishment of order look like? When do we know the gold rush is over? Well, there is obviously the possibility that these (ponzi?) schemes simply collapse, that the dosh we so frantically printed is worthless, crypto suddenly has no value, the bubble bursts, tulips,[31] back to the euro, dollar and so on. Or, the owners of the money-press (would that be the state or private banks?) bring in the police and set out some terms and conditions for our use of the money press, (regulation) limiting access for certain people and purposes.

OR, in a much more interesting twist to the story, that this new tech actually proves itself, that it allows for a true *redistribution of the sensible*, in which new subjectivities emerge that are empowered to engage in the shaping and governing of commonly held global infrastructures. Bitcoin was introduced to the world as online cash, a noble

31 See tulip mania in 1619-1622 – a favorite historical reference for critics of Bitcoin.

proposition in a world headed for privately controlled and surveilled electronic payment systems, whether one disagrees with its anarcho-capitalist protocol design and speculative tendencies or not. But blockchain, while originally invented to support this online cash, in fact allows for much more fine-grained design and control of money, its flows and conditions — and in its evolution these contradictory possibilities have exploded in all directions. In the midst of the start-up mania, the vortex of life-changing, *make money moneeeey* opportunities, remember to stay woke: What is now at stake is the question of developing a global money system that is neither a public utility (cash) nor private infrastructure (electronic payments via banks), a question of governance as much as cryptographic properties, currency design and technical features. Indeed, an experiment with lots of risky, unintentional, clumsy and strange outcomes that simultaneously raises all the right questions.

References

Blanchar, Clara. 'Barcelona Contrará con una Moneda Social Propia Pese al Recelo del Banco de España', *El Pais*, 15 November 2016, https://elpais.com/ccaa/2016/11/14/catalunya/1479126762_781950.html.

'D5.5 Implementation of Digital Social Currency Infrastructure', *Dcentproject.eu*, 30 September 2015, https://dcentproject.eu/wp-content/uploads/2015/10/D5.5-Implementation-of-digital-social-currency-infrastructure-.pdf.

Golumbia, David. 'Bitcoin as Politics: Distributed Right Wing Extremism', in Geert Lovink, Nathaniel Tkacz and Patricia de Vries (eds), *MoneyLab Reader: An Intervention in Digital Economy,* Amsterdam: Institute of Network Cultures, 2015.

Hearn, Mike. 'The Resolution of the Bitcoin Experiment', *Medium,* 14 January 2016, https://blog.plan99.net/the-resolution-of-the-bitcoin-experiment-dabb30201f7/.

Jaromil, 'Kaiser Report: Make Bitcoin Great Again (Summer Solutions E1099)', *Youtube*, 20 July 2017, https://www.youtube.com/watch?v=GiXAaa_cvbk&feature=youtu.be/.

König, Thomas and Enric Duran. 'FairCoin2 White Paper', *Fair-coin.org,* June 2016, https://fair-coin.org/de/faircoin2-white-paper/.

Lieataer, B. *The Mystery of Money: Beyond Greed and Scarcity*, Munich: Riemann Verlag, 2000.

Nakamoto, Satoshi. 'Bitcoin: A Peer-to-Peer Electronic Cash System', *Bitcoin.org*, October 2008, https://bitcoin.org/bitcoin.pdf.

O'Dwyer, Rachel. 'The Revolution will (not) be Decentralized: Blockchains', *Commons Transition,* 11 June 2015, http://commonstransition.org/the-revolution-will-not-be-decentralised-blockchains/.

Scott, Brett. 'Hang on to your Cash: This dash to Digitise Payments is Dangerous', *The Guardian*, 13 September 2017, https://www.theguardian.com/commentisfree/2017/sep/13/cash-digitise-payments-money-cashless/.

Vavilov, Valery. 'Keep Calm and Bitcoin On', *Medium,* 18 January 2016, https://medium.com/@BitFuryGroup/keep-calm-and-bitcoin-on-4f29d581276.

VonnDooom. 'Informative BTC vs BCH Articles?', *Reddit*, 6 August 2017, https://np.reddit.com/r/BitcoinMarkets/comments/6rxw7k/informative_btc_vs_bch_articles/.

Wirdum, Aaron van. 'Segregated Witness, Part 1: How a Clever Hack Could Significantly Increase Bitcoin's Potential', *Bitcoin Magazine,* 19 December 2015, https://bitcoinmagazine.com/articles/segregated-witness-part-how-a-clever-hack-could-significantly-increase-bitcoin-s-potential-1450553618/.

_____. 'On Consensus, or Why Bitcoin's Blocksize Presents a Political Trade-Off', *Bitcoin Magazine,* 15 January 2016, https://bitcoinmagazine.com/articles/on-consensus-or-why-bitcoin-s-block-size-presents-a-political-trade-off-1452887468/.

_____. 'Why Some Changes to Bitcoin Require Consensus: Bitcoin's 4 Layers', *Bitcoin Magazine,* 26 February 2016, https://bitcoinmagazine.com/articles/why-some-changes-to-bitcoin-require-consensus-bitcoin-s-layers-1456512578/.

LOVE ON THE BLOCK

MAX DOVEY

LOVE ON THE BLOCK

MAX DOVEY

This article first appeared in Artists Re:Thinking the Blockchain.[1]

Bitcoin Transaction = 5ff791ac0c4e4f04cceefe178e9a25ae2f0eb00f30d5eb4cd73aaea0d3
45f541
Hex = 6a1d57652077696c6c2073686172652074686973 20736f6c656d6e20766f77
Ascii = We will share this solemn vow
$ 708.93 - $ 708.75
Transaction fee = $ 0.19
(231 bytes)
86653 Confirmations
17ePTBvtX6msSC6jqPbgacyvo6r5QttWkM
16Cz5s37SwhThspFfQZCE8ttYpmVRx6miJ

Bitcoin Transaction = c20f6b396208cadc951a33cd1ee7ce4a8b8c7cc1bfffcc22eb9156e-
b0af68dae
Hex = 6a247769746820657665726c617374696e67206c6f766520696e-
206f75722068656172747332c
Ascii = with everlasting love in our hearts,
$ 79.97 - $ 79.78
Transaction fee = $ 0.19
(238 bytes)
86653 Confirmations
1FoJPn8mHZTeiPhLpzxWe29ds5MWhEPvXG
1C6MFsat54HeD51uzjbVSbL6YdsQWVJh3D

Bitcoin Transaction = 1be8855420bf4cbb4b0e23a74e42f6c04195d78ab149fb0a5f67d-
f216739e2a9
Hex = 6a1566726f6d20746869732076657279206d6f6d656e74
Ascii = from this very moment
$111.97 - $111.78
Transaction fee = $ 0.19
(223 bytes)
86652 Confirmations
1DYcB34vPPSD1Ex93FEV73TWpizHB7yKjP
12X8o3ZKWXAqF1J111fLiaxH9PCnMNzzFm

Bitcoin Transaction = 017202287321d49bdd4a793d5a1a112d3fd853df193b-
97b0578797a759f1552f
Hex = 6a18756e74696c206f7572206479696e6720627265617468732e
Ascii = until our dying breaths.
$124.65 - $124.47
Transaction fee = $ 0.19
(226bytes)
86653 Confirmations
1EV4qtBCUAVGmd99uFJoNDetQVYWq39jcE
198Yi4E4M4TtTWDVGtmx54aP11kt6Hb1FN

1. Ruth Catlow, Marc Garrett, Nathan Jones and Sam Skinner (eds), *Artists Re:Thinking the Blockchain,* Liverpool and London: Torque and Furtherfield, 2017.

For better or worse, till death do us part, because the blockchain is forever.
—Wedding Vows of David Mondrus and Joyce Bayo[2]

For many, using bitcoin to officiate a marriage sounds as romantic as a first date outside a high street bank, but the various ways in which people are developing bitcoin, blockchain and cryptography to encapsulate love and administrate civic arrangements, such as marriage, reveal a deeper devotion towards blockchain technology as the new church and state. Since the first bitcoin marriage ceremony in 2014, couples have continued to express their love on the blockchain and adapt the marital contract from encrypting vows into bitcoin payments to designing 'smart contracts' that combine networked devices with coded contracts stored on the blockchain. Whilst some initial wedding ceremonies were performed by a small number of extreme bitcoin fanatics there has since been further experimentation occurring within a wider movement in the crypto-community — one that aims to proliferate the viability of the blockchain as a governance technology that replaces central authorities. Looking at bitcoin weddings, we see not just individuals invested in the notions of permanence and viability implicit in the blockchain, but a spiritual commitment to the blockchain ideal – a faith that it will not only transform legal arrangements, but inaugurate a technologically absolutist model of governance that defies and circumvents traditional organizations of power. Bitcoin weddings are the start of a sermon that aims to persuade society of the blockchain as an alternative system for the administration of society. They are symbolic of a wider-culture within crypto communities that go beyond political ambition to reveal a spiritual dimension to cryptographic protocol where belief, faith and performed acts of software sovereignty become lived commitments to technological fundamentalism.

What do libertarians find the most romantic in marriage? The contract.
—Reddit user engelk[3]

The first recorded example of a bitcoin wedding ceremony was between Joyce Bayo and David Mondrus in Disneyworld Florida, where the couple stood in front of the altaltar of a bitcoin ATM machine. The pair used the ATM to pay one another with the attached comment: *'For better or worse, till death do us part, because the blockchain is forever*'. Bitcoin is used in this case to cement a belief in the permanence of blockchain ledger, however anyone unfamiliar with the underlying technology would be forgiven for asking why the couple didn't just use their credit cards and alter their vows to '*For better or worse, till death do us part, because Visa is forever'.* Swapping the alter for a bitcoin ATM signifies a growing ambition to use encryption, cryptography and the blockchain database to pursue the notion of using financial transactions as more than payments but also as contractual agreements. Oscar and Yenni from Indonesia performed their marriage in a similar way, but encoded much lengthier vows as hex strings into a series of transactions. Each transaction contains a hex string that when converted into ASCII (American Standard Code for Information Interchange) reveals their

2 'How Humans Now Use the Blockchain to Declare Love and Marriage', *Blogchain.info,* 14 February 2017, http://blogchain.info/post/how-humans-now-use-the-blockchain-to-declare-love-and-marriage.

3 'Couple to use Blockchain to Contract Marriage. I'm Honored to be Officiating', *Reddit,* 25 September 2014, https://www.reddit.com/r/Bitcoin/comments/2hffwd/couple_to_use_blockchain_to_contract_marriage_im/.

personalized, encrypted vows. Oscar transferred over $2,000 to eighteen arbitrary accounts in order to encode the vows over a series of bitcoin payments into a number of blocks. With each block taking on average 10 minutes to clear the process of validating the vows would have taken longer than David and Joyce's one off payment and perhaps distributing one's vows over multiple payments shows a longer lasting love. The grooms in both marriages (David Mondrus and Oscar Darmawan) are well known bitcoin investors and publicity stunts such as this are often engineered to serve their financial interests. In this sense both weddings were successful and circulated widely on crypto-currency news sites and Oscar was awarded a certificate for holding the first Indonesian bitcoin wedding.[4] David Mondrus is the CEO of a bitcoin jewellery store, so the wedding appears to be a staged opportunity to promote the QR Code rings he had on sale at the time (unfortunately 'red box jewels' no longer seems to be online).[5]

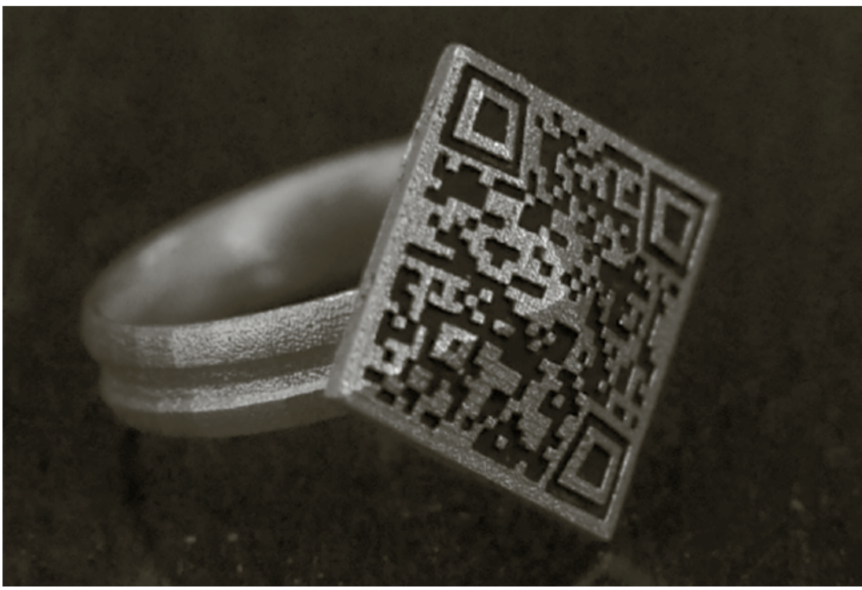


Fig. 1. The BTC ring (http://thebtcring.com, 2015).

For these grooms the bitcoin wedding serves as a novel way to inflate the market price of your favourite crypto-currency, however these symbolic acts also reveal personal devotion towards bitcoin and turns the belief in blockchain's permanence toward a spiritual dimension. By turning 'proof of work', the cryptographic process for validating bitcoin transactions, into 'proof of love', what other feelings, relations and social bonds can be re-configured as blockchain transactions? The marriage is one of the more popular civic arrangements to become cryptographically re-configured and encrypting one's vows is just the beginning of a series of experiments with programming contracts, which will also include property rights and even automating divorce.

4 Rahmat and Ori, 'Indonesian Record Museum (MURI) Bestowed a Special Award at CEO Bitcoin.co.id', *Steemit,* 5 July 2016, https://steemit.com/bitcoin/@rahmat/2gwcng-indonesian-record-museum-muri-bestowed-a-special-award-at-ceo-bitcoin-co-id.

5 http://www.redboxjewels.com.

Fig. 2. Oscar & Yenni Wedding Invitation (http://bitcinwedding.com, 2015).

I have participated in the design of a blockchain based wedding application with The Design Informatics department from University of Edinburgh where we designed prototypes based on a geo-locative crypto-currency called 'GeoCoin'.[6] 'GeoCoin' is a platform that connects GPS data to digital wallets for crypto-currencies, enabling users to design financial or economic arrangements based on location and movement. We developed a smart contract that would enable people to create temporary shared bank accounts between one another whose spending would be bound by their location data. Like marriage, it joined individuals to share finances based on their physical proximity. This application was named *Handfastr* after the informal practice of 'handfasting' in the middle ages — a temporary marital arrangement that was valid without having to be solemnized by a priest or the church.[7] *Handfastr* uses GPS data to enforce a smart contract — a self-executing script stored on the blockchain — so that when two or more people are together in the same physical space they can access and spend money

6 http://geocoin.site/.

7 'History of Marriage in Great Britain and Ireland', *Wikipedia,* https://en.wikipedia.org/wiki/History_of_marriage_in_Great_Britain_and_Ireland.

from the same digital wallet. The difference between blockchain based smart contracts such as *Handfastr* and the bitcoin wedding ceremonies previously mentioned is that while a bitcoin ceremony happens once with a financial transaction (or series of transactions), a smart contract is a piece of code containing rules and conditions that can be executed over a period of time. Think of a bitcoin wedding as a ceremony, and the smart contract as the marriage that emerges, requiring laws to untangle and annul it.

Fig. 3. Handfastr (Corina Angheloiu, Max Dovey, James Stewart, 2016).

Programmers have also begun experimenting with how smart contracts could be used to process — even anticipate — the conditions for a divorce or separation of couples. The opportunity to code legal procedures that involve the splitting of property, ownership and access rights is a logical application of these tools for blockchain based programmers' eager to demonstrate the viable efficiency of networked governance. A common attitude is that blockchain technology liberates individuals from the centralized powers such as the church and state, however, experiments in smart contract systems such as this should be critically reflected upon and we should ask what kind of arrangements do we want to turn into autonomous governing system(s).

Weddings & divorces are just one of many civic and legal procedures that are being engineered into blockchain contracts and it is interesting to consider this development as part of a political trajectory that originated from an obscure cypherpunk mailing list. In *The Politics of Bitcoin: Software as Right-Wing Extremism* David Golumbia highlights the extreme libertarian free market attitudes that have driven cryptology and technology to enable greater individual freedoms.[8] The ambitions within this community no longer merely lie within unregulated currencies, and the shift towards bitcoin weddings and blockchain governance has given rise to a notion of 'crypto-sovereignty' where block-

8 David Golumbia, *The Politics of Bitcoin: Software as Right-Wing Extremism*, Minneapolis, MN: University of Minnesota Press, 2016.

chain software, protocol and encryption provide founding ideals with which to form and experiment with exclusionary sovereign states. Blockchain platforms such as Ethereum — a platform that allows people to write and develop code onto a custom blockchain that can host and execute smart contracts and Decentralized Autonomous Organizations (DAOs) — encourages programmers to envision how decentralized ledgers can be used to create consensus based systems and experiments in creating non-hierarchical organizations. I would argue that while the libertarian crusade to undermine institutional powers such as the state and church remains the dominant political ideology that motivates a large extent of blockchain culture, there is a committed devotion forming within certain sub communities towards different software that informs ambitious visions of crypto-sovereignty, borderless nationalism and blockchain fundamentalism.

> My goal is to take_under government. Let them invite us in and do a few things. Eventually government replaces itself on the blockchain.
> —Comment from BirdsPointOfView in response to thread: 'Using Ethereum to create a digital political party?'[9]

Ethereum is a blockchain based platform that explicitly encourages developers to build experiments in voting systems, legal applications and democratic organizations which are broadly defined as 'governance 2.0.' applications. For example, Ethereum's landing page displays a visual guide on how to 'build a democracy on the blockchain' and many applications use the platform to demonstrate alternative governance structures that use non-hierarchical voting to reach a consensus.[10] The consequence of facilitating the creation of 'unstoppable applications' has been that a large portion of the Ethereum community now harbours ambitious visions of how blockchain, DAOs and smart contracts can replace traditional state governments.

Ethereum founder Vitalik Buterin maintains the belief that Ethereum will one day be a 'world computer' that could potentially manage citizens through decentralized applications, or in turn via a combination of de facto coded law and self-executing software connected to Internet of Things (IoT) devices. While many experiments to 'take under' government remain speculative thought experiments within the Ethereum reddit community, *Bitnation* has undertaken the most prolific experiment into crypto-sovereignty with what it calls a 'Decentralized Borderless Voluntary Nation' through situated embassies, bitcoin ID citizenships and a 'blockchain powered jurisdiction'.[11] In an attempt to transcode all existing law into coded self executing contracts, Bitnation have also tried their hand at smart contract weddings. Called *Smart Love*, the contract turns the commitment of 'legacy weddings' into 3 defined protocols:

- Proof-of-Commitment to sustain an enduring relationship
- Proof-of-Acceptance of the union by friends and family, and the community at large
- Proof-of-Support of each other, including shared risks and shared rewards[12]

9 CuttieSark, 'Using Ethereum to Create a Digital Political Party?', *Reddit,* 1 October 2016, https://www.reddit.com/r/ethereum/comments/55dxnq/using_ethereum_to_create_a_digital_political_party/.
10 For an up-to-date list of the most recent check http://dapps.ethercasts.com/.
11 'Governance 2.0', *Bitnation,* 21 March 2017, https://bitnation.co/.
12 'Smart Love', *Bitnation,* 5 November 2016, https://blog.bitnation.co/smart-love/.

The *Smart Love* experiment is yet another example of experimentation that questions the boundaries of how common and civic laws can be adapted into coded smart contracts. The applications interface incorporates the deployment of smart contracts within a chat messaging client that would allow for emoji and other symbols to activate coded contracts between different parties. The integration into messaging applications obfuscates coded contracts into communication technology and hopes to turn messaging interactions and emoji into activations of 'common law'. The authority of this 'common law' will only be created through the adoption of mass users and until then, even the developers admit that it remains purely symbolic (for now).[13] The question remains weather the current marketing strategy of 'democratizing power' will be effective in convincing others to participate in 'de-centralized borderless nations' in favour of sovereign nation states. While DIY experiments such as Bitnation are still in their infancy, there is very little that deters the ambition within the blockchain community of the potential for crypto-sovereignty and de-centralized governance.

The confidence within the blockchain community to eventually 'take under' government bodies combines both libertarian political sentiment with a spiritual belief in the blockchain's ungoverned autonomy. This belief came under scrutiny in June 2016 when over $50 million was leaked from a DAO with over 10,000 members. The Ethereum foundation found themselves in a difficult position — to intervene and hard fork (rolling back all transactions to a point in time that preceded the alleged hack), or to continue and permit the transactions associated to the hack and lose a lot of investors and a lot of money. The majority of them voted to intervene, undermining the founding philosophy of blockchain as an un-regulated autonomous entity, consequently splitting the community based on differing blockchain ideas and philosophy. What emerged — and what is important to the subject of this chapter — was a small alliance of die-hards that expressed their devotion towards Ethereum's roots *as* non-regulated — refusing to acknowledge the new fork as it was the product of (human) intervention. This alliance continued to trade on the blocks that had been affected by the hack, forming a devoted group of blockchain purists that divorced themselves from Ethereum and are known as the 'Ethereum Classic' community:

> Let it be known to the entire world that on July 20th, 2016, at block 1,920,000, we as a community of sovereign individuals stood united by a common vision to continue the original Ethereum blockchain that is truly free from censorship, fraud or third party interference. In realizing that the blockchain represents absolute truth, we stand by it, supporting its immutability and its future. We do not make this declaration lightly, nor without forethought to the consequences of our actions.[14]

The Deceleration of Independence is interesting in many ways. Firstly, it reveals conflict between the communities' differing crypto philosophies, and illustrates that when things don't go to plan, it is useful for *someone* to be able to step in and fix the 'unstoppable application'. Secondly, it highlights the proto-patriotic language that represents

13 'Smart Love', *Bitnation.*

14 'The Ethereum Classic Declaration of Independence', *The Ethereum Classic Community,* 2017, https://ethereumclassic.github.io/assets/ETC_Declaration_of_Independence.pdf.

an emerging sovereignty within the blockchain community and an extreme devotion with which some individuals make towards different blockchain legions.

At first sight, bitcoin weddings may appear as novelty acts of public devotion but as I have indicated, they pave the way for such further pseudo-religious and proto-patriotic acts such as the 'statement of independence'. These language acts of crypto-sovereignty do not occur in isolation and emerge at a time when blockchain technology is not only being adopted by the financial sector but NGOs and government bodies. Bitnation's experiments into creating decentralized borderless nations has resonated with the Estonian government to such an extent that they are now working together on providing borderless citizenship with the e-residency program.[15] This demonstrates how the initially novel, strange or more extreme fantasies within the crypto-community emerge and get integrated within governments on an (inter) national scale. In order to prevent, or even critically reflect on such projects, it is important to articulate and engage with the political and spiritual motivations that drive the proliferation of such applications to begin with. Failing to do so will end up with us falling for blockchain's 'revolutionary potential'[16] without engaging with some of the radical sub cultures and extreme fundamental views that initiate and proliferate projects such as e-citizenship, marriage contracts and statements of independence. This will lead to the creative and imaginative potential getting captured and predetermined within a dominant crypto hegemony and it will become even harder to experiment and design in this space without encountering a spiritual or extreme fundamentalism towards different crypto-cultures. How far away are we from blockchain funerals, blockchain birth registries, blockchain medical records? It is already possible to encode your DNA genome onto the blockchain[17] perhaps encouraging further experimentation into how bio immortality could lead to further spiritual relations towards the permanence of blockchain and a ledger afterlife. Analyzing patriotic acts of sovereignty, faith and wedlock should help us critique and counter the propositions made by some of the more extreme members within the blockchain community and become aware of the spiritual beliefs that fundamentally drive the transition of blockchain from banks and business to church and state.

References

'Couple to use Blockchain to Contract Marriage. I'm Honored to be Officiating', *Reddit,* 25 September 2014, https://www.reddit.com/r/Bitcoin/comments/2hffwd/couple_to_use_blockchain_to_contract_marriage_im/.

CuttieSark. 'Using Ethereum to Create a Digital Political Party?', *Reddit,* 1 October 2016, https://www.reddit.com/r/ethereum/comments/55dxnq/using_ethereum_to_create_a_digital_political_party/.

'Estonia E-Residency Program & Bitnation DAO Public Notary Partnership', *Bitnation,* 27 November 2015, https://bitnation.co/blog/pressrelease-estonia-bitnation-public-notary-partnership/.

Golumbia, David. *The Politics of Bitcoin: Software as Right-Wing Extremism*. Minneapolis, MN: University of Minnesota Press, 2016.

'Governance 2.0', *Bitnation,* 21 March 2017, https://bitnation.co/.

15 'Estonia E-Residency Program & Bitnation DAO Public Notary Partnership', *Bitnation,* 27 November 2015, https://bitnation.co/blog/pressrelease-estonia-bitnation-public-notary-partnership/.

16 Don Tapscott and Alex Tapscott, *Blockchain Revolution: How the Technology Behind Bitcoin is Changing Money, Business and the World*, London: Portfolio Penguin, 2016.

17 'Make a Backup of Yourself Using Bitcoin', *Genecoin,* http://genecoin.me/index.html.

‘History of Marriage in Great Britain and Ireland’, *Wikipedia,* https://en.wikipedia.org/wiki/History_of_marriage_in_Great_Britain_and_Ireland.

‘How Humans Now Use the Blockchain to Declare Love and Marriage’, *Blogchain.info,* 14 February 2017, http://blogchain.info/post/how-humans-now-use-the-blockchain-to-declare-love-and-marriage.

‘Make a Backup of Yourself Using Bitcoin’, *Genecoin,* http://genecoin.me/index.html.

Rahmat and Ori, ‘Indonesian Record Museum (MURI) Bestowed a Special Award at CEO Bitcoin.co.id’, *Steemit,* 5 July 2016, https://steemit.com/bitcoin/@rahmat/2gwcng-indonesian-record-museum-muri-bestowed-a-special-award-at-ceo-bitcoin-co-id.

‘Smart Love’, *Bitnation,* 5 November 2016, https://blog.bitnation.co/smart-love/.

Tapscott, Don and Alex Tapscott, *Blockchain Revolution: How the Technology Behind Bitcoin is Changing Money, Business and the World*, London: Portfolio Penguin, 2016.

‘The Ethereum Classic Declaration of Independence’, *The Ethereum Classic Community,* 2017, https://ethereumclassic.github.io/assets/ETC_Declaration_of_Independence.pdf.

CONTEMPORARY ART BETWEEN ALGOMYSTICISM AND FINTECH ACTIVISM

MARTIN ZEILINGER

CONTEMPORARY ART BETWEEN ALGOMYSTICISM AND FINTECH ACTIVISM

MARTIN ZEILINGER

Among recent artworks dealing with cryptocurrencies, the blockchain, and distributed ledger technology (DLT), Simon Denny's *Blockchain Visionaries* and *Blockchain Future States* (both 2016) may be the most well-known. The works were prominently exhibited at the 2016 Berlin Biennale and at Petzel Gallery in New York City, where they received a more than considerable amount of critical and popular attention. In tandem, *Blockchain Visionaries* and *Blockchain Future States* form a sprawling arrangement of sculptural pieces, display cases, canvas-based pieces, game culture paraphernalia, and A/V materials.[1] All components are created in a playfully inflected documentary mode, designed to educate audiences about the technologies they concern. The aspiration of the two works is to 'capture the essence' of ongoing developments in blockchain-based computing and commerce;[2] this is undoubtedly an important (and ambitious) undertaking, considering that it is still far from obvious what the essence of these developments might indeed be. One problem that has been identified with Denny's approach[3] is that the artist does little to elucidate the blockchain's underlying technologies in lay terms, choosing instead to focus on the narratives surrounding their emergence and ongoing development. While technical details might invite discussion and critiques of blockchain technology politics, a focus on blockchain narratives will yield, at best, critiques of blockchain rhetoric, and, at worst, emulation of such rhetoric. Key aspects of the modes in which the technology in question operates may thus be ignored, or remain obscured.

Within this vast and complicated subject matter, Denny's works replace much-needed critical commentary with a predominant focus on the 'inspiring stories'[4] of the companies and entrepreneurs developing blockchain-based services and applications. The artist has frequently commented that 'the story being told' about these technologies is what he felt most drawn to.[5] This aligns *Blockchain Visionaries* and *Blockchain Future States* with prevailing popular treatments of blockchain-related issues, namely a narrativization of financial technologies that tends to mystify where it could offer clarification and critique, and that can come across as imprecise and uncritical.

1 A/V documentation of the works can be found at http://www.e-flux.com/architecture/superhumanity/68703/blockchain-future-states/; http://www.petzel.com/exhibitions/2016-09-08_simon-denny/; and http://bb9.berlinbiennale.de/participants/simon-denny/.
2 Isabella Kaminska, 'Blockchain as Gosplan 2.0', *Berlin Biennale*, http://bb9.berlinbiennale.de/blockchain-as-gosplan-2-0/.
3 See for example Andrew Weiner, who offers one of the more scathing reviews of Denny's work. Andrew Weiner, 'Simon Denny's "Blockchain Future States"', *Art Agenda,* 25 October 2016, http://www.art-agenda.com/reviews/simon-dennys-blockchain-future-states/.
4 See Kaminska, 'Blockchain as Gosplan 2.0'.
5 See for example Sam Skinner, 'Blockchain Future States – An Interview with Simon Denny', in Ruth Catlow, Marc Garrett, Nathan Jones, and Sam Skinner (eds), *Artists Re:Thinking the Blockchain*, London: Torque Editions & Furtherfield, 2017, pp. 141-155.

Elsewhere, Denny has shown himself to be an astute and insightful critical observer of the inner workings of digital capital (see, for example, his recent contribution to *Texte zur Kunst*).[6] This makes the relatively uncritical approach of *Blockchain Visionaries* and *Blockchain Future States* all the more noteworthy. Is the goal of such works to critique shallow engagement with financial technologies by amplifying this same kind of engagement (perhaps in a parodic mode), thereby to draw attention to the kinds of rhetoric that often saturate popular discussion of blockchain technologies? Or are such works simply extensions of the same rhetoric, lost opportunities for properly critical engagement? In consideration of these questions, Denny's work will here serve as the backdrop for some remarks on the role of contemporary art in relation to emerging financial technologies. I will discuss creative approaches that border on what might be called fintech algomysticism — a substitution of technical, ideological, and socio-economic discussion of financial technologies for a foregrounding of their fantastic, magical, unknowable qualities. Following such approaches, Bitcoin can easily appear as 'magical internet money',[7] and the complexity of distributed ledger technology can easily render its computational foundations as superhuman. In view of this, however, it becomes ever more important to counter algomysticism with fintech activism.

Fig. 1. Magic Internet Money meme by Reddit user /u/mavensbot.

6 Simon Denny, 'Face the Market on Your Own', *Texte Zur Kunst* 106 (2017): pp. 124-133.
7 Paul Bars, 'Magic Internet Money: How a Reddit Ad Made Bitcoin Hit $1000 and Inspired South Park's Art Department', 18 February 2013, https://medium.com/@paulbars/magic-internet-money-how-a-reddit-ad-made-bitcoin-hit-1000-and-inspired-south-parks-art-b414ec7a5598.

Summoning Nakamoto's Magic

Blockchain-based cryptocurrencies and related decentralized computing were shrouded in mystery from the very beginning. When, around 2008, the pseudonymous 'Satoshi Nakamoto' cast the computational spell that would go on to spawn Bitcoin with the publication of a hugely influential white paper, many aspects surrounding this spell-casting were ideally positioned to forge and amplify the mysterious and mystical qualities of cryptocurrencies and other blockchain-based applications. The real identity of the white paper's author remains unconfirmed to this day, feeding wide-ranging conspiracy theories; the publication of the material followed closely in the footsteps of the 2008 global financial crisis (or was it a consolidation?), which had polarized opinion about the state of the global economy; the ideas outlined in the white paper emphasized faults and inequities of mind-boggling proportions underlying our dominant financial systems, while simultaneously envisaging the creation of new wealth of equally unbelievable proportions; and finally, the technologies engendered by Nakamoto's white paper seemed to lack a clear ideological tack, and were therefore poised to support radical projects ranging from the ultra-conservative to the ultra-progressive.

By emulating and mirroring popular accounts of the technology, Denny's blockchain-related work draws directly on many of the mystical qualities surrounding the blockchain. For example, a display case devoted to Nakamoto's unknown identity is formally reminiscent of poster presentations at popular science exhibitions or academic conferences, even though in terms of its content it plays directly to the conspiracy theories surrounding this figure. Denny's use of the popular kids' game franchise Pokémon[8] as an explanatory framework for the blockchain functions similarly, in that ultimately it serves primarily to play down the complexity of the subject matter, even in the process of seemingly clarifying it. Overall, Denny's mirroring of vague blockchain-related rhetoric raises questions concerning the role of contemporary art in recognizing and exposing the fabulations currently surrounding the blockchain. Do communities of contemporary artists and art critics, many of them presumably critical of global capital, share an obsession with narratives perpetuating the magic and mystery of emerging financial technologies (in an updated version of Marx's riddle of the money fetish?) How can contemporary art cut through prevailing fintech mysticism so that, rather than regurgitating befuddling narratives prevalent in popular accounts, art could develop properly critical perspectives on the subject, to move from fintech mysticism to fintech activism?

Roughly a decade after Nakamoto, cryptocurreny technology is now well-documented and explained both in specialist and in lay contexts. There isn't a need, it would seem, to consider them as mythical entities descended from the digital heavens (or risen from a digital hell). An abundance of examples nevertheless indicates that the mystical qualities of the technology continue to be purposefully perpetuated and even amplified. Take, for example, Bitcoin Golem, a recently founded (and already defunct) cryptocurreny trading company that was positively otherworldly both in its name and in

8 For in-depth visual documentation of Denny's use of Pokémon imagery, visit the Petzel Gallery website at http://www.petzel.com/exhibitions/2016-09-08_simon-denny/.

terms of its return-of-investment promises (e.g., '1% Hourly Forever').[9] For another example, take the distributed computing system Ethereum,[10] which is built around transactions of value tokens bearing the mystically evocative name 'Ether,' uses as its logo two floating, semi-translucent pyramids, and which has been deeply embroiled in a looming algo-financial day of reckoning (Ethereum's superseding of Bitcoin) popularly called 'The Flippening'.[11] Such language can only serve to cement the mystical status of blockchain applications, rather than challenging it. Contemporary art, if it wants to participate meaningfully in discourses on digital capital, has to recognize an obligation to engage its subjects critically, whether it is performatively (i.e., through technological means) or through narrative inflection and subversion. Documentation and playful adoption of obfuscating narratives is not enough.

Art, in particular experimental art and the avant-garde, has always played a key role in investigating political and socio-economic developments that are difficult to register in more institutionalized frameworks, and in attempting a recuperation of the radical in everyday life, as Peter Bürger has so memorably (if contentiously) formulated.[12] What could this mean in the context of emerging financial technologies, specifically related to the blockchain? As a first example, we might think of Dutch artist Femke Herregraven's ongoing series *Rogue Waves*, begun in 2015.[13] *Rogue Waves* is a sculptural work that plays on the object of the tally stick, what might be called a pre-print ledger. As analogue storage devices for financial information, used by ancient cultures to record transactions and holdings (this was done, for example, by carving notches in bone), tally sticks strike a curious balance between fetish object and financial technology. In Herregraven's sculptures, the sticks have become rectangular, carved aluminum poles that carry engravings of information about illegal algorithmic stock-market manipulation through high-speed trading. The artist thus visualizes computational financial activities and data in physical form, and creates aesthetic objects whose deceptively beautiful patterns trace the malevolence of digital capital. Notably, the artist chooses to do so in an ancient object-type which, like money itself, carries totemic qualities that are here instrumentalized in a critique of rogue trading practices.

Techno-Utopianism Begets Algomysticism

The initial appearance of blockchain-based cryptocurrency technology in the Nakamoto white paper was a punctilious, sharp stab in the side of existing financial technology and economic theory, a storm of utopian dimensions brewing on the horizons of digital capital. The flood of experimentation and innovation it triggered quickly took on mystical dimensions. This should perhaps not be surprising — surely, to laypeople and even many specialists, the core ingredients of blockchain applications, including algorith-

9 Bitcoin Golem (formerly located at https://bitcoingolem.com) ceased operation during the summer of 2017, only a few months after its founding in March of that year. However, online image searches for the company name still yield most of the site's content.

10 See the Ethereum Project home website at https://ethereum.org/.

11 A good place to track this process is the Flippening Watch website, at https://www.flippening.watch/.

12 See Peter Bürger, *Theory of the Avant-Garde*, Minneapolis, MN: University of Minnesota Press, 1984.

13 For documentation of Femke Herregraven's work, visit her website at http://femkeherregraven.net/rogue-waves-ii-scar-tissue/.

mic encryption, trustless transaction, decentralized information storage, self-enforcing contracts, and decentralized autonomous organizations, must appear as bewildering conjurations emerging from the realms of the unreal and superhuman.

Consequently, examples of mainstream blockchain mysticism abound. Most of them are richly varnished with slogans and imagery that invoke unthinkable wealth forming somewhere in a chaotic, cosmic churn of informational bits, yielding riches that float through virtual, intergalactic space. In addition to already-mentioned internet memes portraying Bitcoin as magical internet money, here we might also include the depiction of Ethereum's founder as a wealth-conjuring sage (such illustrations, often found on 'EthTrader' and similar discussion threads, frequently supplement interviews with Vitalik Buterin);[14] the incessant framing of mainstream fintech 'financial analysis' in the rhetoric of soothsaying (e.g., 'A $2,000 Bitcoin (and 9 Other 2017 Blockchain Predictions)';[15] and frequent references to biblical imagery in commentary on current developments in the cryptocurrency landscape.[16] Denny's work reflects such rhetoric in the integration of fintech-related information with references to massively popular fictions of Western mainstream culture, such as when Denny describes the Ethereum founder Vitalik Buterin as 'the Luke Skywalker of the cryptocurrency circuit'.[17]

To some extent, these examples are linked to techno-utopian ideas regarding the radical changes that blockchain-based financial services are supposed to bring.[18] However, they add a significant dimension to traditional techno-utopianism, and represent an important rhetorical shift in focus. Techno-utopianism tends to be characterized by a language of revolutionary change, and thus carries important political dimensions; it is linked to a (real or imagined) mastery of a given technology for a common good. But when blockchain-based technologies are furnished with mystical qualities, when they are discussed as magical, otherworldly, or superhuman, the techno-utopian belief that a technology can be put to good (radical) use will give way to the algomystical assumption that, for better or worse, the technology in question exists outside the reach of human control (incidentally, this is a major selling point of supposedly 'incorruptible' blockchain-based systems), and that the technology is quasi-unknowable in an almost godlike fashion.

14 See for example John Frost, 'Interview With Vitalik Buterin About Next Generation For Cryptocurrencies', *The Coin Telegraph*, 8 December 2015, https://cointelegraph.com/news/interview-with-vitalik-buterin-about-next-generation-for-cryptocurrencies; for a popular Ethtrader, see https://www.reddit.com/r/ethtrader/comments/6tamgo/what_is_the_origin_of_the_vitalik_jesus_lambo/.

15 Ajit Tripathi, 'A $2,000 Bitcoin (and 9 Other 2017 Blockchain Predictions)', *Coin Desk*, 4 January 2017, https://www.coindesk.com/2000-bitcoin-9-2017-blockchain-predictions/.

16 See for example http://i.imgur.com/QJcqH3A.jpg.

17 See Nadja Sayej, 'Simon Denny: the artist explaining blockchain with Pokémon,' *The Guardian*, 26 August 2016, https://www.theguardian.com/artanddesign/2016/aug/26/simon-denny-artist-blockchain-pokemon.

18 Cf. Howard Segal, 'The Technological Utopians', in Joseph Corn (ed.), *Imagining Tomorrow: History, Technology and the American Future*, Cambridge, MA: MIT Press, 1986.

Fig. 2. Etherium Lambo meme portraying Vitalik Buterin by Reddit user /u/earthquakequestion.

There are many examples demonstrating how such qualities are reinforced rhetorically and narratively, more or less overtly. Bitcoin Golem, the cryptocurrency trading company mentioned above, demonstrated this conceit extremely well. The now-defunct company was recently exposed as a scam that promised its investors wildly unrealistic profits that were supposed to be based simply on the totemic ownership of (a.k.a. 'investment in') cryptocurrency units. While operational, the company website, which had been registered with a London business address in March 2017, was characteristically opaque about the company's corporate structure, and equally unclear about how its investment schemes worked.[19] For example, Bitcoin Golem's 'Gold Plan,' supposedly available to no more than 50 investors, promised a profit of 12,000% after 8 days, based on a minimum deposit of 0.12 Bitcoins. A golem, as everyone with as little as

19 See footnote 9.

a passing interest in the history of religion (or steampunk sci-fi) will know, is a virtually indestructible automaton, often constructed out of numerous amorphous pieces, that is incorruptible in ideal conditions, but which can also go dangerously out of control. As a kind of mystical robot, a golem appears nearly godlike and insurmountable, and does the bidding only of those who can recode the encrypted trigger needed to turn the automaton on and off (called the *shem* in Hebrew mysticism). This hardly sounds like a secure (let alone fool-proof) financial technology. When a cryptocurrency trading operation is called Bitcoin Golem, and when the owners of the service invoke fantastical rhetoric of unimaginable wealth rather than offering any explanation of how their magical system functions, then the conditions for a shift from techno-utopianism to algomysticism are certainly met — indeed, any knowledge of and trust in the underlying technology will rely on mystified devotion. Arguably, a similar approach appears to be embodied in some of Denny's work, particularly where it depicts entrepreneurial, hyper-capitalistic distributed ledger technology applications through references to popular games. Using Pokémon to explicate the blockchain serves, by implication, to imbue the technology in question with the fantastical qualities of the game world. In Pokémon video games (as in the many narrative versions of the franchise, existing in the form of graphic novels, TV shows, and collectibles) protagonists and players are constantly on the hunt for the valuable supernatural beings from which the franchise derives its name, which are religiously worshipped as powerful totems. In the extended metaphor of Denny's work, Pokémons become units of supernatural cryptocurrency, and cryptocurrency trading itself becomes a game. By implication, the underlying distributed ledger technologies are depicted as an esoteric, fantastical phenomenon which, like Pokémons (and like the Pokémon phenomenon itself), may be hard to grasp for the uninitiated, despite its massive popularity. Here, the technology is infantilized, and presumably game-like characteristics are foregrounded, while serious socio-economic concerns are ignored.[20]

When the algomysticism of blockchain technology applications and products is less overt than in examples such as the naming conventions of Ethereum, mainstream advertisement strategies, or the game culture contextualization in some of Denny's work, then it frequently takes on pseudo-educational forms. The outcome has been a multitude of cryptocurrency 'academies,' many of which advertise aggressively on social media platforms, offering for sale supposedly informative materials (in the form of workshops, seminars, retreats, pamphlets, etc.) that are almost always framed as enlightening, semi-religious doctrine promising epiphanies on cryptocurrency trading. A current sampling of some of the offerings currently crowding my Facebook feed (the platform's algorithms are translating my research interests in truly mysterious ways) include the following: Remitano, a trading platform registered in the Seychelles, features a banner ad with a gold-colored cryptocoin graphic emblazoned with the Bitcoin symbol and an infinity symbol, floating among the stars. The image taunts me to become a multi-millionaire 'CryptoPreneur!' through subscription to a number of workshops. A mouse-click away, the banner photo of an organization simply called 'CryptoCurrency Academy' asks me, provocatively and in all caps, 'WHO CONTROLS THE CREATION

20 See also Max Haiven, 'Coming of Age in the Financialized Pokéconomy', 12 July 2016, https://maxhaiven.com/2016/07/12/pokeconomy/.

OF MONEY?',[21] implying that it is entirely within the means of the academy to impart this godlike power. This organization, in turn, is linked to OneCoin, a cryptocurrency platform widely reported to be an elaborate scam (recently, authorities shut down a major annual convention for OneCoin users and investors in Macau, which had been advertised with images invoking Michelangelo's *The Creation of Adam* fresco to suggest a holy union between cryptocurrencies and capitalist riches).[22] Gibraltar-based OneCoin is headed by the guru-like figure of 'Dr. Ruja Ignatova,' and operates primarily by selling educational material in the form of digital pamphlets. These seem designed to indoctrinate users to esoteric belief-systems sustaining the proprietary trading platform and currency system, which essentially functions like a pyramid scheme.

A main shared characteristic of many blockchain-related 'academies' is that they are set up as temples rather than as educational institutions: they cultivate the assumption that users need to 'learn' about cryptocurrencies, a desire that is satisfied through various pagan catechisms of crypto-finance (usually paid-subscription informational material promising the privilege of joining an inner circle of initiates to become true disciplines). Importantly, this rarely includes detailed information about the underlying technologies themselves. The blockchain, the technology around which transactions revolve, is here posited as being so difficult to understand that it borders on the unknowable, again shifting blockchain-based applications towards the mystic. Just as church-going is supposed to give me access to the word of God, but no guarantee that I will ever really understand it, joining one of the many existing algomysticist cryptocoin cults is a choice to believe in a technology, rather than a serious attempt to understand it. It is in this sense that the text-based and visual rhetoric surrounding trading technologies and platforms reinforces and amplifies the lack of clarity, even where it is packaged in pseudo-explanations, and thus continues the algomysticism outlined above.

Some of Denny's work picks up on this kind of rhetoric, which is here referenced in a mock-documentary mode that emulates the mystifying and mystical attitudes already discussed. A central component of Denny's 2016 exhibition at Petzel Gallery was what the gallery PR text described as 'sculptural infographics';[23] while some of these infographics elevate Blockchain 'visionaries' like Ethereum founder Buterin into a mystical realm, others pull elusive fintech characters like Nakamoto into the real. Overall, this approach serves to reshape speculative content as content that appears documentary in nature, and the viewer's attention is drawn to the mystical dimension of the technology under discussion. A short video included in the project is a good example of this. The video summarizes technical features of the blockchain in a fashion that is reminiscent of TV infomercials. Against the visual background of a stylized globe of connected informational nodes floating through the cosmos, a voice-over narrative is delivered by a resonant male voice that might as well be talking about religion, the mysteries of the deep sea, or outer space: 'The blockchain is the truth. It is a system enabling each and every one of us to take part in the real, vast, marvelous ever-changing pattern of human interaction governed only by ourselves, enabled by a code belonging to

21 See https://www.facebook.com/OneCoinCryptocurrencyNow/.
22 See 'OneCoin Global Macau Event Prohibited by Chinese Authorities', *Behind MLM,* 28 April 2017, http://behindmlm.com/companies/onecoin/onecoin-global-macau-event-prohibited-by-chinese-authorities/.
23 See 'Simon Denny', *Petzel,* 8 September 2016, http://www.petzel.com/exhibitions/simon-denny3.

all, reflecting all.'[24] According to Denny, the purpose of the video was to 'explain the technology at a very basic level, but also to contextualize the explanation by being partly propaganda-like, including emphasizing some of the economic and ideological assumptions [underlying the blockchain] as a given.'[25] The result, however, much like the offerings of the pseudo-educational cryptocurrency academies discussed above, feels mantra-like rather than explanatory, catechistic rather than informative.

Non-Fintech fintech and the critical role of contemporary art

In a review in *The Guardian*, Denny has been described as a 'technology finance groupie' who makes 'fan art,' and who, in this project, uses the gallery as 'an altar to worship' important blockchain figures.[26] Denny has confirmed this perspective, for example by stating, 'I am a fan of the culture of entrepreneurship. An artist is also a business… The values associated with entrepreneurship seem very close to me. Highly motivated people with high-risk precarious ideas mixed with efficiency and metrics. What could be more beautiful?'[27] A question to volley back to the artist here might be something like the following: What, given this viewpoint, distinguishes the artist's perspective on the blockchain from the pseudo-educational scam pamphlets of OneCoin, or from the fantastical promises of companies like Bitcoin Golem? According to Denny, *Blockchain Future States* and *Blockchain Visionaries* are projects that want to inform viewers. But, as I have suggested above, the artist's approach of adopting reverential and mythologizing stances do little more than to aestheticize the blockchain while perpetuating vague narratives without producing critical insight around cryptocurrency issues. Denny has stated that for him, assuming the speculative position of 'what if' – 'what if we accept [technologies] on the terms they are publicized with, with the terms of the community that is presenting the ideas and building the infrastructure, what would the implications of that be?' — represents a critical position.[28] I am doubtful that adopting such a position can amount to an effective rhetorical strategy for 'opening up questions and discussions'[29] around blockchain-related technology and politics, or that it can convey the skepticism and inspire the open-mindedness towards which newcomers to emerging financial technologies should be guided.

Blockchain discourse in an algomysticist vein tends to overlook or ignore the need to engage the emerging technologies it is concerned with analytically, and with a critical awareness of socio-economic implications. Algomysticism espouses the benefits that we can supposedly derive from the technologies in question, and the harmony in which we can supposedly co-exist with them, without accepting the need to understand and critically interrogate these same technologies and the socio-political realities they produce. In mainstream contexts that follow profit-seeking angles, and that aim to exploit lacking knowledge of financial technologies, the mysticism enshrouding the blockchain is understandable. In these contexts, the rhetoric is strategic, designed

24 The video is embedded at http://www.e-flux.com/architecture/superhumanity/68703/blockchain-future-states/.

25 See Skinner, 'Blockchain Future States', p. 142.

26 See footnote 11.

27 See 'Artist SIMON DENNY is Shaping Berlin's Disruptive Startup Culture', *032c,* 31 January 2014, https://032c.com/2014/artist-simon-denny-is-shaping-berlins-disruptive-startup-culture/.

28 See Skinner, 'Blockchain Future States', p. 144.

29 Ibid.

to ensnare users in unpredictable, high-risk ‘investment’ activities. By contrast, art practices that engage emerging financial technologies have an opportunity — and, in my view, an obligation — to expose problems and explore alternatives. They must proceed tactically, cutting through the mystifying rhetoric of for-profit scams instead of emulating it. Experimental art practices have always functioned as laboratories in which the meanings, contours, and limits of emerging technologies can be discovered and challenged, and many fintech examples are available, such as Femke Herregraven’s work referenced above.

In a non-DLT context, the much-discussed work of the Robin Hood Coop, with its custom-designed algorithm that mimics the behavior of successful investment operations, comes to mind as a powerful (if contested) example of working through the critical implications of financial technologies.[30] Yes, it can be hard to understand how precisely the group’s ‘parasitical’ trading algorithm and ‘activist’ hedge fund can be framed as an art project. The point is that the Robin Hood Coop simultaneously is and isn’t art, and that the resulting contentions and contradictions open up extremely productive sites of critical thinking and critical practice. Despite its name, the Robin Hood Coop technically doesn’t steal anything, but benefits from the profitable, if ethically corrupt, capitalist investment strategies it copies; if this diminishes the project as an artwork, it certainly raises important and uncomfortable questions – on the one hand, about the technologies used, and, on the other, about the nature of critique itself, about system-conformity of the art world, and about the limits of radical creative practice.

What might such practices look like in the context of blockchain technologies? Undoubtedly, blockchain-based digital art has a great potential for similarly contentious, difficult, and effective critiques. Specifically, such art might be most powerfully poised to engage with questions of the value and valuation, uniqueness, ownability, and tradability of artworks — issues that commercial blockchain applications are also designed to tackle, openly and directly. The important thing is that such art practices must be positioned outside the mystifying rhetoric that is found, as discussed, in so many places. One way to achieve this might be to create works that don’t document, narrativize, or aestheticize the blockchain, but which, like the work of the Robin Hood Coop, produces subversive inflections and sites of critical debate through copying or mimicry. This would mean artworks that engages DLT productively, and that might shape what DLT can become because it is itself open to becoming DLT. In this sense, to use fintech does not necessarily mean to be fintech (see, again, the Robin Hood Coop).

Some of the most interesting artistic projects using emerging financial DLT do so in order to explore how the technology used can undermine aspects of traditional ownership structures (e.g., the ownership of artistic artifacts; ownership of the modes of production, circulation, and distribution of art; and control over the institution that (e-) valuate artistic output). Ultimately, this might help us think about the reconfiguration (or abandonment?) of these structures — something that conceptual art, for example, has attempted (and failed) to do for decades throughout the mid-20th century.[31] If we

30 See http://www.robinhoodcoop.org/.

31 Cf. Martin Zeilinger, ‘Everything You’ve Always Wanted to Know About the Blockchain* (*But Were Afraid to Ask Mel Ramsden)’, in *Artists Re:Thinking the Blockchain*, op. cit., pp. 287-296.

take the blockchain seriously as a substrate for critical art-making, then this calls for an art that engages with the technology rigorously and critically in order to explore and expose its capabilities, limits, and potential dangers. One form this is already beginning to take is that of self-owning artworks, such as *Plantoid* (2015) and *terra0* (2016), both of which were featured in the recent Furtherfield exhibition 'New World Order'.[32] *Plantoid* has been discussed extensively in critical and creative communities over the past years; it is a blockchain-based sculpture capable of managing its own existence by controlling its wealth as represented in Bitcoins, and using this capital to commission additional copies of itself, which are then again sold, allowing the artwork to expand and grow. Following a similar principle, *terra0* is a self-owning and self-managing forest designed to manage its own existence and growth in a sustainable fashion. Both works are — and are not — fintech. Engaging with these works is instructive with regard to the functionality of the underlying technologies. But ultimately, they also open up broader and more far-reaching avenues of inquiry. They help us rethink the blockchain, and, more generally, force us to reconsider the nature of the work of art in the age of DLT. A serious engagement of the issues raised by works such as *terra0*, and its highly rigorous non-mythologizing engagement with DLT, will yield a new perspective on the role of the artist in relation to the work, and a new agency of art in the world. This is not simply about decoupling art from its institutions and its markets (or empowering it with regard to them). Rather, what could emerge out of this exploration is a blockchain-based art that is — precisely thanks to its direct engagement with financial technologies — not merely a financial technology. While the blockchain can thus certainly serve to financialize art,[33] by contrast it might also serve to make it unfinancializable. This might serve to cut the corruptible, biased, greedy, selfish human out of the transactional equation — after all, to eliminate financial institutions as inevitable middlemen was, we must remember, the original promise of the blockchain. Contemporary art that engages meaningfully with the blockchain, then, should be inevitably orientated towards a radical emancipation of the artwork, and an exploration of a new kind of agency that the artwork can have *vis a vis* the artist. With this, contemporary art can perhaps return to operating in a utopian mode, shifting into activist work in numerous ways. As a kind of emergent non-fintech fintech, this is no doubt preferable to the algomysticism discussed above.

References

'Artist SIMON DENNY is Shaping Berlin's Disruptive Startup Culture', *032c,* 31 January 2014, https://032c.com/2014/artist-simon-denny-is-shaping-berlins-disruptive-startup-culture/.

Bars, Paul. 'Magic Internet Money: How a Reddit Ad Made Bitcoin Hit $1000 and Inspired South Park's Art Department', 18 February 2013, https://medium.com/@paulbars/magic-internet-money-how-a-reddit-ad-made-bitcoin-hit-1000-and-inspired-south-parks-art-b414ec7a5598.

Bürger, Peter. *Theory of the Avant-Garde*, Minneapolis, MN: Univ. of Minnesota Press, 1984.

Denny, Simon. 'Face the Market on Your Own', *Texte Zur Kunst* 106 (2017).

Frost, John. 'Interview With Vitalik Buterin About Next Generation For Cryptocurrencies', *The Coin Telegraph*, 8 December 2015, https://cointelegraph.com/news/interview-with-vitalik-buterin-about-next-generation-for-cryptocurrencies.

Haiven, Max. 'Coming of Age in the Financialized Pokéconomy', 12 July 2016, https://maxhaiven.

32 See http://furtherfield.org/programmes/exhibition/new-world-order.

33 Cf. Martin Zeilinger, 'Digital Art as "Monetised Graphics": Enforcing Intellectual Property on the Blockchain', *Philosophy & Technology* (2016), https://link.springer.com/article/10.1007/s13347-016-0243-1.

com/2016/07/12/pokeconomy/.
Kaminska, Isabella. 'Blockchain as Gosplan 2.0', *Berlin Biennale*, http://bb9.berlinbiennale.de/blockchain-as-gosplan-2-0/.
'OneCoin Global Macau Event Prohibited by Chinese Authorities', *Behind MLM,* 28 April 2017, http://behindmlm.com/companies/onecoin/onecoin-global-macau-event-prohibited-by-chinese-authorities/.
Sayej, Nadja. 'Simon Denny: The Artist Explaining Blockchain with Pokémon,' *The Guardian*, 26 August 2016, https://www.theguardian.com/artanddesign/2016/aug/26/simon-denny-artist-blockchain-pokemon.
Segal, Howard. 'The Technological Utopians', in Joseph Corn (ed.), *Imagining Tomorrow: History, Technology and The American Future*, Cambridge, MA: MIT Press, 1986.
'Simon Denny', *Petzel,* 8 September 2016, http://www.petzel.com/exhibitions/simon-denny3.
Skinner, Sam. 'Blockchain Future States – An Interview with Simon Denny', in Ruth Catlow, Marc Garrett, Nathan Jones, and Sam Skinner (eds), *Artists Re:Thinking the Blockchain*, London: Torque Editions & Furtherfield, 2017.
Tripathi, Ajit. 'A $2,000 Bitcoin (and 9 Other 2017 Blockchain Predictions)', *Coin Desk*, 4 January 2017, https://www.coindesk.com/2000-bitcoin-9-2017-blockchain-predictions/.
Weiner, Andrew. 'Simon Denny's "Blockchain Future States"', *Art Agenda,* 25 October 2016, http://www.art-agenda.com/reviews/simon-dennys-blockchain-future-states/.
Zeilinger, Martin. 'Digital Art as "Monetised Graphics": Enforcing Intellectual Property on the Blockchain', *Philosophy & Technology* (2016), https://link.springer.com/article/10.1007/s13347-016-0243-1.
_____. 'Everything You've Always Wanted to Know About the Blockchain* (*But Were Afraid to Ask Mel Ramsden)', in Ruth Catlow, Marc Garrett, Nathan Jones, and Sam Skinner (eds), *Artists Re:Thinking the Blockchain*, London: Torque Editions & Furtherfield, 2017.

FINANCIALIZATION AS A MEDIUM: SPECULATIVE NOTES ON POST-BLOCKCHAIN ART

LAURA LOTTI

FINANCIALIZATION AS A MEDIUM: SPECULATIVE NOTES ON POST-BLOCKCHAIN ART

LAURA LOTTI

There are two art markets today. One is still regulated by a hierarchy of values, even if these are already of a speculative kind. The other resembles nothing so much as floating and uncontrollable capital in the financial market: it is pure speculation, movement for movement's sake, with no apparent purpose other than to defy the law of value. This second market has much in common with poker or potlatch — it is a kind of space opera in the hyperspace of value. Should we be scandalized? No. There is nothing immoral here. Just as present-day art is beyond beautiful and ugly, the market, for its part, is beyond good and evil
—Jean Baudrillard.[1]

Art is produced as a commodity, it doesn't become one when it is sold
—João Enxuto and Erica Love.[2]

Introduction

With the changing funding paradigm for the arts in neoliberal economies, which is increasingly a prerogative of private institutions and corporations, the relation between art and finance has acquired growing prominence within art discourses and practices.[3] Beginning in the 1960s when the first large professional investors entered the realm of art investment, the financialization of art is not a new phenomenon. However, in the last decade it has displayed unprecedented levels of professionalization, standardization, and 'scientization of art investment',[4] aiming to turn art into a tool for portfolio diversification and inflation hedging. In other words, financialization has turned art into an asset, commensurable to any other tradable commodity. This has encountered a mix

1 Jean Baudrillard, *The Transparency of Evil: Essays on Extreme Phenomena*, trans. James Benedict, London: Verso, 1993, pp. 18–19.

2 João Enxuto and Erica Love, 'Institute for Southern Contemporary Art,' *The Original Copy*, 2016, http://theoriginalcopy.net/isca/.

3 For instance, in May 2017, Donald Trump's 2018 budget proposed to eliminate altogether the National Endowment to the Arts, as part of a dramatic cut to federal funding. Eileen Kinsella, 'Trump Budget Proposes to Eliminate the NEA', *Artnet News*, 23 May 2017, https://news.artnet.com/art-world/trump-budget-proposes-steep-cuts-to-arts-funding-969641. In Australia the number of grants to individual artists has decreased by a stunning 70% since the 2013-14 financial year – a trend, which has been maintained in the 2016-17 Federal Budget. Alison Croggon, 'The 70% Drop in Australia Council Grants for Individual Artists is Staggering', *The Guardian*, 18 May 2016, http://www.theguardian.com/culture/2016/may/19/the-70-drop-australia-council-grants-artists-funding-cuts. Suhail Malik and Andrea Phillips characterize this shift as the passage from an ethos of 'public care' to one of private 'love of art,' which today drives the dynamics in art market prices. Suhail Malik and Andrea Phillips, 'Tainted Love: Art's Ethos and Capitalization', in Maria Lind and Olav Velthuis (eds), *Art and Its Commercial Markets: A Report on Current Changes and with Scenarios for the Future*, Berlin: Sternberg Press, 2012, pp. 209–40.

4 For a thorough overview of the historical progression of the financialization of art, see Olav Velthuis and Erica Coslor, 'The Financialization of Art', in Karin Knorr Cetina and Alex Preda (eds), *The Oxford Handbook of the Sociology of Finance*, Oxford: Oxford University Press, 2012.

of resistance and fascination by the art community and a new level of awareness with regard to the extent to which market dynamics bleed into the fabrics of the art milieu. This is because the art asset perfectly illustrates the tensions within the current logic of financialization in relation to the socio-cultural sphere. On the one hand, it exposes the inner limits of market valuation methods that, through processes of quantification, standardization and commensuration, aim to flatten the heterogeneity of cultural and aesthetic values onto the metric of price — without, however, subsuming them entirely.[5] On the other hand, it emphasizes the 'derivative' condition of contemporary art in computationally mediated culture, which today is valued, both socially and economically, according to algorithmic rules that map well onto the logic of derivative markets.[6]

Acknowledging art's entanglement with private financial interests, artists and cultural practitioners have begun exploring the new affordances[7] provided by blockchain technology and crypto-tokens in order to propose alternatives to the current paradigm. Tokens are an intrinsic component of the disintermediated logic of the blockchain architecture, enabling the creation and transmission of programmable units of value in a peer-to-peer way. As I will explain in more depth below, in token-based networks every blockchain-mediated *interaction* corresponds to a *transaction* that occurs outside of established financial markets, portending a shift toward an even more ubiquitous financialization of everything through blockchain. However, as recent art projects make clear (such as the ones I will discuss below — *BitchCoin* and *terra0*), this also ushers in new social and financial possibilities for the art field and, more broadly, for any endeavor seeking autonomy from the contemporary financial ecosystem through creativity and invention.

Taking seriously the promise (and dangers) of tokenization, and envisioning a blockchain-based future in which financialization through tokens becomes seamlessly integrated into the fabrics of everyday life, this essay asks: given the relevance of post-internet art in foregrounding the aesthetic and operational dimensions of the derivative condition of contemporary art in current networked culture, what would a 'post-blockchain' future for art actually look like? By which I mean: what would it mean for art to rely on blockchain technology (instead of the current internet stack) for its process of

5 This is due to the very nature of the art object – an illiquid and costly commodity (in terms of storage and insurance expenses) in an unregulated and opaque financial environment. See Clare McAndrew (ed.), *Fine Art and High Finance: Expert Advice on the Economics of Ownership,* New York, NY: Bloomberg Press, 2010.

6 I discussed this, through a slightly different approach, in Laura Lotti, 'Contemporary Art, Capitalization and the Blockchain: On the Autonomy and Automation of Art's Value', *Finance and Society* 2.2 (19 December 2016): 96–110.

7 Affordance is a working term for me that relates to the propositional character of things and objects and the potentials they yield for shaping new uses and behavioral patterns through their forms and operations. It is a concept used in several disciplines such as psychology, human-computer interaction, industrial design and anthropology. In Don Norman, *The Design of Everyday Things*, New York, NY: Basic Books, 2002 [1988], p. 9, one of the seminal texts in interaction design, Norman defines affordances as 'the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used.' Furthermore, he observes that the affordances of objects 'convey messages about their possible uses, actions, and functions' (p. 82). In this case, I use the term to convey the new social and economic possibilities introduced by digital objects such as blockchains and tokens through their use and modes of operations, inflecting perceptions and behaviors.

production and circulation? What tendencies would it harbor and how could they be leveraged for art's autonomy? Given the embryonic development of the crypto-ecosystem, this question may sound premature. However, as blockchain is increasingly capturing the imagination of artists, technologists, and capitalists alike, it becomes crucial for the art field to start engaging, through the technology itself, with the possibility of a post-blockchain art. As *BitchCoin* and *terra0* show, only by acknowledging the inherently financialized nature of the art asset and its embeddedness in a network of social and financial relations, art can be at the forefront of new modes of organizing toward one possible future, as foreshadowed by these new technologies. As such, these notes embrace the speculative nature of what they unashamedly propose: a vision for a future in which financialization becomes an art form *and* a propelling force for autonomous projects, thanks to the affordances introduced by blockchain technology.

Derivative Art and the Promise of Blockchain Technology

Lying at the junction between the new affordances provided by networked technology and financialization, 'post-internet art,' as a now historicized style, corresponds to the aesthetics that made explicit the new derivative condition of the art milieu. Arising in the aftermath of the Global Financial Crisis, post-internet art grappled with the changing conditions of production and circulation of the art object — from material and labor-intensive, to unabashedly dematerialized and fluidified — exposing the contradictions inherent in contemporary art's 'informational milieu'.[8] Post-internet artists acknowledged the increasing reliance by the field on social media's algorithmic mode of parsing, ordering and matching data as indices of relations, to evaluate what is considered art and how much it can be worth. Furthermore, they denounced the fact that this automated mode of ordering neutralizes art's critical thrust through homeostazising feedback loops, revealing the limits of representation as a mode of critique in digital environments. Ben Vickers, in conversation with Brad Troemel and Artie Vierkant, poses the problem well in relation to Facebook's newsfeed logic: 'Hidden from the sight of users, a generative system has been developed to mine the implicit and explicit actions of millions of users globally […] condemning the user to experience all social relations through the lens of Facebook's financially weighted algorithms'.[9] Vickers' observation well encapsulates post-internet art's inherently 'derivative' condition: analogously to a financial instrument, it fluctuates according to the relationality of its own field of operation without ever touching the ground of the underlying reality it is supposed to be embedded in.[10]

This is because the reach of financialization into the arts cannot be thought apart from the digital networked platforms that provide the substrate and infrastructural reality

8 Curator Ceci Moss defines art's informational milieu as the 'dynamic process of exchange among artist, artwork, and network' made possible by today's networked culture, which encompasses cultural and technical, but also institutional and financial relations. Ceci Moss, 'Expanded Internet Art and the Informational Milieu', *Rhizome*, 19 December 2013, http://rhizome.org/editorial/2013/dec/19/expanded-internet-art-and-informational-milieu/.

9 Brad Troemel, Artie Vierkant, and Ben Vickers, 'Club Kids: The Social Life of Artists on Facebook', *DIS Magazine*, 2012, http://dismagazine.com/discussion/29786/club-kids-the-social-life-of-artists-on-facebook/.

10 For a brilliant exposition of the relational nature of the derivative form see Melinda Cooper, 'Turbulent Worlds: Financial Markets and Environmental Crisis', *Theory, Culture & Society* 27.2–3 (2010): 167–90.

upon which social, cultural and economic value is produced, distributed and harvested in the current paradigm.[11] This paradigm is coextensive with the World Wide Web infrastructure, in which value is generated through the freely available communicative affordances of the protocol layer (such as TCP/IP, HTTP, SMTP). However, such value is immediately captured and re-aggregated as tradable data at the application layer through the centralized ownership of information by a few tech giants (e.g. Google, Facebook, Amazon, etc.).[12] In this context, what counts as art becomes evaluated through the discretization, automation and commodification of informational interactive processes (e.g., relations between artists-artworks-networks) at the application layer. While standing for ‘appreciation’ (in the form of likes, retweets, tags, shares, etc.), these informational processes also drive the valuation methods at the heart of the art market, as they are also being monetized in the reputation and attention economy – and from which it seems impossible to disentangle. This exposes the complexities of the logic of financialization and its inherently networked nature, based on specific ways in which notions of value, logic, meaning, and governance are woven in the computational architecture that creates and sustains the current system of power.

In order to break away from the entanglement with market logic, artists have started exploring the possibilities of blockchain technology and its promise of peer-to-peer disintermediated value creation and transmission as a way to move beyond the financialization of art. While a technical discussion of the blockchain protocol is beyond the scope of this essay, my goal here is to foreground the new kinds of financial (but also social and aesthetic) possibilities that this particular data structure opens up for how value is generated and distributed in digital networks — foreshadowing ‘the dawn of the decentralized business model’.[13] This is made possible by so-called tokens. Broadly speaking, tokens are peer-to-peer coded units of value that can not only represent cryptocurrency, but also any other kind of digital assets (that is, any digital representation of tradable commodities, from physical objects such as gold, to computing power and cloud storage space) — and specifically those assets that back the value of the tokens themselves. While Bitcoin’s tokens ended the taboo on money’[14] by allowing for the first time the disintermediated generation and transmission of value in a peer-to-peer network, Ethereum’s tokens enable the transmission of specific rights

11 On the relation between social and financial dynamics, as they are mediated through current networks, see also: Adam Arvidsson, ‘Facebook and Finance: On the Social Logic of the Derivative’, *Theory, Culture & Society* 33.6 (1 November 2016): 3–23.

12 Joel Monégro, ‘Fat Protocols’, *Union Square Ventures*, 8 August 2016, http://www.usv.com/blog/fat-protocols. Frank Pasquale has brilliantly illustrated the extent of the personal data market and data brokerage for advertising, financial, and surveillance purposes in: Frank Pasquale, *The Black Box Society: The Secret Algorithms That Control Money and Information,* Cambridge, MA: Harvard University Press, 2015; see also: Frank Pasquale, ‘The Dark Market for Personal Data’, *The New York Times*, 16 October 2014, http://www.nytimes.com/2014/10/17/opinion/the-dark-market-for-personal-data.html.

13 Fred Ehrsam, ‘Blockchain Tokens and the Dawn of the Decentralized Business Model’, *The Coinbase Blog*, 1 August 2016, https://blog.coinbase.com/app-coins-and-the-dawn-of-the-decentralized-business-model-8b8c951e734f#.zd6jf0ut9.

14 Denis Roio, ‘Bitcoin, the End of the Taboo on Money’, 6 April 2013, http://www.dyndy.net/2013/04/bitcoin-ends-the-taboo-on-money/.

in peer-to-peer, programmable and automated ways thanks to smart contracts.[15] Fundamentally different from legal contracts,[16] smart contracts are coded protocols (also called protocol tokens) whose logic and rules of self-execution are enforced through the underlying blockchain, in a way that is entirely automated and independent from the established financial system. By contrast, decentralized applications (dApps) tokens represent assets that exist decoupled from a blockchain. These assets could be fiat currency, gold, internet of things devices, and, as will be made clear, new types of assets such as art production itself, expressing the potential for appreciation inherent in such endeavors. Protocol tokens and dApps tokens together are the foundational tools for the construction of the new decentralized ecosystems on top of blockchain technology.[17] Given the high level of programmability afforded by Ethereum's smart contracts, each token's properties and functionalities can be tuned in accordance to its intended use (in terms of supply, issuance, inflation rate, economic logic, usage, etc.) For instance, tokens can be used to access a network, as reward for contributions to the said network, or as a means for decentralized governance within an organization.

Tokens are often issued to the public either through mining (that is, generated through computational processes, as in the case of Bitcoin and Ethereum) or by participating in new types of crowdsales — also called Initial Coin Offerings (ICOs). Similar to the more mainstream Initial Public Offerings, in which private companies issue their own stocks to the public market, Initial Coin Offerings are decentralized forms of equity crowdfunding in which small-sized projects self-issue, or offer, tokens on the market as representations of the future utility and value provided by their project in potential, in order to fund themselves by creating equity relationships with the participants in the offering. For these reasons, the ICO funding model has been defined by insiders as a 'Kickstarter on steroid',[18] exploding the range of social and financial possibilities for small communities and individuals, and threatening to disrupt the traditional funding paradigm in the startup ecosystem. This new possibility is evidenced by the surge in high-profile Ethereum-based Initial Coin Offerings, recently surpassing venture capitalists funding, and resulting in the market capitalization of all cryptocurrencies eclipsing $175 billion.[19]

---

15 This is because Ethereum is a 'universal machine', in that it is able to compute any problem that a single Turing machine can process. In order to do so, Ethereum replaces Bitcoin's blockchain with its own infrastructure.

16 Josh Stark, 'Making Sense of Blockchain Smart Contracts', *CoinDesk*, 4 June 2016, http://www.coindesk.com/making-sense-smart-contracts/.

17 Melon, 'The Difference Between Protocol Tokens and Traditional Asset Tokens', *Medium*, 20 April 2017, https://medium.com/melonport-blog/the-difference-between-protocol-tokens-and-traditional-asset-tokens-89e0a9dcf4d1; Albert Wenger, 'Crypto Tokens and the Coming Age of Protocol Innovation', *Continuations*, 28 July 2016, http://continuations.com/post/148098927445/crypto-tokens-and-the-coming-age-of-protocol.

18 Balaji S. Srinivasan, 'Thoughts on Tokens', *news.21.co*, 27 May 2017, https://news.21.co/thoughts-on-tokens-436109aabcbe.

19 Josiah Wilmoth, '$175 Billion: Record Bitcoin Price Lifts Crypto Market Cap to New Heights', *CryptoCoinsNews*, 1 September 2017, https://www.cryptocoinsnews.com/175-billion-record-bitcoin-price-lifts-crypto-market-cap-new-heights/; Alex Sunnarborg, 'ICO Investments Pass VC Funding in Blockchain Market First,' CoinDesk, 9 June 2017, http://www.coindesk.com/ico-investments-pass-vc-funding-in-blockchain-market-first/.

As crypto-enthusiasts praise the new capabilities introduced by tokens, amidst the pronounced volatility within the ecosystem,[20] several voices from art and cultural theory have opposed the incipient tokenization of everything by means of blockchain, since it exacerbates the logic of financialization by assuming it as the very basis of token-based economies. For instance, media artist and technologist Salvatore Iaconesi rightly observes that technologies such as blockchain and tokens are 'powerful agents towards the "transactionalization of life"',[21] and that their uncritical adoption risks dissolving the fabrics of society into the algorithmic mesh that will eventually sustain our blockchained, financialized existences. Rather than dismissing altogether the novelty of blockchain technology and crypto-tokens, however, here I want to propose that tokenization — as a new, peer-to-peer, socio-financial practice — opens up important new avenues for experimentation toward the autonomy of art, and the cultural sphere at large, from the extractive logic of financial markets; and, for this reason, it needs to be reckoned with in concrete ways. In the next section I discuss two artworks, *BitchCoin* and *terra0*, that illustrate different strategies through which artists today can leverage art's derivative condition, by cunningly reappropriating and *reprogramming* the means of financialization thanks to blockchain-based tokens. As post-internet became the aesthetic of the new cultural-financial configuration for contemporary art — as doubly derivative, of both economic and computational valuation processes underlying today's art informational milieu — these projects gesture toward a post-blockchain horizon, in which art embraces its inherently economic status and role and, in so doing, finds novel ways to leverage it through decentralized modes of organization.

***BitchCoin* and *terra0*: Tokenization as an Art Form**

Among the several art projects that currently engage with blockchain technology, two stand out for the ways in which they cleverly experiment with the new socio-financial affordances that tokens open up for 'self-financialization,' enabling artists to express and harvest the value of their own work in unprecedented ways. These are Sarah Meyohas' *BitchCoin* (2016) and Paul Seidler, Paul Kolling, and Max Hampshire's *terra0* (2016): the first highlights the peculiar nature of crypto-tokens, introducing new social, financial and aesthetic possibilities; the latter emphasizes the ecological — as in, the relational or ecosystemic — dimension of token-based economies. In so doing, both projects exemplify some of the new opportunities that tokens open up for artistic experiments with the medium of finance itself, expressing in a non-reductive way the economic status of heterogeneous value forms such as art, which has to be accounted on its own terms.

Loosely based on the model of Bitcoin, BitchCoin is a cryptocurrency backed by the artist's photography. Like Bitcoin, BitchCoin relies on a public blockchain. Like Bitcoin, furthermore, BitchCoin is mined, though in the case of BitchCoin, the tokens have been pre-mined in the gallery by the artist. Each coin costs $100 and gives access to 25 inches of photographic print by Meyohas, in perpetuity, including all her current and

20 Trent McConaghy, 'Tokenize the Enterprise', *The BigchainDB Blog*, 6 June 2017, https://blog.bigchaindb.com/tokenize-the-enterprise-23d51bafb536; Fred Ehrsam, 'Blockchain Tokens and the Dawn of the Decentralized Business Model'; Albert Wenger, 'Crypto Tokens and the Coming Age of Protocol Innovation'.

21 Salvatore Iaconesi, 'The Financialization of Life', *Startups & Venture Capital*, 3 September 2017, https://startupsventurecapital.com/the-financialization-of-life-a90fe2cb839f.

future works. Aptly launched in the context of an exhibition investigating prediction, BitchCoin is a peculiar kind of token: it serves as an art-backed currency — that is, a kind of commodity money that is backed by commodifying precisely the process of art production itself. In this sense, BitchCoin emphasizes the least discussed aspect of crypto-tokens — neither as a form of electronic cash as Bitcoin has originally been defined by its inventor(s), nor 'digital gold' as the libertarian fringe thinks about them, but as a form of liquid equity stakes in a common project. Importantly, here I understand equity not in strictly financial terms, as stocks or shares, but more generally as an economic relation based on mutual stakeholding, in which both parties share the risks, but also the upside, of their cooperation.[22] In this view, BitchCoin is a token that gives access to the future value of the artist's work, while also being freely exchangeable for its current market value.

Emphasizing the role of the artist as producer of cultural value and engaging with the audience as investors, BitchCoin sets up a new model that enables collectors to invest directly in the future success of the artist's career, while also giving Meyohas 'a stake in the supply, demand, and price of her own work'.[23] In this sense, BitchCoin is also a speculative device on its own terms, allowing investors and collectors to become stakeholders in the artist's career, but also to bet on her future success. From this standpoint, in contrast with the traditional view of the art object as a store of value,[24] BitchCoin gestures toward the programmability that tokens afford, by allowing the artist to account for art as a 'liquid commodity' that is constantly generative of value – not only in the moment in which it is transacted in financial markets as a finite product but from the moment in which it is produced. This realization is crucial to an understanding of the financialized character of contemporary art. Furthermore, it opens up new possibilities for artists to achieve autonomy from art's underlying institutional-financial milieu by experimenting with the emergent affordances for disintermediated value transmission provided by blockchains.

By assuming art's place in a socio-cultural milieu rife with economic interests, the project provides an unconventional yet immediately operative approach to the entanglement between art and markets. Acknowledging the inherently financialized nature of the art object, manifested in the commoditized (that is, tokenized) form of the art process of production, and affirming the role of the artist as cultural producer, BitchCoin embraces art's derivative condition and leverages it, by taking control over the means of financialization *through* her own art. This is illustrated by the ritualized launch of *BitchCoin* on the market during the opening of her exhibition, which resembles, and even predates, the already mentioned Initial Coin Offerings. By enabling the artist to 'self-issue' her own tokens as indices of her artistic and cultural value, BitchCoin is about Meyohas financializing her own art process through the logic inherent in Bitcoin, and in so doing, creating a new milieu comprised of equity stakeholding in her own work — an emergent new space of possibilities for the artist and her supporters.

---

22 For a discussion of equity relations see: Robin Hood Cooperative, 'Equity, Options, Assemblage: Robin Hood 2.0', *Future Art Base,* 1 May 2015, https://speculativematerialism.files.wordpress.com/2015/06/robin-hood-grey-paper-april-2015.pdf.

23 'Where 6: "Prediction," with Sarah Meyohas', *Wherecam Tumblr,* http://wherecontainer.tumblr.com/post/110308568730/where-6-prediction-with-sarah-meyohas-bitch.

24 Velthuis and Coslor, 'The Financialization of Art'.

As BitchCoin experiments with the affordances of crypto-tokens for artists' self-financialization, *terra0* takes this logic one step further and emphasizes the ecological dimension of token-based economies that, thanks to the new possibilities for incentive alignments and automated coordination introduced by smart contracts, show potential for the bootstrapping of new ecosystems of value. Initiated by Paul Seidler, Paul Kolling and Max Hampshire, *terra0* is an augmented, self-owned forest in which self-governance is powered through the capacity of the forest to issue its own tokens based on the Ethereum blockchain. The project starts from an understanding of art as an 'autonomously acting, self-sufficient economic unit'[25] and aims to create an artwork that is also a fully autonomous 'piece of capital'.[26] In so doing, it explicitly plays with self-financialization by enabling a forest to turn, from a passive object of economic exploitation, to an active agent in the self-utilization of its own resources, for its own benefit, so that it can eventually buy itself.

terra0 essentially consists of a decentralized application built on top of Ethereum. Through smart contracts, the application automates the management of the forest's resources, enabling it to self-utilize its own value with a combination of sensors, open data oracles, and AI bots. terra0 illustrates well the paradigmatic shift that blockchain-based token economies have introduced in terms of how networked value is generated and circulated, enabling for the first time a programmable financial engine for decentralized projects. In the economic logic of the system, the forest obtains legal ownership over itself from its initial stakeholders, therefore it is autonomous, yet indebted to the initiators of the project who purchased the land. In order to buy itself out, terra0 launches an Initial Coin Offering on Ethereum, offering tokens that represent the future returns of the sales of its wood. Leveraging the decentralized stakeholding enabled by the Ethereum blockchain, in terms of potential for governance and value distribution, terra0 is a software application that, by accepting Ether to run its contract, directly supports the development of the infrastructure, which in turn provides reliable services for the flourishing of the application layer, to the benefit of the whole ecosystem. 'This is where the phenomenon goes beyond just a new way of raising money' writes Fred Ehrsam, co-founder of Coinbase, one of the most renowned wallet and exchange platforms for cryptocurrencies. 'It is projects *creating their own economic ecosystems* to make the entire thing tick'.[27] In other words, by adopting a tokenized — that is, networked, decentralized, and financialized — approach to its own management and utilization, terra0 opens up a new funding paradigm for itself, as art, which belongs neither to the public nor to the private institutional milieu. Instead this emerges through participation in a common project – that is, through the network of tokenized stakeholding relationships that enable token holders to become invested in the value system that backs the project's offer: the possibility of the realization of an autonomous (that is, self-owning and self-managing) forest.

25 Paul Seidler, Paul Kolling, and Max Hampshire, 'terra0', *GitBook*, 2016, http://book.terra0.org/; see also: Leila Ueberschlag, 'Terra0: The Self-Owning Augmented Forest', *Institute of Network Cultures*, 29 September 2016, http://networkcultures.org/moneylab/2016/09/29/terra0-the-self-owning-augmented-forest/.

26 Ueberschlag, 'Terra0'.

27 Ehrsam, 'Blockchain Tokens and the Dawn of the Decentralized Business Model', emphasis added.

Moreover, by exposing the multidimensionality of property rights as legal, economic, and social operators of subjectivation and power relations, terra0 underscores the challenges that peer-to-peer automated technologies pose to received notions of ownership, personhood and autonomy in a post-blockchain near future. It does so, not only in the self-management of capital, but also in the very definition of agency and autonomy — in both artistic and economic terms — hinting toward a post-human future in which heterogeneous processes generative of value, such as ecosystemic services, as well as art, can be tokenized, automatized and cross-bound in very concrete ways. While the project stops at the case of the forest managing its own resources, in a not too distant future, financialization through programmable tokens may allow the forest to trade itself on the market for natural capital, autonomously entertaining financial, social and legal relations with NGOs, governmental institutions, corporations and local communities. The forest may even be able to crowdsource the development and maintenance of its software to open source communities through bounty offers set up by AI bots. Moving forward, the autonomous AI-powered forest could even short on financial markets the very corporations encroaching upon it and destroying its integrity — ultimately collapsing the boundaries between art, ecology, economy, and politics.

*

Both works prefigure the possibility for artists to harness financial logic in order to concretely inflect dynamics in the contemporary art market at large. They do so by revealing and instrumentalizing the multifaceted and decentralized nature of cryptographic tokens — part commodity money, part currency, part equity, part unit of distributed governance — in order to create minimal, programmable protocols for interaction in a peer-to-peer network on the basis of a mutually acknowledged value system. In the cases discussed above, these value systems are an artist's career and a forest's self-management, respectively. Specifically, BitchCoin allows for the disintermediation and distribution of the process of valuation of Meyohas' own current and future art production, which is issued directly to her audience in the form of tokens backed by said value in potential. terra0 takes this logic to an ecosystemic level, by complementing self-issuance with the practice of self-utilization; in this way, the project gestures toward new ways in which artists can automate and autonomize their art's value by tokenizing it — that is, by distributing their potential yield through programmable equity stakes, enabling the ecosystemic circulation of art in autonomous ways. These two strategies — self-issuance (the capability for artists to issue their own value) and self-utilization (the possibility to automate and transparently manage the allocation and circulation of the value of one's art) — are crucial to a project of art's bootstrapping from its underlying techno-financial substrate, precisely by appropriating and reprogramming the current logic of financial derivatives.

Like derivatives, tokens are speculative instruments in that they are abstract protocols that represent 'a claim over event worlds that have yet to actualize in space and time'.[28] At the same time, in virtue of their abstract nature, derivatives are inherently relational; they operate, at a very concrete level, by way of a 'power of potentiation through connection, the power to liquefy and freeze relations, to potentialize and depotentialize

28 Cooper, 'Turbulent Worlds', p. 179.

connections, and thus to shape (and be shaped by) the possibilities of movement of everyday life'.[29] In contrast to the current derivative form, however, blockchain tokens are effectively able to encode, and account for, singular kinds of value systems without flattening them onto the only metric that drives contemporary finance: price. Tokens do so by providing an index to express the value backing each particular *kind* of initial offering to the market, and inscribing it on the distributed ledger of the blockchain — which is precisely what Meyohas' BitchCoin does by providing a unit of expression and distribution for the future value of the artist's photography. Furthermore, tokens extend the derivative's networked, relational and event-making character by making it peer-to-peer and open source. In so doing, they enable users (artists, startups, autonomists) to program the kinds of social and economic relations informing the emergence of an ecosystem, autonomously from the world of global finance. In this way, tokens unleash derivatives' future-building potential and organizational affordances for the benefit of the inventors of, and participants in, such new socio-financial forms. By issuing the artist's own value in the form of art-backed crypto-tokens, and by setting specific economic protocols for the forest's self-management, respectively, both BitchCoin and terra0 are able to subject audience, collectors, and galleries to *each's* own economic logics, and not vice versa. In this way, both BitchCoin and terra0 seed a post-blockchain future in which leveraging financialization, through the issuance of one's own value system and encoding of one's own economic logic for self-utilization, opens up new horizons for the creation of autonomous milieus.

Toward a Post-Blockchain Art: From Money Making to Making Offers

BitchCoin and terra0 potentiate the financialized character of the art object and process — as fluid and inherently networked — by disintermediating and reprogramming it through blockchain technology and the new affordances provided by smart contracts. Specifically, BitchCoin hints to the multidimensionality of tokens, as they are capable of expressing heterogeneous forms of value and sharing them as such; terra0 illustrates the full extent of the new decentralized ecosystem that artists — and any autonomist projects — can build (and participate in) through token-based economies. In so doing, they provide a glimpse of a post-blockchain future perhaps not too far away, in which tokenization, and the new affordances it provides in terms of self-issuance and self-utilization, becomes the condition for art's autonomy through automated smart contracts. As post-internet became the aesthetics of the derivative condition of contemporary art, the post-blockchain horizon for art has to assume its inherently economic status but also move beyond the limitations of the current paradigm. As BitchCoin shows, tokens explode the traditional money form by enabling it to account for a generative process such as art. They do so by providing the means to open a temporal horizon that gives unlimited access to the artist's own appreciating value, thereby enabling the emergence of new relational possibilities for her and her stakeholders. terra0 extends this logic by inscribing the practices of self-issuance and self-utilization within a network that enables the crystallization of an ecosystem around the common project of allowing a forest to own itself. By experimenting with the design and logic of token-based economies, both works exemplify how artists can use finance as a creative tool, leveraging the new affordances of blockchain-based tokens, in order to distribute the kinds of social, cultural, aesthetic, and ecological values that are not accounted for in the current financial paradigm.

29 Cooper, 'Turbulent Worlds'.

As a crucial difference from the post-internet era of art, which limited itself to unveiling the changing nature of the art object and its fluid conditions of production and circulation, both BitchCoin and terra0 open onto a post-blockchain future. It is one that reckons with the nature of the art object as a commodity that is tokenizable from the process of production, which can then appreciate in value according to the networked effort of artists, artworks and audiences in the art informational milieu. In other words, both projects illustrate that the challenge for artists seeking autonomy from the current extractive-computational paradigm has to be played at both the ‘derivative’ level (that of self-issuance and valuation) and at the ‘infrastructural’ level (that of organizational platform). In so doing, rather than simply exposing the derivative condition of the art object and process under planetary computation, both projects assume it as a starting point from which to manipulate the deeper fabrics of the art milieu through the programmability and openness of blockchain technology — using financialization as a medium to program, through tokens, new informational milieus and organizational formations for themselves.

As such, the post-blockchain horizon for art is not just about expressing the art of *money making* (by embracing the fluidity of the art object as it circulates, like a currency, through networks and markets alike, as post-internet art did). More expansively, it is about the art of *making offers*, as the careful crafting and programming of tokens — that is, decentralized financial instruments (liquid equities) for mutual stakeholding — to be offered to the public for the creation of peer-to-peer ecosystems of value. As both BitchCoin and terra0 exemplify through their own Initial Coin Offerings, the art of crafting offers corresponds to the capacity of blockchain tokens to set one's own terms of circulation and protocols for interaction, to design one's own terms of self-utilization through the tools of finance, and to set these tools loose through distributed units (of liquid equity and governance) that weave new ecosystems of value as they are transacted and interacted with. This allows for the possibility to issue value in the world and have it be acknowledged by peers according to programmable rules that enable the autonomy of that said ecosystem of value. By allowing for the self-issuance and automated control over the self-utilization of one’s own surplus value, these projects play with the affordances of financialization as their own expressive medium and, in so doing, seed a future in which autonomy may be achieved through the self-harvesting of one’s own value. Thus, the blockchain revolution and incipient tokenization of everything can open up new possibilities for the arts not only in terms of creating art *works* but of generating art *worlds* — that is, ecosystems that operate according to logics and values produced autonomously by artists and communities themselves. This means that, if contemporary art cannot be divorced from the socio-cultural logic of derivatives, artists can become active agents of their own financialization by experimenting with blockchains, rather than passive objects of the financialization of the art world that we all know and recognize. This is to say that, as these art projects show, the way to fight the financialization of everything is to go *through* it, rather than try to resist it.

Of course, this proposition is fraught with danger, especially as we bear witness to the fact that dynamics in these crowdsourcing environments seem to propose once again old power asymmetries. This may be due, at least partially, to the technical limitations of current blockchains, in terms of scalability (due to low consensus speed and high entrance costs, so that only big investors can enter the space)[30] and interoperability (that is, the problem with the impossibility to have on-chain solutions for large applications, which raises questions about the security of those off-chain transactions). Financializing everything through tokenization could entail extreme risks, such as providing new surface areas and markets for capital accumulation and producing more virulent and capillary forms of extraction in the attention economy, thereby reinforcing familiar dynamics. As it is true that decentralized technologies do not automatically decentralize power,[31] the road to the construction of a post-blockchain future, not only for art, will have to take seriously the vertiginous wager this discussion has proposed — that is, seizing the means of financialization through blockchain for autonomous projects — with all the perils that this may entail. This includes grappling with the limitations of current blockchain offers and addressing how these may hinder the full-blown realization of such visionary endeavors. As new promising projects are mushrooming, however, it remains of the utmost importance for artists to keep exploring the potential of decentralized technologies and leverage them for their own good. As such the post-blockchain frontier of art also entails opening up questions in relation to the ethico-aesthetic dimension of tokenization and the interoperability of value systems. Blockchain is not a panacea; only a new weapon to be experimented with and wielded. While we are still lacking the means for a deep interoperability for our decentralized future, BitchCoin and terra0 are examples of the possibilities ushered in by cryptographic tokens for experimenting with financialization in creative and speculative ways, toward the creation not of mere art works but of many, possible, interoperating, art worlds.[32]

References

Arvidsson, Adam. 'Facebook and Finance: On the Social Logic of the Derivative', *Theory, Culture & Society* 33.6 (1 November 2016): 3–23.

Bartlett, Richard D. 'Blockchain Doesn't Decentralise Power', *Enspiral Tales*, 8 September 2017, https://medium.com/enspiral-tales/blockchain-doesnt-decentralise-power-5918c168e6f6.

Baudrillard, Jean. *The Transparency of Evil: Essays on Extreme Phenomena*, trans. James Benedict, London: Verso, 1993.

Cooper, Melinda. 'Turbulent Worlds: Financial Markets and Environmental Crisis', *Theory, Culture & Society* 27.2–3 (2010): 167–90.

Croggon, Alison. 'The 70% Drop in Australia Council Grants for Individual Artists Is Staggering', *The Guardian*, 18 May 2016, http://www.theguardian.com/culture/2016/may/19/the-70-drop-australia-council-grants-artists-funding-cuts.

Ehrsam, Fred. 'Blockchain Tokens and the Dawn of the Decentralized Business Model', *The Coinbase Blog*, 1 August 2016, https://blog.coinbase.com/app-coins-and-the-dawn-of-the-decentralized-business-model-8b8c951e734f#.zd6jf0ut9.

El Isa, Mona. 'The Difference Between Protocol Tokens and Traditional Asset Tokens', *Medium*, 20 April

30 This Ethereum subreddit explains it well: lordofthemists, 'How to Attack the Ethereum Network Using a Malicious ICO | A Malicious Smart Contract Could Congest the Network to Unusable Levels for Upwards of Seven Days', *Reddit*, July 2017, https://www.reddit.com/r/ethereum/comments/6iw2c8/how_to_attack_the_ethereum_network_using_a/.

31 Richard D. Bartlett, 'Blockchain Doesn't Decentralise Power', *Enspiral Tales*, 8 September 2017, https://medium.com/enspiral-tales/blockchain-doesnt-decentralise-power-5918c168e6f6.

32 Disclaimer: Laura Lotti is collaborating with the Economic Space Agency (ECSA). ECSA an Oakland-based startup and distributed organization that is developing a post-blockchain ecosystem aimed at unchaining blockchains from their inherent limits of scalability and interoperability, thus opening up the paradigm to the fluidity of the relations that already exist in our midst. Some of the thoughts in this paper are already being put into code. 'Economic Space Agency,' 2017, https://economicspace.agency/.

2017, https://medium.com/melonport-blog/the-difference-between-protocol-tokens-and-traditional-asset-tokens-89e0a9dcf4d1.

Enxuto, João and Erica Love. 'Institute for Southern Contemporary Art,' *The Original Copy*, 2016, http://theoriginalcopy.net/isca/.

Iaconesi, Salvatore. 'The Financialization of Life', *Startups & Venture Capital*, 3 September 2017, https://startupsventurecapital.com/the-financialization-of-life-a90fe2cb839f.

Lordofthemists, 'How to Attack the Ethereum Network Using a Malicious ICO | A Malicious Smart Contract Could Congest the Network to Unusable Levels for Upwards of Seven Days', *Reddit*, July 2017, https://www.reddit.com/r/ethereum/comments/6iw2c8/how_to_attack_the_ethereum_network_using_a/.

Lotti, Laura. 'Contemporary Art, Capitalization and the Blockchain: On the Autonomy and Automation of Art's Value', *Finance and Society* 2.2 (19 December 2016).

Kinsella, Eileen. 'Trump Budget Proposes to Eliminate the NEA', *Artnet News*, 23 May 2017, https://news.artnet.com/art-world/trump-budget-proposes-steep-cuts-to-arts-funding-969641.

Malik, Suhail and Andrea Phillips. 'Tainted Love: Art's Ethos and Capitalization', in Maria Lind and Olav Velthuis (eds), *Art and Its Commercial Markets: A Report on Current Changes and with Scenarios for the Future*, Berlin: Sternberg Press, 2012.

McAndrew, Clare (ed.), *Fine Art and High Finance: Expert Advice on the Economics of Ownership,* New York, NY: Bloomberg Press, 2010.

McConaghy, Trent. 'Tokenize the Enterprise', *The BigchainDB Blog*, 6 June 2017, https://blog.bigchaindb.com/tokenize-the-enterprise-23d51bafb536.

Monégro, Joel. 'Fat Protocols', *Union Square Ventures*, 8 August 2016, http://www.usv.com/blog/fat-protocols.

Moss, Ceci. 'Expanded Internet Art and the Informational Milieu', *Rhizome*, 19 December 2013, http://rhizome.org/editorial/2013/dec/19/expanded-internet-art-and-informational-milieu/.

Norman, Don. *The Design of Everyday Things*, New York, NY: Basic Books, 2002 [1988].

Pasquale, Frank. 'The Dark Market for Personal Data', *The New York Times*, 16 October 2014, http://www.nytimes.com/2014/10/17/opinion/the-dark-market-for-personal-data.html.

_____. *The Black Box Society: The Secret Algorithms That Control Money and Information,* Cambridge, MA: Harvard University Press, 2015.

Robin Hood Cooperative. 'Equity, Options, Assemblage: Robin Hood 2.0', *Future Art Base,* 1 May 2015, https://speculativematerialism.files.wordpress.com/2015/06/robin-hood-grey-paper-april-2015.pdf.

Roio, Denis. 'Bitcoin, the End of the Taboo on Money', 6 April 2013, http://www.dyndy.net/2013/04/bitcoin-ends-the-taboo-on-money/.

Seidler, Paul, Paul Kolling, and Max Hampshire, 'terra0', *GitBook*, 2016, http://book.terra0.org/.

Srinivasan, Balaji S. 'Thoughts on Tokens', *news.21.co*, 27 May 2017, https://news.21.co/thoughts-on-tokens-436109aabcbe.

Stark, Josh. 'Making Sense of Blockchain Smart Contracts', *CoinDesk*, 4 June 2016, http://www.coindesk.com/making-sense-smart-contracts/.

Sunnarborg, Alex. 'ICO Investments Pass VC Funding in Blockchain Market First,' *CoinDesk*, 9 June 2017, http://www.coindesk.com/ico-investments-pass-vc-funding-in-blockchain-market-first/.

Troemel, Brad, Artie Vierkant, and Ben Vickers, 'Club Kids: The Social Life of Artists on Facebook', *DIS Magazine*, 2012, http://dismagazine.com/discussion/29786/club-kids-the-social-life-of-artists-on-facebook/.

Ueberschlag, Leila. 'Terra0: The Self-Owning Augmented Forest', *Institute of Network Cultures*, 29 September 2016, http://networkcultures.org/moneylab/2016/09/29/terra0-the-self-owning-augmented-forest/.

Velthuis, Olav and Erica Coslor. 'The Financialization of Art', in Karin Knorr Cetina and Alex Preda (eds), *The Oxford Handbook of the Sociology of Finance*, Oxford: Oxford University Press, 2012.

Wenger, Albert. 'Crypto Tokens and the Coming Age of Protocol Innovation', *Continuations*, 28 July 2016, http://continuations.com/post/148098927445/crypto-tokens-and-the-coming-age-of-protocol.

'Where 6: "Prediction," with Sarah Meyohas', *Wherecam Tumblr,* http://wherecontainer.tumblr.com/post/110308568730/where-6-prediction-with-sarah-meyohas-bitch.

Wilmoth, Josiah. '$175 Billion: Record Bitcoin Price Lifts Crypto Market Cap to New Heights', *CryptoCoinsNews*, 1 September 2017, https://www.cryptocoinsnews.com/175-billion-record-bitcoin-price-lifts-crypto-market-cap-new-heights/.

IT SEES (NOTES TOWARD A CULTURAL HISTORY OF FINANCIAL VISION)

EMILY ROSAMOND

IT SEES (NOTES TOWARD A CULTURAL HISTORY OF FINANCIAL VISION)

EMILY ROSAMOND

In recent years, we have witnessed the emergence of a new phase of capitalism. Thus argues Shoshana Zuboff, who coined the term 'surveillance capitalism' to describe a new regime of accumulation according to which entrepreneurs mobilize new means of understanding online users, and directly intervene in their habits for profit. New, 'born-digital' firms capitalize on users' 'data exhaust' — information unintentionally left behind that reveals something of their online habits.[1] Early on, for instance, Google — surveillance capitalism's most prominent pioneer — reinvented its business model, after realizing that it could profit from the data exhaust it was already collecting as a byproduct of its activities. By offering ostensibly free email services to users, it could analyze users' data, in order to entice advertisers with the promise of reaching highly specialized audiences. Users' online interests and behaviors — data-sets analyzed into ersatz subjectivities — were effectively sold to Google's advertisers, who would bid for prominent spots in online keyword auctions through Google's AdWords program. Gmail users could then click on keywords automatically matched to their interests — with the AdWords auction winners' sites listed most prominently. As Zuboff contends, surveillance capitalism's 'unexpected and often illegible mechanisms of extraction, commodification, and control… effectively exile persons from their own behavior while producing new markets of behavioral prediction and modification.'[2] Zuboff's theory counters those who would understand 'big data' as a purely technological construct.[3] She insists that data analysis instantiates a power relation, and that it must be understood as part of a financial regime.

As surveillance capitalism takes hold (at least for the moment), what can be made of its aesthetic implications? The surveillance-capitalist regime instantiates new, impersonal ways of *seeing* users' real-time flow of interests, and linking financial value to these acts of seeing — reconstituting and monetizing subjectivities through data-sets. Inevitably, these new ways of envisioning and intervening in subjectivity have shifted the cultural landscapes in which subjectivities take shape. In recent years, artists have responded to these shifts, agitating the borderlines between older and newer regimes through which habits come to matter, and through which subjectivity comes to bear significance. For instance, Erica Scourti's *Life in AdWords* (2012-2013) (which I have written about more extensively elsewhere[4]) stages an extended interaction between two apparatuses through which the artist's pat-

1 Shoshana Zuboff, 'Big Other: Surveillance capitalism and the prospects of an information civilization', *Journal of Information Technology* 30 (2015): 79.
2 Zuboff, 'Big Other', p. 75.
3 Ibid.
4 Emily Rosamond, 'Technologies of Attribution: Characterizing the Citizen-Consumer in Surveillance Performance', *International Journal of Performance Arts and Digital Media* 11.2 (2015): 148-164.

terns of interest find witness and value: the diary and the AdWords algorithm. For nearly a year, Scourti emailed her diary to herself via her Gmail account, and performed to webcam the list of keywords that turned up in her inbox as a result. ('Lyrics lyrics. Feeling tired. Always feeling sad. Feeling depressed. Healthy eating food. Music and lyrics.'[5]) Fragments of her interests and behaviours, refracted by an algorithmic witness into keywords meant to prompt possible sales, paradigmatize the surveillance-capitalist moment. An automated analyst of Scourti's subjectivity steps in, precisely in the place where she puts it into her own words: in the seemingly private (but more accurately, privatized) space of the inbox. And yet, while this piece experiments with the ways in which subjectivity has been newly commodified, it by no means assumes that the links between commodification and subjectivity are new. Rather, it draws attention to a continual clash of literary and surveillance-capitalist technologies of selfhood; for the diary itself is also a tool for producing complex interiority, and if theorists such as Deidre Shauna Lynch are to be believed, literary constructs of complex, interior life are deeply tied to the expansion of commodity culture through international trade in the 18th century. Here, embedded in the deeper histories of commodification, we find yet another moment in which (in England, among other places) the capacity to see the world beyond the horizon — to look into the far distance for patterns of activity and exchange — was vastly expanded, through a newly international influx of objects. In Lynch's view, the subjective correlates to these conditions were new sets of crises and questions around what constituted private life — and how to render it truly private. The development of complex literary characters — exemplars of interior life — helped to reconcile the newly internationalized flows of commodities with conceptions of private life.[6] Scourti's work emblematizes the surveillance-capitalist moment — precisely by pointing to the deeper history of the continually-mutating field of financially-inflected ways of knowing the self. Her work shows how surveillance-capitalist ways of understanding (and, thus, reshaping) subjectivity come into strange, conflicted alignment with older technologies through which subjectivity was pulled into line with commodification.

Here, I would like to continue what I see as the historical project in Scourti's work, and look a bit further into the deep aesthetic histories of this new regime of financial surveillance. Rather than staying with the twenty-first century moment that Zuboff focuses on, I would like to begin by looking for the unexpected cultural prehistories of surveillance capitalism. How have artworks and narratives, long before the age of big data, questioned how financial interests themselves 'see' the world? Below are a few first steps toward what could be a much larger project: what I might term a cultural history of financial vision. To begin to get a sense of how financial vision might have shifted over the centuries, I'll isolate works from a few quite disparate cultural moments: Thomas Bridges' *The Adventures of a Bank-Note* (1770-1771), Mark's *Narrative Structures* (late 1990s) and Amir Chasson's painted diptychs of abject, slightly disproportionate businessmen, paired with abstract graphs and diagrams (2009-2010). These works, I argue, might be understood as part of a history of impersonal, financial

5 Erica Scourti, 'Life in AdWords: March 2012', https://vimeo.com/album/1944360/video/39677781.
6 See Deidre Shauna Lynch, *The Economy of Character: Novels, Market Culture and the Business of Inner Meaning*, Chicago, IL: University of Chicago Press, 1998.

vision. They are galvanized by the complex perceptual and conceptual tasks that accrue around a simple aesthetic/narratological conceit: ‘it sees’. If carefully analyzed with an eye toward how they construct a financial ‘it’ that ‘sees’, these works might have the capacity to shift something in the way that we contextualize the new relations between acts of seeing and acts of valuation taking shape in our own time.

Fig. 1. Erica Scourti, *Life in Adwords* (screenshot view), 2012-2013.[7]

What follows comes from a strong sense of the importance of Zuboff’s theory, and of the urgent need to expand on its aesthetic and cultural implications. Yet it also necessitates a departure from Zuboff’s theorization and aims. For Zuboff, surveillance capitalism represents a fundamental departure from how the neoliberal-era market was envisioned (by Hayek, for instance) as something ‘intrinsically ineffable

7. Image reprinted with permission from the artist.

and unknowable'.[8] For her, the 'informating' of the economy in the twentieth century — rendering it information-rich through smart machines — makes for a fundamental shift: for technologies of automation (say, scanner devices to automate supermarket checkouts) also produce data that can be used to change the very systems in which they function. Smart automation tools carry the capacity to 'create a vast overview of an organization's operations,' which can then feed back into the system, changing the ways in which its various activities are coordinated and conceived as a whole.[9] While in many ways, surveillance capitalism is indeed a fundamental shift, here I would like to consider an alternative to the above claim. Instead of assuming that the informating of the economy is entirely new, what if we imagine that at every turn in their development — from the first bank-notes to the first derivatives — ever-more abstract financial products were newly informatic, in that their circulation and use produced new ways of impersonally seeing the world, and creating views of systems as a whole? In the history of which I'd like to put forward a few, tentative fragments, surveillance capitalism is part of a much older trajectory: of imagining how finance 'sees.' Below are a few fragments of a legacy of narrative and visual techniques which experiment with finance's claim on impersonal vision.

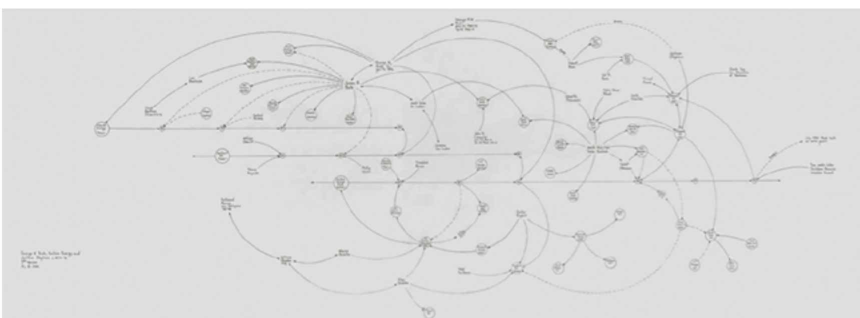


Fig. 2. Mark Lombardi, George W. Bush, Harken Energy, and Jackson Stephens, ca. 1979-90 (5th Version), 1999.[10]

The Adventures of a Bank-Note

If we were to search for an early precursor to surveillance-capitalism, no better candidate could be found than Thomas Bridges' serial novel *The Adventures of a Bank-Note*. Bridges published the *Adventures* in two volumes in 1770, with a subsequent two volumes published in 1771.[11] In this series, a bank-note, narrated in the first person, tells of its travels as it is passed from pocket to pocket. Bridges' tale was one of the

8 Zuboff, 'Big Other', p. 78.

9 Shoshana Zuboff, *In the Age of the Smart Machine: The Future of Work and Power*, New York, NY: Basic Books, 1988, p. 9.

10. This reprint is for educational use only. No copyright infringement intended.

11 Around this time in England, there were several popular stories which featured coins and bank-notes occupying the first person, including Helenus Scott's *The Adventures of a Rupee, Wherein are Interspersed Various Anecdotes Asiatic and European* (1772) and Charles Johnstone's *Chrysal, or, The Adventures of a Guinea* (published in 1760 with two subsequent volumes in 1765). There are also a number of more recent examples of narratives that follow a single bank-note or coin as it weaves between people, places and situations. These include Bresson's last film *L'Argent* (1983), which loosely adapts the first part of Tolstoy's novella *The Forged Coupon* (first published in 1910), and Marguerite Yourcenar's novel *A Coin in Nine Hands* (1934).

18th-century it-narratives: novels which featured first-person objects as protagonists. This work enacts both a desire to witness money's social life, and a fascination with the relationships between the circulation of money and the narrative form itself conceptualized as a kind of circulation. *The Adventures of a Bank-Note* and other stories like it from the mid-18th century explore narrative possibilities that, arguably, have been less accessible to writers since: both the depiction of money in the first person, and what could be seen from a contemporary perspective, at least, as a radical flattening out of human characters as they are seen from the perspective of money. As Deidre Shauna Lynch notes, the ability to think of bank-notes as having their own histories of circulation was readily available to mid-18th century minds due to the physical form of bank-notes at the time. Prior to 1797, when the Restriction Bill caused Britain to adopt a uniform, anonymous paper currency, bills of exchange would be produced by particular banks, and would require bearers to countersign them over to a third party, who would then be required to countersign them to another party, and so on.[12] Thus, the form of the bills themselves bore witness to their previous activities through the list of endorsements they accrued. Yet these narratives were also useful tools for 'readers and writers who found themselves dwelling in a new commercial world, one altered by new trade routes and new forms of credit and full of strange commodities that invited the gaze and emptied the pocketbook.'[13] Money, Lynch notes, both acts as a vehicle for the narrative form, and stands in for a social agreement on a standard of value in this newly commoditized world.[14] The first-person bank-note humanizes the economic system, even as it subordinates individual human actors to an impersonal circulation.

Bridges' tale gives a light-hearted account of a series of interactions between a bank-note and its owners, the tales they overhear, and the objects they encounter. In Volume IV, for instance, the bank-note describes its time with a Mr. Derbyshire, whose heart 'was as light as a feather'.[15] As Mr. Derbyshire and a friend sit on a bench one evening, they observe a fashionable, comely woman walking with an exceedingly strangely dressed man; Mr. Derbyshire's friend recounts the tale of how these oddly-matched figures came to meet. The man, being captain of a large ship that trades slaves on the African coast, had come to land on a rare occasion to pay a visit to his cousin, who had recently married the fashionable woman. Trying to look respectable, but unfamiliar with land customs, the sea captain had employed a tailor, a hatter, and a French barber to suit him up; the latter concealed his black locks with a strange white wig that he claimed was the height of fashion. When the captain called upon his cousins, he was taken into the parlour to wait. There, amidst all the unfamiliar objects of domestic life, he encountered a large mirror, which surprised him greatly, as he had not seen his own reflection before, and did not recognize himself in the new clothes and wig. Walking up to the mirror to see who was this strange person staring at him, he bashed into it and broke the glass, the surprise of which sent him barrelling backwards into an armchair, flattening a guitar. This caused him to upset the dessert glasses, sending them to the floor. On encountering this scene, the lady of the house admonished the servants for letting a madman into the house; finally, her husband arrived and explained that this

12 Deidre Shauna Lynch, *The Economy of Character,* p. 97.
13 Ibid., p. 24.
14 Ibid., p. 96.
15 Thomas Bridges, *The Adventures of a Bank-Note, Vol. IV*, London: T. Davies, 1771 (reprinted by Nabu Public Domain Reprints), p. 2.

was, indeed, his seafaring cousin. Being a discerning woman, she saw the captain's honesty, sincerity and artlessness, and ever since relished her visits with him. Here, the narrative form depicts a clash of commodities, customs and people brought together by exchange, and layered within three perceptual purviews (the friend's, Mr. Derbyshire's, and the bank-note's). These nested layers of recounted tales place certain actors, be they objects or humans, very 'close up' (even too close, as in the mirror and the guitar), and certain others (such as the slave ship) in the extreme distance. The bank-note's impersonal vision picks out extreme foregrounds and backgrounds in these overheard tales.

How might we further understand the relations, in this tale, between money's way of observing the world and the narrative form itself as a kind of circulation? Alex Woloch's narrative theory might help. Writing on 19th-century realist novels, Woloch describes narrative spaces as competitions between many characters for limited narrative attention and import.[16] Minor characters, he contends, reflexively draw attention to the limits of the narrative's attention, and function as the proletariat of the novel. If we transpose this thinking into the narrative spheres of *The Adventures of a Bank-Note*, we could conclude that all the characters (other than the bank-note itself) are minor, in a certain sense: none of them hold the plot's attention for long. Together, they represent society as a multitude of particularities strung together by exchange, and economic exchange, in itself, as a chaos of encounter — always involving misunderstandings of objects and appearances. The shape of the narrative space is determined by the interplay between the bank-note's passivity and activity. It cannot determine into whose hands it falls; and often, it repeats the conceit that it would have liked to tell us more about a particular story, except that it was whisked away too soon. It passively perchances upon the narrative thread it recounts, moved by the collective agency of circulation. However, within this conceit of passivity, the bank-note clearly chooses which stories to focus on, and develops dispositions toward the characters it portrays. Thus, it produces an interplay between monetary exchange and moral affinity.

This interplay rests on the bank-note's 'perception' and discernment of its owners' characters. Layers of perception and discernment link the perceptions of the bank-note with those of other characters, which are often nested within each other; for instance, the bank-note observes Mr. Derbyshire's conversation with his friend, in which is encased the observations of the sea captain and his land-dwelling cousins. The nested perceptual frameworks create a division of degrees of narrative containment between those who characterize and caricature others, and those who are caricatured. Roughly speaking, this differentiation between the characters who perceive, while having few features themselves (the bank-note, first and foremost, and secondarily, Mr. Derbyshire), and the characters who are merely perceived or caricatured within the novel's narrative spaces expresses their relative proximity to the bank-note – both perceptually and morally. The characters who make a purchase, thus acquiring the note, also have a purchase on the narrative's inflections, and are able to make a claim on its neutrality. However, this narrative proximity between the note's and its possessors' perspectives is not equally shared between owners; the bank-note takes

16 Alex Woloch, *The One Vs. the Many: Minor Characters and the Space of the Novel*, Princeton, NJ: Princeton University Press, 2003.

a much more distanced stance toward its owner John the Ratcatcher than it does to Mr. Derbyshire (whom it 'likes' better), for instance. (John is a character afflicted with an un-Christian anger toward rats.) In addition to proximity to money differentiating between the novel's observers and observed, a moral and dispositional affinity between the bank-note and *some* of its owners — i.e. the bank-note's perception of certain of them as *good* — creates a closer affinity of perspective. Thus, while the novel portrays economic exchange as a comedic clash of characterizations and encounters between disparate worldviews, it also portrays the economy as a relation between the bank-note's circulation and an economy of representation based on an affinity with the good.

Within this comic clash of affinities, we find a theory of finance as focalization. The bank-note focalizes the story, outlines the range of its perceptual purview and moral affinities. The narrative space expresses new ways of understanding a whole system of exchange: from the extreme foregrounds of a bank-note's companions, to the extreme backgrounds of slave ships — which are taken for granted, here, as part of the background conditions through which commodity exchange takes place, and scantly brought to attention by the sea captain's travels, of which the bank-note overhears. Contrary to Zuboff's claim that informated ecomomies are new in their production of systemic information through data, if we look through the 'eyes' of money in *The Adventures of a Bank-Note*, we find a narrative expression of what was then a radically new way of understanding the world and its commodities, envisioned from the very perspective of monetary exchange. *The Adventures* are part of the long cultural prehistory of surveillance capitalism; they embody the conceit that money is a focalizer, that it produces new configurations of knowing, that *it sees*. Thus, although there are, of course, many novel informatic, economic and technological developments in the field of financial vision within our own surveillance-capitalist moment, the difference between these and the kinds of new systemic knowledge accruing around the early bank-notes is a difference of degree, and not one of kind. Further, within this diagram of financial vision emerges a set of questions around finance and focalization relating to power. Who gets to claim affinity to money's impersonal gaze? With whose interests and perspectives is financial vision aligned — and who gets cast into the background?

Mark Lombardi's Narrative Structures

Now, let us try to think about how these questions, accruing around the narratives of financial vision, have been reshaped much closer to the present. In the past several decades, of course, the task of narrating international finance has become far more complex than it was in Bridges' time. There has been a fundamental economic shift, away from the logic of exchange and toward logics of investment and credit. The development of derivatives – financial products that bundle many investments to hedge risk — are dizzyingly complex. As the Bank of England's then Director of Financial Stability, Andrew Haldane, quipped in 2009, the emergence of financial innovations such as structured credit (designed to diversify investment and thereby minimize risk) result in a situation in which end investors are 'no more likely to know the name of the companies in their portfolios than the name of the cow or pig in their exotic hot dog.'[17] Certain forms of structured credit, such as collateralized debt obligations (CDOs), would require over one billion pages of research in order for an investor to understand precisely where his or her money had been invested.[18]

Due to the complexity of international exchange, new forms of difficulty accrue around the questions: who can claim to narrate global finance? How can global finance be seen — and how does it see? Mark Lombardi's drawings of global financial networks attempt to intervene in these questions. If Bridges' *Bank-Note* narrative constructs a first-person, embedded economic viewpoint, focalizing economy in the exchanged note's range of abstract perceptions, Mark Lombardi's drawings do the exact opposite. They construct an omniscient perspective on an overwhelming range of financial transactions, contacts and influences. His diagrammatic drawings (which he referred to as *Narrative Structures*) document complex financial scandals, international money laundering schemes and other nefarious machinations of power. They were based on extensive research into events such as the Harken Energy scandal (which involved alleged insider trading by George W. Bush after his failing oil company was purchased by Harken, largely in order that it could make Bush a board member and take advantage of his extensive political connections) and the Savings and Loan scandal (in which several troubled American Savings and Loan institutions — many with high profile board members and close connections with the CIA — turned themselves into Ponzi schemes during the 1980s and 1990s in the wake of deregulation). Lombardi used a legend consistent across his mature work to indicate flows of money, influence and power between individuals and corporations. His drawings trace rhizomatic, diffused networks.[19] If the financial transactions chronicled by Bridges' bank-note represent an attempt to envision society as a whole, then Lombardi's drawings translate a similar concern into an era in which it is not a quotidian clash of (financially-inflected) encounters that might seem remarkable to readers and writers newly experiencing an unprecedented level of imported goods, but rather the emergence of complex transnational systems of structured credit, and with these, a global elite of key players from a web of seemingly 'open', networked transactional structures. In their very diffuseness, these structures both conceal this elite, and help to replicate its privilege. These drawings are attempts to make sense of the simultaneous dispersion *and* concentration of power within globalized neoliberal capitalism, by producing a new way to see the complex networks of global finance.

17 Andrew Haldane, 'Speech: Rethinking the Financial Network', *Bank of England*, 28 April 2009, http://www.bankofengland.co.uk/archive/Documents/historicpubs/speeches/2009/speech386.pdf, p. 16.

18 Ibid., p. 17.

19 These works closely relate to Hans Haacke's earlier systems theory/institutional critique works (most famously Shapolsky et. al Manhattan Real Estate Holdings, a Real-Time Social System, as of May 1, 1971, 1971), which were a major influence on Lombardi; however, here, the complexity Haacke envisions is taken almost unfathomably farther. As Herbert Ross puts it, these drawings 'update history painting in terms of theories of globalism and rhizomatic schematizations of power. In these works, [Lombardi] replaces the taproot theory crucial to history painting — that great individuals are the initiators of important events — with a new model based on less centralized, more serendipitous channels of power' (Ross, in Robert Hobbs (ed.), *Mark Lombardi: Global Networks,* New York, NY: Independent Curators International, 2003, p. 13).

This is a concern that Lombardi's drawings explore through their experimentation with the narrative form itself.[20] They can be considered to be both realistic and abstract: realistic in their use of names as static poles within the narrative, and abstract in that the actions and events themselves are lacunae within the drawings, mostly replaced by mere lines and arrows. Hobbs notes that the abstraction of events in these drawings account for many viewers' frustration in trying to 'read' them, as they have been given, as it were, an architecture of events but little explanation of them.[21] Yet by abstracting narrative in this way, Lombardi produces the meta-event — a structure of power and influence — which is represented, here, as a *character structure* of sorts; an associative play of recognizable individuals and institutions. By reducing events to lines, he can also tackle multiple 'plots' within the same narrative structure. Lombardi's *Narrative Structures* grapple with financial liquidity's challenge to narrative structure, which must be presented as a hybrid between literary and pictorial modes of experience. The arrows and lines in Lombardi's drawings, which describe flows of exchange and influence, are roughly analogous to the narrative itself in Bridges' *Bank-Note*. Yet, responding to the demands of a highly complex international financial world, Lombardi produces a meta-transactional narrative. His *Narrative Structures* imagine a new kind of impersonal gaze on finance — one that can make a synthetic claim on the totality of complex transactional webs, and thus, perhaps, provide a perceptual ground on which an activist stance can be founded. By 'zooming out' in the extreme, and synthesizing transactions and influences into diagrams of power, Lombardi constructs an impersonal other who takes in the entirety of a hidden financial flow. From this position — and with this act of witnessing — comes the possibility to act against the centralization of financial power, hidden by so many gossamer strands of influence and exchange.

Amir Chasson and Fractured Financial Vision

This cumulative impulse — this urge to totalize elements of the financial sphere — represents one way in which the impersonal claim to financial vision has been mobilized within late capitalism (in Lombardi's case, before the surveillance-capitalist turn as such). Yet another possible approach is quite opposed to this totalizing aim: one which posits a fracturing of financial vision, and isolates a point of contact at which the exigencies of human perception and the ways in which financial apparatuses 'see' each undo the grounds on which the other stands. In Berlin-based Israeli artist Amir Chasson's paintings, we find another form of analysis of the role of individuals within the narratives of business and finance. His series of painted diptychs from 2009-2011 feature quasi-realistic portraits of slightly awkward looking men: presumably businessmen, most often against a plain background, as if posing at a portrait studio. Next to the portraits are textured, layered canvases portraying abstract diagrams and charts, which look as though they might convey financial or sociological information — except that there is no contextualizing information or legend with which to understand them. These works operate by means of stark contrasts: between portrait and diagram; between the rough, painterly texture of the diagram canvases and their 'cool', precisely-rendered objects; and, more minutely, between the photorealistic conceit the portraits entertain and their deliberately awkward handling upon close examination.

20 As Hobbs writes, 'We might hypothesize that Lombardi's narratives correlate well with the enlarged scope of narrative studies and in fact expand them in a new direction, since his drawn arcs replace the core element of stories, i.e. their action' (Hobbs, *Mark Lombardi*, p. 47).

21 Ibid., p. 47.

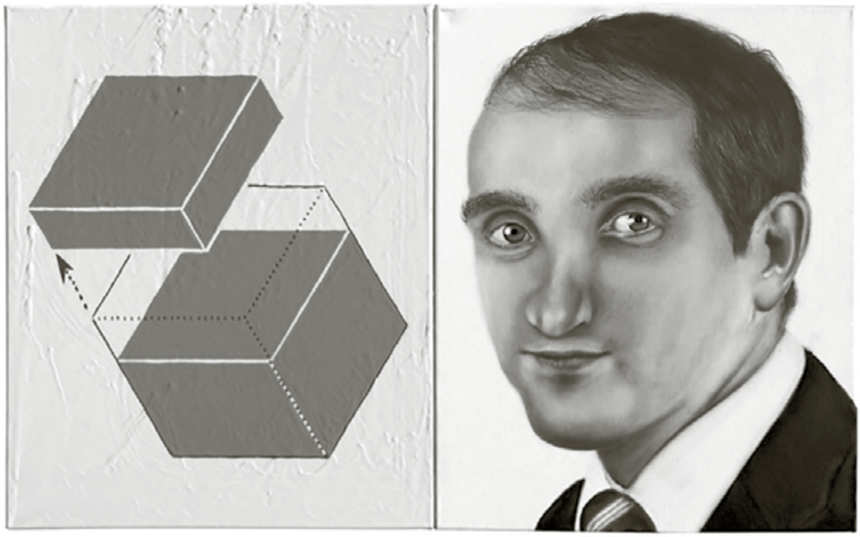


Fig. 3. Amir Chasson, *Ten dimensional tetrahedron*, oil and household paint on canvas, 2011.[22]

Awash with contrast, the eye seeks similarity. Darting back and forth between the pairs of canvases, it formulates transitions (formal, narrative, conceptual) between face and diagram. An arrow jutting out of a tetrahedron seems to answer to something of the upward tilt of a middle-aged man's jaw; a topographical diagram, describing spiky irregularities emerging from a relatively flat surface, stands in for an idea of the portrait as a spatial descriptor, a device that morphs a flat surface, transforms a spatial plane into a facial plane by pulling out nose, cheek and brow. The diagrams' spatial cues pull on the portraits, as if applying a bit of makeup to the latter's spatial gestures.

The faces infuse the diagrams with possible narratives. Are these the faces of the thinkers 'behind' the sociological, mathematical or financial work presented in the diagrams? Are they the repressed of the diagrammatic image — the abject, psychologised individuals who bear the privileges and burdens of such impersonal exactitudes of information? The portraits in Chasson's paintings carry out the aspirational tendencies that the form of the businessman's portrait implies, which is based, in part, on the projection of confidence (which, as Sianne Ngai puts it, is the affective tonality of capital itself[23]). But confidence — or perhaps we could say orbits of confidence, belonging to both face and diagram's forms of assertiveness — break down, here, as they play out on faces and surfaces overfull with ambivalence and distortion. Over-fullness — as it pulls apart faces or dances in diagrams awkwardly forced onto pockmarked surfaces — disallows the unanimity of feeling

22. Image reprinted with permission from the artist.
23 Sianne Ngai, *Ugly Feelings*, Cambridge, MA: Harvard University Press, 2005, p. 62. As Ngai points out, Melville's story demonstrates that confidence can circulate within scenarios of capitalist exchange as a feeling that nobody actually feels – as one agent falsely projects it to the next, and so on.

that the confident demeanour must display. These faces, so full, come in and out of comprehensibility; at times, they come into focus as a face, and at other times, the strange autonomy of features pulls them beyond recognition.

What happens to perception in Chasson's portraits seems oddly akin to the perceptual operations Oliver Sacks chronicles in his narratives about encounters with patients suffering from rare neurological disorders. For instance, Sacks describes a patient who, owing to a tumour or pronounced degenerative process localized to the visual cortex of his brain, could see well, but was often completely unable to make the cognitive leap from seeing to recognition. He could distinguish features but could not get a sense of a face as a whole, a persona or a picture.[24] Sacks' narratives pull apart so-called 'normal' perception, reveal something of the layers of complex relational and cognitive procedures that must be in place in order for people to be able to take for granted how they *know* about what they see.[25] In undoing normal perception, these narratives create fertile soil for thought experiments: what might it mean to subtract the persona from the person, to perceive the world abstractly?

Do Chasson's abstracted diagrams have a physiognomy? The portrait — a device that, in the slow obstinacy of its features' relations to the whole face, dismantles normal, transparent perception — inflicts *its* abstraction on the diagram. It asks us to recognize the tasks of understanding finance and other forms of informational power as physiognomic in ways in which we are not necessarily equipped to perceive. It asks anew what kind of perception might naturalize the physiognomy of finance, might pull its 'face' into focus. In an era of information oversaturation, as Frederic Jameson describes it, the task of understanding globalized finance is one of unprecedented magnitude: 'to think a system so vast that it cannot be encompassed by the natural and historically developed categories of perception with which human beings normally orient themselves.'[26] In response to this complexity, Chasson's works suggest that the task of synthesizing complex information into some form of understanding can be likened to the perceptual leap from information to *its* physiognomy. What might be required, these paintings seem to suggest, is to construct partial objects of study that denaturalize perception, and in so doing, might themselves produce means for constructing, dismantling and reconstructing physiognomies of finance, which ferry finance to the edges of the knowable. Unlike Lombardi, who responds to the complexities of international finance by constructing a totalizing perspective — an omniscient 'it' who 'sees' — Chasson fractures financial vision – inserting it into the act of looking at his diptychs

24 For instance, when handed a glove and asked what it might be, the musician describes it as a 'continuous surface… infolded on itself', that might be a container of some sort. When asked what, precisely, this infolded surface might contain, Dr. P. exclaims, 'it would contain its contents!' with a laugh — and then speculates that perhaps it could function as a coin purse for coins of five different sizes. As Sacks remarks, he 'construed the world as a computer construes it, by means of key features and schematic relationships.' Oliver Sacks, *The Man Who Mistook his Wife for a Hat and Other Clinical Tales*, New York, NY: Harper Perennial Library, 1990, p. 8.

25 Though his work, of course, points to the importance of neural activity, Sacks never ascribes a purely neurological causality to his patient's experiences; on the contrary, he insists on house visits, pays close attention to the ways in which his patients navigate their worlds, their relationships, their objects.

26 Frederic Jameson, *The Geopolitical Aesthetic: Cinema and Space in the World System*, Indianapolis, IN: Indiana University Press, 1995, p. 2.

in such a way that it undoes what is taken for granted in human perception. Thus, he invites us to question how financial vision goes beyond what some might tend to assume are naturalized human physiognomic capacities, and to think anew about what it might mean to grapple with the difficulty in imagining how, exactly, finance sees.

Conclusion

In surveillance capitalism, we become, I think, more and more familiar with being subject to newly automated, impersonal, financial forms of vision. In this regime, the surveillant gaze is deeply impersonal, even as it exacts its vision on individual users' most intimate habits, tendencies and interests. As Erica Scourti's *Life in AdWords* (which shares some similarities with Chasson's approach above) posits, in order to understand how subjectivity is currently being reconfigured in relation to these evaluating apparatuses, there is a new sort of perceptual task coming to the fore: that of imagining the points of contact between various types of perception that have already come to be understood as part of the 'personal,' and the ever-evolving financial systems which exercise their own forms of impersonal vision on personal lives. This task, I argue, demands a theory of the deep histories of financial vision. Such a theory must continually keep in mind the recalcitrant impersonality of vision — the autonomy of the financial 'it' who 'sees.' Yet it must also keep in mind that narrative claims to be aligned with finance's autonomous ways of seeing are, in themselves, succinct expressions of power. Who claims proximity to, or affinity with, the impersonal gaze of finance? In order to understand how new forms of financial power operate aesthetically, such questions must be kept in mind.

The Adventures of a Bank-Note, Lombardi's *Narrative Structures,* and Chasson's diptychs represent three possible approaches to these questions surrounding financial vision: an embedded, first-person view of money, personified; narrative structures enveloping global finance in an omniscient perspective; and a calling into question of the perceptual schisms between feature and physiognomy, and between two seemingly distinct kinds of complex information: face and diagram. In Bridges' narratives, the economy possesses perception; in Lombardi's, the economy is rendered perceptible. Chasson's paintings point to the inadequacies of human perception when it comes to understanding financial vision. By constructing financial imaginaries that draw attention, in various ways, to the impersonality of financial vision, these works challenge many of the ways in which art has previously been understood to relate to political economy: either, reductively, as a mere 'reflection' or 'expression' of monetary interests; as expressive of a reified set of signifiers and practices demarcating class positions through taste and conspicuous consumption; or, more broadly, as expressive of a 'pan-capitalist' alienation. With surveillance capitalism comes the need to study in far more detail the impersonal, financial 'it' that 'sees.' Paying attention to the complex narrative and visual constructs according to which financial vision has been understood draws much-needed attention to how regimes of accumulation themselves identify their subjects.

In 2014, Trevor Paglen remarked that there is an urgent need for cultural practitioners to rethink how we understand vision — and to consider what might be at stake in trying to imagine how machines see:

> those of us who are interested in visual literacy will need to spend some time learning and thinking about how machines see images through unhuman eyes, and train ourselves to see like them. To do this, we will probably have to leave our human eyes behind.[27]

As Zuboff might add, we must also think carefully about how new regimes of accumulation accrue around these acts of mechanical seeing — or, as I might put it, to shift the paradigm from mechanical to financial vision. And further, we must remember that impersonal, financial vision is neither purely mechanical, nor purely financial. By beginning to assemble some fragments toward a cultural history of financial vision, I hope to draw attention to the complexities of visual, subjective and narrative conceits that will inevitably be intertwined in any attempt to understand how 'it sees.'

References

Bridges, Thomas. *The Adventures of a Bank-Note: Vol. IV*, London: T. Davies, 1771 (reprinted by Nabu Public Domain Reprints).

Haldane, Andrew. 'Speech: Rethinking the Financial Network', *Bank of England*, 28 April 2009, http://www.bankofengland.co.uk/archive/Documents/historicpubs/speeches/2009/speech386.pdf.

Hobbs, Robert (ed.). *Mark Lombardi: Global Networks,* New York, NY: Independent Curators International, 2003.

Jameson, Frederic. *The Geopolitical Aesthetic: Cinema and Space in the World System*, Indianapolis, IN: Indiana University Press, 1995.

Lynch, Deidre Shauna. *The Economy of Character: Novels, Market Culture and the Business of Inner Meaning*, Chicago, IL: University of Chicago Press, 1998.

Ngai, Sianne. *Ugly Feelings*, Cambridge, MA: Harvard University Press, 2005.

Paglen, Trevor. In Jorg Heiser (ed.), 'Safety in Numbers?', *Frieze*, 12 March, 2014, https://frieze.com/article/safety-numbers.

Rosamond, Emily. 'Technologies of Attribution: Characterizing the Citizen-Consumer in Surveillance Performance', *International Journal of Performance Arts and Digital Media* 11.2 (2015), 148-164.

Sacks, Oliver. *The Man Who Mistook his Wife for a Hat and Other Clinical Tales*, New York: Harper Perennial Library, 1990.

Scourti, Erica. 'Life in AdWords: March 2012', https://vimeo.com/album/1944360/video/39677781.

Woloch, Alex. *The One Vs. the Many: Minor Characters and the Space of the Novel*, Princeton, NJ: Princeton University Press, 2003.

Zuboff, Shoshana. *In the Age of the Smart Machine: The Future of Work and Power*, New York, NY: Basic Books, 1988.

_____. 'Big Other: Surveillance capitalism and the prospects of an information civilization', *Journal of Information Technology* 30 (2015).

---

27 Trevor Paglen, in Jorg Heiser (ed.), 'Safety in Numbers?', *Frieze*, 12 March, 2014, https://frieze.com/article/safety-numbers.

THE RECEPTION OF THE FINANCIAL CRISIS IN HOLLYWOOD MOVIES

DAVID HOLLANDERS

THE RECEPTION OF THE FINANCIAL CRISIS IN HOLLYWOOD MOVIES

DAVID HOLLANDERS

Introduction

The Great Financial Crisis (GFC) has resulted in several Hollywood blockbuster movies about the financial sector. There are at least four big-budget post-2008 movies on the GFC. If IMDB is any guide, the best is *The Wolf of Wall Street*[1] (rating: 8.2), followed by *The Big short*[2] (7.8), *Margin Call*[3] (7.1) and *Wall Street: Money Never Sleeps*[4] (6.2).

If the criterion is whether the movie has something interesting to say about the GFC, the order should actually be the exact opposite. Entertainment is not the same as analysis, nor should it be a substitute. Indeed, all four movies are testimony to an intrinsic limitation that all (big-budget) movies face. Hollywood movies are generally plot-driven, event-rich, and suspenseful, featuring protagonists with whom audiences can easily identify. When these movies dramatize a slowly and unevenly unfolding political-economic conjuncture, consisting of events like the 2008-*Lehman Brothers* collapse, they usually cannot readily be reduced to such events.

Be that as it may, three out of four of the movies do have something interesting to tell about the biggest crack so far in the post-Bretton Woods order. The GFC is embedded in the outcome of the unravelling of the Keynesian Bretton Woods compromise, and has as such been a long time in the making. In 1971-73 Nixon reneged on the 1944 Bretton Woods promise to peg the dollar to gold (and Western-European currencies to the dollar). The (financially) costly Vietnam war had turned the USA from a creditor-nation into a debtor-country. From then on, the USA had to borrow from the rest of the world. The solution was the financialization that unfolded from the seventies onwards. Wall Street ensured that foreign capital was invested in the USA, while skimming a nice percentage in the process. Countries that didn't play ball could always be occupied, but oftentimes the International Monetary Fund (IMF) could convince countries to privatize their public sectors, to behave investor-friendly and to invest their savings on Wall Street. Of course, the incoming money didn't reach the American majority: American wages have stagnated over the last three decades. The turn towards financial services and the simultaneous move away from production (which was outsourced to low-wage zones in Mexico and China) mainly enriched Wall Street. The only solution, albeit temporarily, for ordinary Americans was to borrow. Contrary to wages, consumption in the USA didn't stagnate, because of a private-debt bonanza in which Wall Street banks lent money to people to finance houses, college degrees and cars they had needed but ultimately couldn't afford.

1 *The Wolf of Wall Street* (dir. Martin Scorsese, 2013).
2 *The Big Short* (dir. Adam McKay, 2015).
3 *Margin Call* (dir. J.C. Chandor, 2011).
4 *Wall Street: Money Never Sleeps* (dir. Oliver Stone, 2010).

This post-1973 financialization is a theme in three of the movies. An added advantage is that they inform a wider public about the greatest robbery in recent history. First and foremost, the GFC is a heist in which banks privatized the state, the state aided and abetted banks and citizens had to pick up the tab. This cannot be made clear often enough. All the same, the movies fall short of analysing why that came about and how that is interwoven with the current political moment. What they don't show is therefore as relevant as what they do. But let's first take a closer look at the four movies and their merits.

The Wolf of Wall Street (The WoWS)

The Wolf of Wall Street (2013) has the highest IMDB-rating. It is indeed the most straightforward of the four, depicting a small swindler (played by Leonardo DiCaprio), who hustles his way to a small fortune. He aggressively sells penny-stocks with a combination of intimidation, seduction and outright fraud. Besides being a fraud, the protagonist is decadent to the bone. He is a coke-sniffing, sexist, selfish man, and the audience is invited to see his point of view. The identification with the Leonardo DiCaprio character does not last the entire length of the film, as towards the end of the movie the main character derails and discredits himself completely, so viewers — most of them at least — will stop short of fully identifying with him.

Be that as it may, you don't need to be a Freudian to propose that the main character acts out pretty much all the secret wishes of the WASP. He is a white, heterosexual man who indulges in every cardinal sin — sex, drugs, lying, cheating, dominating — and who does so with the charm that indeed sometimes comes with unchallenged privilege. In the end, Leonardo DiCaprio's character does not get away with it and ends up in jail. *The Wolf of Wall Street* is thus essentially a morality tale situated in the financial sector. Even a WASP-man can go too far, so be careful what you wish for (but wish for it we will). Whether the spree of sex, drugs and extravaganza is amusing depends on one's taste; evidently many people think it is. Otherwise however, the movie does not even come close to analysing the crisis, or morality for that matter.

The movie problematically reduces the financial crisis to the biography of one man; a man who moreover is just a small fish. He is so small that the SEC ('the financial FBI') acts against him. He is thus far removed from the majority of bankers who steal and cheat with impunity. He is in all respects the outlier, the rotten apple, the guy you love to despise, the exception. He is the rotten apple, but with some charm added (which is the charm of someone breaking the rules). He is the guy you wish to be but are ultimately also relieved not to have become.

This is all analytically inadequate, as (rotten) apples are not a satisfactory unit of analysis: one has to look at the trees, indeed the forest. Of course, there is plenty of decadence, fornication, and lying in the financial sector and I have no doubt that all these vices are overrepresented in these districts. But these are symptoms rather than the disease. Conversely, it would be very surprising if young males, earning lots of money, taking lots of risk (albeit with other people's money), operating without meaningful oversight, cheered on by the media (until 2008 at least) and with bosses recruited from WASP-fraternities, did *not* become decadent. Any adequate analysis has to be scaled up one or two levels. How and why are bankers in a position to waste, speculate and steal other people's money in the first place?

The Big Short

Although *The Big Short* (2015) does not address this last question either, it is already far more interesting than *The Wolf of Wall Street*. *The Big Short* presents three asset managers (played by, among others, Christian Bale and Ryan Gosling) who in 2005 established that there was a gigantic housing bubble, with house-prices being higher than (stagnating) wages could ultimately sustain. Investment banks were however still massively trading financial products (so-called mortgage-backed-securities or MBS's), the value of which was directly based on ever-rising house prices. So the asset managers decided to bet against the housing market by shorting the MBS's that investment banks trade so voluminously. If they were correct and house prices would indeed fall, they will earn big time. Much of the movie revolves around the question of whether the asset managers can pull it off. And of course, the protagonists in the end do and thus walk away with a lot of money.

The movie exclusively depicts the perspective of the asset managers. They are the heroes of the movie, or at least they are heroic. The resulting lonely heroes vs. big villain story is far more interesting than *WoWS,* as the villains consist of a group of investment banks. This set-up remains problematic nonetheless. For one thing, the asset managers are financial sector guys; they are supposedly the good guys but act on monetary motives only and thus confirm the capitalistic ethos. And, of course, they are all guys, so the audience can easily perceive them as heroic. This is further facilitated by them all being white, well-educated and urbanite (like virtually all bankers are). The victims of the banks, who were tricked and seduced into debt, are absent. These deplorables, as Hillary Clinton called them, do not have a voice in the story and are thus denied any political agency.

On the positive side, *The Big Short* tells the story from the perspective of people working against banks. Banks here are unambiguously on the wrong side. And so it should be. The banks however, also remain anonymous. They are the big bad wolf and as such also lack clear agency. They are just there and they are just bad. As such the Big Short is a version of the bad apple-morale, but now the rotten apples are stored in dozens on Wall Street and they are taken on by some brave (albeit profit-maximizing) asset managers. Research output:

Margin Call

Voters on IMDB rank *Margin Call* (2011) lower than *WoWS* and *The Big Short*. I disagree. *Margin Call* goes where *The Big Short* does not thread. It looks the beast in the eye. It looks inside investment banks and shows the anatomy of fraud, the systemic nature of it. It shows organized crime. *Margin Call* dramatizes the predicaments of a fictional bank (though inspired by the downfall of the investment banks *Bear Stearns* and *Lehman Brothers*). The board members of this hypothetical bank realize that the financial products, such as the aforementioned MBS's, are seriously overvalued. If they hold on to these worthless assets, the bank will go bankrupt. If they can sell them to oblivious investors (like pension funds) before news of the worthless subprime mortgages breaks, they'll come out unharmed. Of course, the bank decides to do the latter.

Margin Call shows this decision-making-process, including the appointment of a fall guy (which, incidentally is a woman, played by Demi Moore). The fall guy takes all the blame (of course in exchange for a golden parachute). The strength of *Margin Call* is that it shows *how* the crime of selling worthless securities (which is not different from the misdemeanours portrayed in the *WoWS*) is committed. The CEO, played by Jeremy Irons, understandably wants the firm to survive. The middle man, played by Kevin Spacey, just does what he is told. The junior guys don't really know what is going on, and also do what they are told to do (for which they are generously rewarded). And the only man who was sceptical about it all has already been fired. It's a system that an individual cannot take on (as *The Big Short* suggests), and *Margin Call* shows that. It shows the criminogenic zone that calls itself the financial sector.

This is not to say that *Margin Call* is flawless. Again, the movie follows the motivations of white, male banksters, once again reducing all victims to voiceless anonymity. What is more, the movie depicts the predicaments of one bank. Although this bank can be taken as a pars pro toto, it also echoes the rotten apple thesis, only scaled up a level. The problem is not that this or that bank was fraudulent. The problem is the functioning of the political-economic system, including supervisors, journalists, academics and politicians, in its entirety. *Margin Call* still suggests that a well-meaning CEO might have made a different decision than the Jeremy Irons-played culprit and that things would have turned out better then. But although investment banks are an important (and profiting) part of the system, they don't control it. In the end they too have to play along (and of course they happily do so).

Wall Street: Money Never Sleeps (WS: MNS)

WS: MNS (2010) is a sequel to *Wall Street* (1987). It has the lowest rating. It is not difficult to see why. The love story that makes up a substantial part of it is disconnected from the main story, without being interesting in its own right. The master-apprentice relationship between characters played by Shia Labeouf and Josh Brolin doesn't come close to the gripping admiration-turning-disgust-relationship of Charlie Sheen and Michael Douglas in *Wall Street*. So yes, parts of the movie are boring.

Yet Oliver Stone would not be the great director he is if the movie did not also contain several brilliant scenes. In the most important scenes, *WS: MNS* depicts the meetings at the Federal Reserve (the American central bank) where the biggest political robbery of all time was conducted. In 2008, 700 billion dollars (the so-called *Troubled Asset Relief Program* of Goldman Sachs' banker-turned-treasurer Paulson) was poured into the financial sector, no strings attached. These so called 'bail-outs' rescued all the large banks, including *Goldman Sachs*, on which the investment bank in *WS: MNS* is seemingly based.

Stone thus goes straight to the horse's mouth, to the meeting of the *capos di tutti capi*. In doing so, Stone shows what cannot be shown because it cannot be known (as central bankers are unelected, unaccountable, unremovable and operate in secret, with minutes of meetings undisclosed). Stone fictionalizes. He shows that the difference between bankers and the mafia is that the former are a legitimate group. Any reform of the system that keeps these bankers in place is no reform at all, just a legitimation. Any reform that takes on small fish like the *WoWS*-hustler or even an investment bank is just a variation on the saying that 'for things to remain the same, something will have to change.'

Conclusion

Although *WS: MNS* is the most interesting movie of the set, it is not flawless. Besides the aforementioned redundant scenes, the victims are once again anonymous, and that is again problematic. That, however, is not the most problematic aspect of *WS: MNS* or any of the other movies. In all four movies the straightjacket of plot-driven storytelling is the gravest limitation. Movies and storytelling in general needs a plot. It needs events. It needs protagonists. It needs action. But how to show a crisis which is not an event, not even a series-of-events?

The crisis is the latest apotheosis of a crisis of democratic capitalism that has been in the making for at least 50 years. The Vietnam War not only discredited the last moral standing the USA might have had but also threw the post-war Keynesian, social-democratic consensus off its feet. The seventies subsequently saw the awakening of a neoliberal project, which is liberal in its rejection of the welfare-state and is neo in its determination to not limit state power but to instead use it for the build-up of a crony *Ersatz* capitalism, characterized by financialization. In 2008 the banks were not nationalized. The state was privatized. Bankers didn't so much plunder the treasury, but turned out to outright own it. The American state threw 700 billion at the banks. European banks were either bailed-out directly (the Dutch state for example bought the shares of the insolvent bank ABN AMRO) or indirectly (teaming up as the so called Troika, the European Central Bank, the IMF and the European Commission have operated since 2010 as debt collectors on behalf of French and German banks, enforcing banks' claims on the insolvent Greek state by throwing Greece in debtor's prison to be released at an unspecified moment in the future after all Greek utilities have been sold to German banks at fire sale prices, after wages and pensions have been decimated and after all employment rights have been torn up).

The Big Short, *Margin Call* and *Wall Street: Money Never Sleeps* illustrate aspects of the political predicament we are now in. The malpractices of banks that the movies depict is unsettling in a way books and articles cannot get across. And they have the potential to engage a wider public. But the movies do not get across the bigger picture. That is of course not the aim of most Hollywood directors, nor would film studios allow that if it was. But critical and engaged directors such as Oliver Stone are also confronted with intrinsic limitations. Particularly, here every director is confronted with the general problem of dramatization: how to tell a tale in such a way that it doesn't become a rounded just-so story with a happy, or at least not too unhappy, ending. And for the majority of people — that much is clear — the GFC will not have a happy ending.

References

Margin Call (dir. J.C. Chandor, 2011).
The Big Short (dir. Adam McKay, 2015).
The Wolf of Wall Street (dir. Martin Scorsese, 2013).
Wall Street: Money Never Sleeps (dir. Oliver Stone, 2010).

THE CRYPT OF ART, THE DECRYPTION OF MONEY, THE ENCRYPTED COMMON AND THE PROBLEM WITH CRYPTOCURRENCIES

MAX HAIVEN

THE CRYPT OF ART, THE DECRYPTION OF MONEY, THE ENCRYPTED COMMON AND THE PROBLEM WITH CRYPTOCURRENCIES

MAX HAIVEN

As I have argued in the first *Moneylab Reader*, money is a medium of the imagination.[1] While it is often presumed to be a banal and basic substance marked by its fungibility, ease of use, widespread acceptance and legal status, money also has a dramatic impact on what and who we imagine is valuable. Conversely, money depends on individuals' and society's constant imaginative labors to reaffirm its power, especially in an age of immaterial and fiat currencies devoid of any possible use-value outside of capitalist exchange. By extension, I argued that we need to reassess and deepen our aspirations for currency reform: at some level all schemes for 'fixing' money, no matter how technocratic, have encrypted within them deep ideological and philosophical assumptions which, if we fail to disinter them, usually lead us to reproduce or re-inscribe the ills of the current system in our plans and protagonism for a new one.

With that in mind I want to, here, return to these questions of value, the imagination, currency and power by undertaking what might at first seem like a curious question: what can the fate of art today, in an age of its rapid and dramatic financialization, teach us about the pitfalls lying before those using the latest technological tools to develop supposedly 'autonomous' crypto-currencies? At stake here is, once again, to question the very relationship of *value* and *imagination* that so vexes anyone looking deeply into today's capitalist economic system with an eye to change (or abolish) it.[2] To approach an answer, however, we will have to exit the complex, if seductive, cathedral of monetary theory and philosophy for a moment and descend into the crypt, where the bodies are buried.

*

Sequestered in the winding roads of an industrial park, next to the airport tarmac, a mere block away from the garrison of the border police, the Singapore's *Le Freeport* stands isolated from its neighbors behind layers of razor-wire fences. This is a purpose-built, highly secured luxury warehouse for the storage of artworks. While dozens of freeports of this nature exist around the world--mostly in Europe--*Le Freeport* is unique in size, ambition and design.

1 Primavera de Filippi and Samer Hassan, 'Measuring Value in the Commons-Based Ecosystem: Bridging the Gap between the Commons and the Market', in *Moneylab Reader: An Intervention in Digital Economy*, Geert Lovink, Nathaniel Tkacz, and Patricia De Vries (Eds), Amsterdam: Institute for Network Cultures, 2015, pp. 74–91, http://networkcultures.org/blog/publication/moneylab-reader-an-intervention-in-digital-economy/.

2 Max Haiven, *Cultures of Financialization: Fictitious Capital in Popular Culture and Everyday Life,* London and New York: Palgrave Macmillan, 2014.

With an invitation, you might speak through an intercom to guards and be buzzed through several state-of-the-art security gates before you enter the compound itself and take in the black and red facility. Then you will pass through a battery of checkpoints more rigorous than any airport. You will hand your passport, through a two-way drawer, to an invisible guard in an office on the other side of one-way glass. Courteous staff will instruct you to empty your pockets into a small box and place it, along with your bags, in an x-ray machine while your body proceeds through the L3 full-body scanner. The millions of dollars of state-of-the-art security, and the slick, chrome, grey and red modernist style contribute to a feeling of weightless contemporariness, a sort of weaponized neutrality: the aesthetic of financial liquidity itself.

Security is only the secondary objective of all this infrastructure, the candid, curious, debonair warden of the horde explained in January of 2017 as he led me into *Le Freeport's* massive atrium, enmeshed in a huge specially commissioned sculpture and surrounded by identical security doors. The designers and architects worked as closely as possible with the world's leading insurance firms to guarantee that the building, mere meters from the tarmac of one of the busiest airports in Asia, presented an almost zero-risk environment. In any case, he joked: were a thief actually able to breach the state-of-the-art security, where would they go? Singapore is a highly militarized island connected to Malaysia by two bridges and otherwise surrounded by ocean.

The primary reason for the 'extreme vetting' of visitors, my guide confides, is the same reason for the 'starchitecture' and massive atrium sculpture: it's a kind of financial theater. It is not only to impress upon wealthy clients that their art treasures are safe in the crypt, but that they are worthy and estimable subjects for owning objects worthy of such concern, and for investing in their protection. Like Foucault's panopticon, this hypersecuritized, infinitely surveilled dark-utopian apparatus not only controls space, it creates subjects.[3]

Here, an impossible to ascertain number of cultural treasures lie encrypted, from delicate and one-of-a-kind ancient Chinese urns to conceptual artworks printed on A4 paper. 'We don't know and we don't want to know what's in the vaults' the warden tells me, a man who himself marvels at the ironies and contradictions of his vocation. His job, he explains, is to offer *Le Freeport's* clients rooms (of variable dimensions, depending on need) that are and will forever be 22 degrees centigrade, 55% relative humidity (unless otherwise requested) and as close to risk-free as possible. What those clients chose to encrypt in *Le Freeport* is their private business, with a tiny modicum of state oversight. While technically objects stored in the luxury warehouse exist on Singaporean soil, until they leave the facility by the front door and enter Singapore-proper, their owners pay no tax — it is as if they are still sitting on the airport tarmac, to which *Le Freeport* has special access rights directly from its back gates. Backup generators stand ready in the unlikely event of power disruption, and a waterless fire-suppression system will suck out the oxygen from a room and replace it with nitrogen to ensure no damage comes to the art hoard within.

3 Michel Foucault, *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan, New York: Vintage, 1979.

The chain of accountability is nebulous, to say the least.[4] The Swiss company that built the facility also has spun off a management company to operate it, which in turn leases space to clients like Christie's and various other firms specializing in the delicate and secretive world of fine art sales, storage, handling and restoration. These companies might be hired by a museum of a collector or a gallery (or a shell company set up by any of the above) to house an artwork. What precisely is inside the crypt is anyone's guess, though we can be reasonably sure that expensive works of art must be held therein. The record of ownership, like the owners themselves, could be anywhere in the world. What is certain is that *Le Freeport* exists in Singapore to take advantage of the quasi-authoritarian capitalist city-state's unique location (close, but not too close to China), its notoriously strict laws, a militarized population of highly-educated native English speakers, a transparent system of property law in accordance with neoliberal international treaties, and, most importantly, proximity to booming Asian (especially Chinese) art markets.

Presuming that there is indeed art within *Le Freeport*, then it is art's crypt. I mean this in three interwoven ways.

First, freeports are essentially is a hermetically sealed, risk-free zones where art objects can be placed to ensure that they retain their value purely as an investment vehicle.[5] While there are viewing rooms within *Le Freeport* its real purpose is to remove art from worldly circulation, while preserving it for purely financial or speculative circulation. An art object thus encrypted may never move an inch, but the rights to its ownership may be sold or transferred thousands of times. So the freeport is a kind of architecture of global financialized capitalism that encrypts art within its walls. A crypt is not simply a tomb: a crypt seals in the dead in order that they still might live, after a fashion: we builds crypt around the dead to impress upon the living their value, to haunt the imagination.

Second, freeports encrypts art as a kind of money: the art exists in the world as a kind of financial code, a digitally-manipulated asset to be transferred and parlayed. Like an encoded word transmitted in a public broadcast, financialized art still transmits meaning and value, but only to those who bear the keys of decryption, in this case those with enough wealth to buy the work, ship it to elsewhere and uncrate it again as art. Here art, that notoriously illiquid asset, that notoriously unruly child of capitalism, is liquefied into a market substance. This is thanks, in large part, to the rise of transnational communications networks and computing power that have been turned towards creating a globe-spanning financial, logistical and legal infrastructure-ecology which can translate *anything*, even a thing so unique and disobedient as art, into an indifferent commodity for speculation.[6]

Finally, due to the way freeports transforms art into a purely conceptual object on capital's terms, under its own economy and order of value it in a way completes the task of

4 Sam Knight, 'The Bouvier Affair', *The New Yorker*, 8 February 2016, http://www.newyorker.com/magazine/2016/02/08/the-bouvier-affair.

5 Hito Steyerl, 'Duty-Free Art', *e-flux* 63 (March 2015), http://www.e-flux.com/journal/duty-free-art/.

6 Randy Martin, *Knowledge LTD: Towards a Social Logic of the Derivative*, Philadelphia: Temple University Press, 2015.

the 'death of art' in a way the avant-garde was never able to. In Peter Bürger's authoritative analysis, the objective of these art movements was to abolish the separation of art and life as a form of political agitation that sought to liberate human creativity from the gilded prison of artistic institutions and its chosen protagonists (those fortunate or privileged enough to be deemed 'artists').[7] In the latter part of the 20th century radical artists spearheaded the 'dematerialization' of art itself towards this end, developing practices of conceptual art, activist art, performance art, institutional critique and participatory art.[8] *Le Freeport*, and the financialized order of which it is a part, seems to have succeeded in part based on the radical labors of artists who insisted that art needed no physical presence or trace to function as a socially transformative force. But in the case of the *Le Freeport*, art has dissolved into a financialized everyday, not a horizon of liberation but of terrifying power and inequality. In this sense, the freeport is the tomb or crypt of art's dreams of liberation.

Indeed, the rise of freeports like this one in Singapore is part and parcel of a broader tendency to transform art into a target of financialized manipulation and generator of speculative wealth. For as long as there has been a thing we call 'art' (since roughly the 17th century) it has been tied up with money: the tastes and demands of the wealthy — often financiers and speculators — shaped the development of Western art history and, indeed, led to the manifestation of 'art' as a discrete area of human achievement, activity and production (as contrasted to craft, ornament, or kitsch).[9] Art was a key vehicle for the reproduction of the capitalist class and art appreciation and collecting proved a means to cultivate belonging, distinction and esteem within elite worlds.[10] But in previous times art proved a notoriously illiquid asset: it was difficult to find a buyer who shared one's taste and who had ready money to pay. Further, the art market was (and to a large extent remains) opaque, corrupt and confounding to all but insiders.

Over the past decade institutions like *Le Freeport*, responding to the proliferation of financially-enriched so-called 'high net worth individuals' (HNWIs) the world over, have sought to increase the liquidity of art markets. These include all manner of 'innovations': price indexes like the Mei-Moses that purport to offer a reflection on art investment trends;[11] new online art tracking and pricing applications and websites that provide up-to-the-moment price information; developments in art insurance and collateralized lending to allow collectors to leverage the value of their art/investments; increasing friendliness from banks and financial institutions towards art as investment and collateral; the concentration of art sales in the hands of a few branded global mega-galleries; the multiplication of art fairs into financial metropoles around the world

7 Peter Bürger, *Theory of the Avant-Garde*, Minneapolis, MN: University of Minnestoa Press, 1984.

8 Claire Bishop, *Artificial Hells: Participatory Art and the Politics of Spectatorship,* London and New York: Verso, 2012; Stevphen Shukaitis, *The Composition of Movements to Come: Aesthetics and Cultural Labor after the Avant-Garde,* London and New York: Rowman & Littlefield, 2016.

9 Janet Wolff, *The Social Production of Art*, New York: New York UP, 1984.

10 Pierre Bourdieu, *Distinction: A Social Critique of the Judgement of Taste,* Cambridge, MA: Harvard University Press, 1984; Jean Baudrillard, *For a Critique of the Political Economy of the Sign*, St. Louis, MO: Telos, 1981.

11 Noah Horowitz, *Art of the Deal: Contemporary Art in a Global Financial Market,* Princeton, NJ and London: Princeton University Press, 2011; 'Art and Finance Report 2016', Luxembourg: Deloitte, 2016, https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/financial-services/artandfinance/lu-en-artandfinancereport-08092014.pdf.

and their evolution from stuffy trade shows into luxury mega-events; the dominance of the auction market by essentially two ambitious corporations, but also the proliferation of start-up online auction and sales platforms; even the (overhyped but significant) development of art investment funds that essentially allow many investors to jointly purchase pieces purely for their speculative value.[12]

*

Yet the umbrage we often take at the 'financialization of art' should be tempered. First, while financialization is real, art is far from its most important victim, in spite of how much its profaning might hurt our romantic feelings. Financialization, I have argued, refers to an economic, political, sociological and cultural shift towards the dominance and the influence of finance; not only does the financial sector of capitalism have massive power over (other) corporations, the policies of nation-states and the prices of things like food, land, housing and water, but finance's 'logics', its codes, measurements, metaphors and methods begin to seep into and reconfigure a wide variety of social institutions (universities, charities, public sector services) and shape everyday cultural life as well.[13] Why should art be afforded a special exemption?

As Suhail Malik has argued, the financialization of art is not the shocking exception to the rule; it actually has a lot to tell us about the nature of today's financial markets themselves.[14] We assume that, unlike other more 'useful' commodities that at their base have some material value, art's price derives purely from its symbolic and relational value to collectors and art institutions. But Malik argues today 'neoliberal financialization' (my term, not his) is marked by the proliferation and power of money well beyond any referent to 'real world value': financial objects like derivative contracts, as Randy Martin notes, have real power over the economy but are seemingly completely detached from any tangible 'reality' of use-values or labor power.[15] This being the case, Malik argues that the absurd shenanigans, occult practices and bad business of the art market are *not the exception but the exemplar* of how finance works today: it is the product of multiple interwoven, mutually dependent and institutionally reproduced acts of symbolic evaluation and pricing. Like the value of contemporary art, the value of

12 On these trends, see Andrea Fraser, 'L'1%, c'est Moi', *Texte Zur Kunst* 83 (2011); Noah Horowitz, *Art of the Deal*; Suhail Malik and Andrea Phillips, 'Tainted Love: Art's Ethos and Capitalization', in *Contemporary Art and Its Commercial Markets. A Report on Current Conditions and Future Scenarios*, Maria Lind and Olav Velthuis (eds), Berlin: Sternberg, 2012, pp. 209–240; Emily Rosamond, 'Shared Stakes, Distributed Investment: Socially Engaged Art and the Financialization of Social Impact', *Finance and Society* 2.2 (19 December 2016): pp. 111–26; Hito Steyerl, 'Duty-Free Art'; Mark C. Taylor, 'Financialization of Art', *Capitalism and Society* 6.2 (9 January 2011); Olav Velthuis, *Talking Prices: Symbolic Meanings of Prices on the Market for Contemporary Art, Princeton Studies in Cultural Sociology*, Princeton, NJ: Princeton University Press, 2007; Olav Velthuis, *Cosmopolitan Canvases: The Globalization of Markets for Contemporary Art*, New York, NY: Oxford University Press, 2015; 'Art and Finance Report 2016'.

13 Haiven, *Cultures of Financialization.*

14 Suhail Malik, 'The Ontology of Finance: Price, Power, and the Arkhéderivative', in *Collapse Vol. VIII: Casino Real,* Falmouth, UK: Urbanomic, 2014, pp. 629–811; Suhail Malik and Andrea Phillips, 'Tainted Love: Art's Ethos and Capitalization'.

15 Randy Martin, *Knowledge LTD: Towards a Social Logic of the Derivative;* Dick Bryan and Michael Rafferty, *Capitalism with Derivatives: A Political Economy of Financial Derivatives, Capital and Class*, London: Palgrave Macmillan, 2006.

financial products is (in spite of much pompous ballyhooing from insiders) the arbitrary manifestation of competing claims to value based on representation, cunning illusion, aesthetic manipulation and personal and professional relationships within interlocking social and institutional circles.

I agree with this assessment for the most part, but I am not convinced today's forms of capitalist money, even in its highly financialized and weaponized form, has given up all relationship to an underlying 'real' form of value. Malik's analysis draws upon the theories of Jonathan Nitzan and Shimshon Bichler, who make a complex argument summed up in the deceptively simple phrase 'capital is power'.[16] That is: the violent torrents of money that flood and recede around the world do not ultimately stem from any particular wellspring but churn endlessly. Money is the weapon of power, and money's power is the result of it being weaponized by the powerful.

This stands in contrast to two more common theories of money's origins and power. The first is the classically liberal and conventional neoliberal idea that money is simply a sophisticated evolution of the natural human act of bartering: producers come to the marketplace with different commodities to exchange; for the sake of convenience they consent to use one commodity as the universal referent to facilitate all trades, overcoming a whole range of problems. For neoliberals, this mythological original moment of money defines its nature — today's financialized fiat currencies are merely the more complicated expression of this tendency.[17]

In contrast, Marx's notion of money questioned the peace and tranquility of this vision of money's origins and argues that, under capitalism, the commodities brought to market are the result of the exploitation of workers.[18] Money carries encrypted within it the residue of this exploitation, and it functions in the world to enable more exploitation: it is the threat and reward that conscripts non-owning producers (the proletariat) to the will of non-producing owners (the bourgeoisie). Money is also, for Marx, the worldly manifestation or appearance of *capital* itself, the systemic presence behind the economy of capitalist accumulation, the totality of capitalist social relations that makes itself the means and the ends of almost all human activity.

For Nitzan and Bichler posing capital-as-power objects to both frames. On the one hand, it rejects the classical liberal and now neoliberal idea that money is simply a neutral tool. Rather, money is used and manipulated by the powerful (including imperialist nation-states and exploitative capitalists) to further entrench, reproduce or expand their power. On the other, this approach rejects the Marxian notion that money ultimately stems from the exploitation of workers and represents, in skewed form, their stolen labor power. In contrast, for Nitzan and Bichler while capitalist exploitation still occurs (and is enabled by and rewarded by money), money itself is not ultimately an expression of oppressed or exploited labor.

16 Jonathan Nitzan and Shimshon Bichler, *Capital as Power,* London: Routledge, 2009.

17 For a radical anthropological critique of this position see David Graeber, *Debt: The First 5000 Years*, New York: Melville House, 2011.

18 Anita Nelson, *Marx's Concept of Money: The God of Commodities*, London and New York: Routledge, 1999; Costas Lapavitsas, *Political Economy of Money and Finance,* London and Basingstoke: Macmillan, 1999.

Certainly there is a great deal of merit to this claim, especially in an age of financialization where the value of money seems more dependent on financial currency speculation and inter-imperialist manipulations of exchange rates and fiat money supplies. In an age when the outstanding volume of derivatives contracts — which can essentially function like money — exceeds the (already skewed measure of the) world's GDP by a factor of thousands, it's hard to make a case that 'money' (whatever that is) is either the 'scaled-up' expression of some basic human tendency to truck and barter (qua neo-classical economics) *or* the magnitude of hijacked socially necessary labor time invested in the creation of commodities (qua Marx).

Still, for both theoretical and political reasons, I retain a fidelity to some dimension of the labor theory of value and Marx's insistence that we see labor as the source of all wealth and there for encrypted within the money form.[19] Theoretically, I am wary of the idea that money is, today, merely the product of the play of arbitrary power relations. I think we need to hold fast to the reality that money is the means by which a global system of capitalism is orchestrated, regulated and organized, even if that organization is chaotic, nonsensical and plagued by morbid crises. Without discounting the very real power of the capitalist state (while not forgetting the adjective), no other force on earth other than capital has created a form of money like the one we witness today, and certainly no other force has elevated money to the alpha and omega of the world it creates. I agree that money is never neutral, but under capitalism the power that reproduces money, and that is reproduced by money, is capitalism, and its particular characteristics and dependency on the exploitation of labor is vital to keep in mind, even when we follow money into its financial extremis.

Second, I think we potentially make a dangerous political mistake when we think of money outside of labor. As Harry Cleaver illustrates, Marx wrote *Capital* and, in particular, the first chapter of *Capital* on commodities and money, as a means to put a conceptual weapon in the hands of the working class.[20] It essentially argued, against the classical liberal economists who glorified wealth and power, that workers were the source of all the world's wealth, that they therefore had power if they acted together, and that they had the natural right to not only reclaim that wealth but reimagine, on a mass scale, the nature of value. Workers had the duty to negate their own negation, to overturn a system that made them miserable, exploited and alienated. I break with classical Marxists in my understanding of labor and value in broader terms. I see the term labor as in many ways a misnomer all too often reserved for industrialized manufacturing, when it ought, I think, to be more productively thought of as imaginative cooperative energies which take place both within formal workplaces and also in the realm of social reproduction (the bearing and raising of children and maintenance of homes and communities), whether waged

19 I am here generally sympathetic to many of David Harvey's efforts to likewise explain complex financial, monetary and economics shifts through this lens; see David Harvey, *The Limits to Capital*, 2nd edition, London and New York: Verso, 2006; David Harvey, *The Enigma of Capital,* Oxford and New York: Oxford University Press, 2010; David Harvey, *Seventeen Contradictions and the End of Capitalism*, Oxford and New York: Oxford University Press, 2014.

20 Harry Cleaver, *Reading Capital Politically,* Edinburgh and San Francisco: AK Press, 2000.

or unwaged.[21] I see 'value', ultimately, not as a hard and fast thing to be measured in labor hours but the way the capitalist accumulation harnesses, shapes and contorts the realm of values; that is to say, capitalism transforms and depends on the transformation of what and who we imagine is valuable.[22] There is a dialectical relationship between how we imagine value (individually and collectively) and how we cooperate together and to what ends. Capitalism ultimately seeks to shape this cooperation towards its own reproduction.

For that reason, I see money as the crypt of the imaginative-cooperative dimension of labor. Money, the worldly manifestation of capital, translates our cooperative energies into a solidified (even if still dematerialized) form, which is offered back to us as the means to access the fruits of our cooperation. This was the ultimate meaning of Marx's notion of the commodity fetish, where we are so alienated from the thing we (the proletariat, the cooperating creators) have created that it appears to us not as our own creation but as if endowed with a kind of supernatural value.[23] Money, the ur-commodity, the ultimate manifestation *and* facilitator of this process is also the ultimate manifestation and facilitator of commodity fetishism.[24] As David Graeber argues, weaving together Marx's theories and the ideas of 19th Century anthropologist Marcel Mauss, when we hold money we actually hold the counterfeit of our own dreams, a fragment of our own collective power offered back to us as a magical object.[25] As I argued in my contribution to the first *Moneylab Reader*, this is why money is a medium of the imagination, and why art involving money can be so potent. When we decrypt the collective cooperative potential within money it is like splitting the atom: untold power awaits.[26]

*

I have provided this all too brief theoretical explanation to make clear my further unpacking of the notion of encryption, on our way to a final reconsideration of the politics and potentials of cryptocurrencies.

---

21 In this perspective I take inspiration from texts including Massimo de Angelis, *The Beginning of History: Value Struggles and Global Capitalism*, London and Ann Arbor, MI: Pluto, 2007; Massimo De Angelis, *Omnia Sunt Communia: On the Commons and the Transformation to Postcapitalism*, London: Zed, 2017; Silvia Federici, *Revolution at Point Zero: Housework, Reproduction, and Feminist Struggle*, Brooklyn, NY and Oakland, CA: Common Notions (PM Press), 2012; George Caffentzis, 'On the Notion of a Crisis of Social Reproduction: A Theoretical Review', in Giovanna Franca Dalla Costa and Mariarosa Dalla Costa (eds), *Women, Development, and Labor of Reproduction: Struggles and Movements*, Trenton, NJ, and Asmara, Eritrea: Africa World Press, 1999, pp. 153–88.

22 Max Haiven, *Crises of Imagination, Crises of Power: Capitalism, Creativity and the Commons*, London and New York: Zed, 2014.

23 Stephen Duncombe, 'It Stands on Its Head: Commodity Fetishism, Consumer Activism, and the Strategic Use of Fantasy', *Culture and Organization* 18.5 (2012): 359–375.

24 Nelson, *Marx's Concept of Money.*

25 David Graeber, *Toward and Anthropological Theory of Value: The False Coin of Our Own Dreams,* New York: Palgrave, 2001.

26 Brian Massumi, *The Power at the End of the Economy*, Durham: Duke University Press, 2015.

I am drawing on the term's psychoanalytic resonances as parsed by Jacques Derrida.[27] Drawing on the re-reading of Freud presented by Nicholas Abraham and Maria Torok, Derrida's notion of encryption names a process where a constitutive and essential part of a system (language, philosophy, society) must be sealed in a structure, a crypt, where its status as living or dead is unknown. For Abraham and Torok, both practicing Freudian psychoanalysts working against the Lacanian turn, encryption occurs in patients who have witnessed (not necessarily endured) trauma at the hands of an idolized figure.[28] In their re-reading of Freud's analysis of the pseudonymous Wolf-Man, the patient's speech is encrypted because he witnessed the sexual abuse of his beloved sister by his revered father at a sensitive moment of his development.[29] In order to defend the idolized father-object as a central element of his unconsciousness, he encrypted it within his psyche, preserving the projection in a state of both life and death. Symptomatically, the Wolf-Man exhibited an aversion to certain words and phrases tangentially related to the internal crypt, rendering his testimony an encrypted message for him and Freud to decrypt in the course of analysis. Yet a key feature of encryption is the mobilization of all psychic resources to avoid decryption, for fear of revealing the underlying trauma and being forced to reconstruct the entire psyche without the encrypted object. Meanwhile, however, the Wolf-Man himself became encrypted within his own crypt — because the psyche is built around the preserved lost object in the crypt, it is actually the psyche itself that is in the crypt, both dead and alive.

Without wishing to engage in a lengthy discussion (and problematization) of psychoanalytic methods and theories, the metaphor of the crypt can be highly useful, especially in the capacious sense Derrida gives the phrase: encryption is the process by which a lost object of projection and attachment is secretly maintained in a state that is both life and death. This act of inner encryption exhibits outwardly as encrypted speech or utterance that evades or actively avoids decryption in order to preserve the system or structure between life and death. For Derrida, as those familiar with his work might well imagine, some sort of final decryption and liberation from the crypt is impossible. He uses the metaphor of the archway (a term that shares an etymology with crypt in French) to illustrate how a crypt is, in fact, part of a system of mutual supports. Thus for Derrida decryption does not aim to reveal or discover some 'true' final meaning but, rather, to engage in a deconstructive process of revealing this architecture of mutual reliances.

Like a crypt we might see in a graveyard, both art and money are functional concepts that, on the surface, appear stable, eternal, perhaps melancholy, but in any case majestic. Like a mausoleum (a large, public crypt) at the heart of a city, both art and money have pride of place in the ideological environment of late capitalism — they are akin to public monuments by which we navigate collective conceptual space.

27 Jacques Derrida, 'Foreword: Fors: The Anglish Words of Nicholas Abraham and Maria Torok', trans. Barbara Johnson, in Nicholas Abraham and Marie Torok, *The Wolf Man's Magic Word: A Cryptonymy*, trans. Nicholas Rand, Minneapolis and London: University of Minnesota Press, 1986.

28 Nicholas Abraham and Maria Torok, *The Wolf Man's Magic Word: A Cryptonymy,* trans. Nicholas Rand, Minneapolis and London: University of Minnesota Press, 1986.

29 Sigmund Freud, 'From the History of an Infantile Neurosis', in Peter Gay (ed.), *The Freud Reader*, New York: Norton, 1995.

They are usually completely taken for granted. To the extent they are examined, to carry the metaphor forward, it is to comment on the architectural features of the crypt itself: matters of aesthetics or of economics address art and money as if they were stable categories. My approach, by contrast, is to question what lies encrypted within, what is held, both living and dead, inside.

The Marxist answer, is, of course (always) labor, and indeed Marx provides us with a neatly fitting metaphor himself: living labor and dead labor. Briefly, living labor is Marx's category to describe the forms of vital, cooperative human energies that capitalism seeks to harness and transform into commodities to be exchanged for capital;[30] dead labor is the result: commodities created by the violent harnessing of living labor, the solidified essence of human cooperation into a coerced form. Such commodities, this dead labor, in turn, becomes part of the capitalist apparatus for exploitation of living labor: it becomes the commodities workers must buy to survive, the alienated infrastructure of capitalist accumulation (factories, machines, housing stock, roads) and, ultimately, capital itself, including (especially) capital's ultimate manifestation, money. Capital itself is the horrific undead rule of labor within and by systems and structures of its own creation. Money is the ultimate residual expression *and* reproductive vehicle of this exploitation and alienation.

In this sense, money might be understood as 'the common' in encrypted form. Eli Meyerhoff, parsing the work of Autonomist Marxist theorist Cesare Casarino, draws out a distinction between 'the common' and the 'the commons', also present (but not defined) in the work of Antonio Negri and Michael Hardt.[31] The commons, of course, refers historically to those lands in England reserved for the use of peasants for the purposes of self-sufficiency, whose destruction and enclosure was key to the birth of capitalism and the rise of a proletarian class dependent on wages and commodities (rather than common land and self-sufficiency) for survival.[32] Since that time, the commons has come to name a whole range of 'resources' managed collectively, democratically and in an egalitarian way.[33] For Nobel Memorial Prize in Economics laureate Elinor Ostrom, the commons represent a third option, besides the state and markets,

30 Jason Read, *The Micro-Politics of Capital,* Albany, NY: State University of New York Press, 2003, pp. 61–102.

31 Eli Meyerhoff, *Political Theory for an Alter-University Movement: Decolonial, Abolitionist Study Within, Against, and Beyond the Education Regime*, Minneapolis, MN: University of Minnesota, 2013, http://conservancy.umn.edu/bitstream/handle/11299/175513/Meyerhoff_umn_0130E_14401.pdf?sequence=1&isAllowed=y; Cesare Casarino, 'Surplus Common', in Cesare Casarino and Antonio Negri, *In Praise of the Common: A Conversation on Philosophy and Politics*, Minneapolis, MN: University of Minnesota Press, 2008, pp. 1–40; Michael Hardt and Antonio Negri, *Empire*, Cambridge, MA: Harvard University Press, 2000; Michael Hardt and Antonio Negri, *Multitude: War and Democracy in the Age of Empire*, New York: Penguin, 2004.

32 E. P. Thompson, *The Making of the English Working Class*, New York: Pantheon Books, 1968; J. M. Neeson, *Commoners: Common Right, Enclosure and Social Change in England, 1700-1820*, Cambridge and New York: Cambridge University Press, 1993.

33 Peter Linebaugh, *Stop, Thief!: The Commons, Enclosures, and Resistance,* Oakland, CA: PM Press, 2014; David Bollier and Silke Helfrich (eds), *The Wealth of the Commons: A World Beyond Market and State*, Amherst, MA: Levellers Press, 2012; David Bollier and Silke Helfrich (eds), *Patterns of Commoning,* Commons Strategies Group, 2015.

for governing the use of and access to resources.[34] For many Feminist and Marxist critics and activists, the commons represent both the method and the horizon of social change: building and reclaiming common resources (housing, schooling, health, land) in the present presages and helps set the stage for a more profound system-wide transformation in the future.[35]

The common is the virtual conjugation of the actuality of the commons, the force or potential that stands behind every experiment in or instance of the actual commons. The common, for Cassarino and Meyerhof, represents the potential for commons-oriented activity pregnant throughout society. Indeed, the common is precisely what capitalism seeks to organize, coopt and control for its own reproduction and in the name of the accumulation of private profit. It is the raw force put to work in the capitalist economy, but rather than reproducing autonomous, democratic social life it is made to reproduce commodities for the market. Money, as the supreme commodity and the medium of commodity exchange, is in some sense, then, the representative of the alienation of the common: it is the crypt of the common, where the common is kept alive (as 'living labor' for the production of commodities) and dead (as in the 'dead labor' in the form of commodities, machines).

*

How then to decrypt the common from the cypher of money? How to escape or avoid financialization's grasp? One technique that has been vigorously proposed and experimented with is the development of cryptocurrencies, which other chapters in this book address in great detail and with varying levels of enthusiasm.

The optimism behind these currencies is that technological emergence of a method for organizing a currency without the need for either a physical value-bearing object (like gold or salt or cigarettes) or a centralized authority to oversee the ledger where transactions and savings are recorded.[36] There are a range of useful applications for such innovations such as international currency transfers (today monopolized by colonial-era companies like Western Union) or the ability to offer international solidarity resources to groups that struggle under oppressive regimes. Such developments have

34 Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, Camridge and New York: Cambridge University Press, 1990; Max Haiven, 'The Commons Against Neoliberalism, the Commons of Neoliberalism, the Commons Beyond Neoliberalism', in Simon Springer, Kean Birch, and Julie MacLeavy (eds), *The Handbook of Neoliberalism*, London and New York: Routledge, 2016.

35 Sivlia Federici, *Revolution at Point Zero: Housework, Reproduction, and Feminist Struggle*, Brooklyn, NY, and Oakland, CA: Common Notions (PM Press), 2012; Massimo De Angelis, *The Beginning of History: Value Struggles and Global Capitalism*, London and Ann Arbor, MI: Pluto, 2007; De Angelis, *Omnia Sunt Communia: On the Commons and the Transformation to Postcapitalism*, London: Zed, 2017.

36 A few insightful and (refreshingly) critical approaches to Bitcoin and cryptocurrencies include Ole Bjerg, 'How Is Bitcoin Money?', *Theory, Culture & Society* 33.1 (January 2016): 53–72; Bill Maurer, Taylor C. Nelms, and Lana Swartz, "When Perhaps the Real Problem Is Money Itself!': The Practical Materiality of Bitcoin', *Social Semiotics* 23.2 (April 2013): 261–77; Brett Scott, 'How Can Cryptocurrency and Blockchain Technology Play a Role in Building Social and Solidarity Finance?', *Geneva: United Nations Research Institute on Social Development*, 2016, http://www.unrisd.org/brett-scott.

also proven useful in attempts to (partially) detach communities from the exploitative global economy, allowing them to set up reliable systems of local exchange and micro-economies that support solidarity economies.[37] The Cooperativa Integral Catalana is perhaps one of the most successful examples, although their digital currency does not use high-caliber cryptographic techniques and is very rudimentary (and, note, functions just fine in spite of that).[38]

Yet in spite of these more practical applications of cryptocurrency technologies the vast majority of enthusiasts seem fixated on it portending a seemingly revolutionary and epochal transformation.[39] Part of this is due simply to the fact that today cryptocurrencies are the objects of intense speculation (though generally by a very small faction of people or investors). As in the art world, a speculative economy depends in no small part on ill-deserved hype, and there are numerous true believers, snake-oil salesmen and hangers-on eager to provide it. Unfortunately, as David Golumbia illustrates (focusing on Bitcoin), all too often what underlies that hype is a far-right and free-market libertarian notion of money and society, one that largely sees the state and those 'dependent' on it as the reason why capitalism doesn't function as it ought.[40] For adherents to this paradigm (most of whom have little idea that their ideology has a dark and racist provenance), a decentred 'autonomous' currency will remove the state from the equation, allowing markets to function 'naturally' and delivering us to the peace of a fabled meritocracy wherein those with talent and determination will be rewarded, with better results for everyone.[41]

From this dominant approach, cryptocurrencies aim to decrypt money. According to this logic, money is, in essence, a pure and neutral tool, evolving out of humanity's natural tendency to labor specialization and barter exchange. Along the way, between the mythic 'then' and the sordid 'now', money's neutrality has been compromised or encrypted: its codes and values have been layered-over by a new set of codes and values. For some, money has been encrypted by the state: the right to create and manipulate money is jealously hoarded and monopolized by governments that use this power to reproduce their own power. For others, this encryption of money has emerged from the power of large banks and financial corporations that use their influ-

37 See Primavera de Filippi and Samer Hassan, 'Measuring Value in the Commons-Based Ecosystem: Bridging the Gap between the Commons and the Market', in Geert Lovink, Nathaniel Tkacz, and Patricia De Vries (eds), *Moneylab Reader: An Intervention in Digital Economy*, Amsterdam: Institute for Network Cultures, 2015, pp. 74–91, http://networkcultures.org/blog/publication/moneylab-reader-an-intervention-in-digital-economy/.

38 Claudio Cattaneo and Aaron Vansintjan, 'A Wealth of Possibilities: Alternatives to Growth', *Brussels: Green European Foundation*, 2016, http://gef.eu/wp-content/uploads/2017/02/GEF_BackgroundStudy-screen-ok.pdf; Hirota Yasuyuki, 'Monedes Socials i Complementàries', *Oikonomics* 6 (2016), http://oikonomics.uoc.edu/divulgacio/oikonomics/ca/numero06/dossier/yhirota.html.

39 Nigel Dodd, 'The Social Life of Bitcoin', *Theory, Culture & Society,* Forthcoming (2017), http://eprints.lse.ac.uk/69229/1/Dodd_The%20social%20life%20of%20Bitcoin_author_2017%20LSERO.pdf.

40 David Golumbia, *The Politics of Bitcoin: Software as Right-Wing Extremism*, Minneapolis: University of Minnesota Press, 2016.

41 A. Maddox, S. Singh, H. Horst, and G. Adamson, 'An Ethnography of Bitcoin: Towards a Future Research Agenda', *Australian Journal of Telecommunications and the Digital Economy* 4.1 (2016), http://wombilical.net/ajtde/2016-03-v4-n1/a49.

ence in markets and over governments to stymie competition. So even though they are based on the latest cryptographic developments, ideologically and practically cryptocurrencies promise to decrypt money and return it to its original source code.

By contrast, the notion of money I have provided here would centre on the way money is not and has never been a neutral or pure tendency. It's not just that, as Nitzan and Bichler insist, money is always a weapon of power. It is also that, as I have argued, money takes on very particular characteristics under capitalism, characteristics that remain present (indeed, intensify and complicate) under financialization. To summarize: money is the false coin of our own dreams, our own imaginative-cooperative potential offered back to us in skewed and abusive form. It is both the lifeblood of capitalism and also the means by which capitalism disciplines, alienates and exploits us. Under capitalism money becomes the unquestionable and ruling force, the means and the ends of social relations. Financialization is not only the acceleration of the cycles of accumulation, it also represents the infiltration of this logic into all realms of social life. The financialization of art is a bellwether of this tendency: even the realm of allegedly non-purposeful or non-instrumental artistic action is turned into a generator of profit and an object of speculation.

From this perspective, what would decrypting money mean? It would mean to take collective actions that allow us to act, cooperate and produce value within, against and beyond capitalism. It would mean the decryption of the common that is today sealed within money through the creation and sustenance of particular commons or processes of commoning, as Massimo De Angelis frames them.[42] It would mean the creation of alternative, non-capitalist solidarity economies. It would mean sabotage, subversion and theft from reigning capitalist institutions. All this in the name of creating more and more opportunities for people to exit their dependency on capitalism and create new relationships and communities, new autonomous socio-political formations, and new methodologies of social reproduction and care.

Cryptocurrencies and the underlying blockchain technologies could potentially help us achieve these ends. They can become means to manage, in transparent and efficient ways, the coordination of our cooperative energies in local and small-scale initiatives, though I'm not convinced that this requires the magnitude of cryptographic security most such currencies insist upon.

Further, these technologies could, if combined with developments in visualization and narrativization, help us imagine and make democratic and equitable decisions about the big-picture problems that face communities. They can also help us imagine and create networks between such initiatives that will allow for the complex coordination of cooperation in a world beyond capitalist money. For instance, how could these technologies help us imagine and implement a global (or at least translocal) system for managing and distributing highly specialized or fragile commodities (like computers or perishable medicines) beyond the current global assembly line and logistics mainframes which are hideously exploitative to workers, consumers and the planet?

42 De Angelis, *Omnia Sunt Communia*.

There are numerous applications when we focus on the question of the common and the commons. What is key is to understand is that such applications will need to emerge from the material terrain of solidarity and struggle, not from the fantastical conjectures of enthusiasts. The reality is that we don't actually need more 'innovation'; we need developers to do the relatively unromantic work of training and facilitating non-technical people's use of these technologies, improving user interfaces and adapting and popularizing already-existing technologies. Moreover, we need more people to simply be involved with grassroots struggles for collective liberation, not wasting their time (and our resources) trying to come up with technologically-driven 'solutions' to social problems no one asked them to solve, or 'disrupting' things in ways that in no way challenge or change the existing power structures.

Those who would bear the cryptocurrency standard should take some time to examine the fate of the artistic avant-gardes addressed all too briefly above, whose renegade and hopeful artworks, each informed by admirable theoretical and political sophistication, lie encrypted in *Le Freeport*, a kind of grim monument to financialized capitalism's powers of adaptation and cooptation.[43] Brilliant individualistic acts of resistance or innovation, no matter how cunning, are easily enfolded back into that system: this is precisely how it evolves and survives. To challenge the system it is necessary instead to join the work of decrypting the common, allowing us to cooperate on the basis of non-capitalist values and, in so doing, produce non-capitalist value.

References

Abraham, Nicholas, and Maria Torok, *The Wolf Man's Magic Word: A Cryptonymy,* trans. Nicholas Rand, Minneapolis and London: University of Minnesota Press, 1986.

Angelis, Massimo De. *The Beginning of History: Value Struggles and Global Capitalism*, London and Ann Arbor, MI: Pluto, 2007.

_____. *Omnia Sunt Communia: On the Commons and the Transformation to Postcapitalism*, London: Zed, 2017.

'Art and Finance Report 2016', Luxembourg: Deloitte, 2016, https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/financial-services/artandfinance/lu-en-artandfinancereport-08092014.pdf.

Bishop, Claire. *Artificial Hells: Participatory Art and the Politics of Spectatorship,* London and New York: Verso, 2012.

Bjerg, Ole. 'How Is Bitcoin Money?', *Theory, Culture & Society* 33.1 (January 2016).

Bollier, David, and Silke Helfrich (eds), *The Wealth of the Commons: A World Beyond Market and State*, Amherst, MA: Levellers Press, 2012.

_____. *Patterns of Commoning,* Commons Strategies Group, 2015.

Boltanski, Luc, and Eve Chiapello. *The New Spirit of Capitalism*, trans. Gregory Elliot, London and New York: Verso, 2005.

Bourdieu, Pierre. *Distinction: A Social Critique of the Judgement of Taste,* Cambridge, MA: Harvard University Press, 1984; Jean Baudrillard, *For a Critique of the Political Economy of the Sign*, St. Louis, MO: Telos, 1981.

Bryan, Dick, and Michael Rafferty, Capitalism with Derivatives: A Political Economy of Financial Derivatives, Capital and Class, London: Palgrave Macmillan, 2006.

Bürger, Peter. *Theory of the Avant-Garde*, Minneapolis, MN: University of Minnestoa Press, 1984.

43 On the sophisticated ways financialized capitalism emerges, in part, from the capture of avant-garde energies, see Stevphen Shukaitis, *The Composition of Movements to Come: Aesthetics and Cultural Labor After the Avant Garde*, London Rowman & Littlefield International, 2016; Luc Boltanski and Eve Chiapello, *The New Spirit of Capitalism*, trans. Gregory Elliot, London and New York: Verso, 2005.

Caffentzis, George. ‘On the Notion of a Crisis of Social Reproduction: A Theoretical Review’, in Giovanna Franca Dalla Costa and Mariarosa Dalla Costa (eds), *Women, Development, and Labor of Reproduction: Struggles and Movements*, Trenton NJ and Asmara, Eritrea: Africa World Press, 1999.

Casarino, Cesare. ‘Surplus Common’, in *In Praise of the Common: A Conversation on Philosophy and Politics*, Minneapolis, MN: University of Minnesota Press, 2008.

Cattaneo, Claudio, and Aaron Vansintjan, ‘A Wealth of Possibilities: Alternatives to Growth’, *Brussels: Green European Foundation*, 2016, http://gef.eu/wp-content/uploads/2017/02/GEF_BackgroundStudy-screen-ok.pdf.

Cleaver, Harry. *Reading Capital Politically,* Edinburgh and San Francisco: AK Press, 2000.

Derrida, Jacques. ‘Foreword: Fors: The Anglish Words of Nicholas Abraham and Maria Torok’, trans. Barbara Johnson, in Nicholas Abraham and Marie Torok, *The Wolf Man’s Magic Word: A Cryptonymy*, trans. Nicholas Rand, Minneapolis and London: University of Minnesota Press, 1986.

Dodd, Nigel. ‘The Social Life of Bitcoin’, *Theory, Culture & Society,* Forthcoming (2017), http://eprints.lse.ac.uk/69229/1/Dodd_The%20social%20life%20of%20Bitcoin_author_2017%20LSERO.pdf.

Duncombe, Stephen. ‘It Stands on Its Head: Commodity Fetishism, Consumer Activism, and the Strategic Use of Fantasy’, *Culture and Organization* 18.5 (2012).

Federici, Silvia. *Revolution at Point Zero: Housework, Reproduction, and Feminist Struggle*, Brooklyn, NY and Oakland, CA: Common Notions (PM Press), 2012.

Filippi, Primavera de, and Samer Hassan. ‘Measuring Value in the Commons-Based Ecosystem: Bridging the Gap between the Commons and the Market’, in Geert Lovink, Nathaniel Tkacz, and Patricia De Vries (eds), *Moneylab Reader: An Intervention in Digital Economy*, Amsterdam: Institute for Network Cultures, 2015, pp. 74–91, http://networkcultures.org/blog/publication/moneylab-reader-an-intervention-in-digital-economy/.

Foucault, Michel. *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan, New York: Vintage, 1979.

Fraser, Andrea. ‘L’1%, c’est Moi’, *Texte Zur Kunst* 83 (2011).

Freud, Sigmund. ‘From the History of an Infantile Neurosis’, in Peter Gay (ed.), *The Freud Reader*, New York, NY: Norton, 1995.

Golumbia, David. *The Politics of Bitcoin: Software as Right-Wing Extremism*, Minneapolis: University of Minnesota Press, 2016.

Graeber, David. *Toward and Anthropological Theory of Value: The False Coin of Our Own Dreams,* New York: Palgrave, 2001.

_____. *Debt: The First 5000 Years*, New York: Melville House, 2011.

Haiven, Max. *Cultures of Financialization: Fictitious Capital in Popular Culture and Everyday Life,* London and New York: Palgrave Macmillan, 2014.

_____. *Crises of Imagination, Crises of Power: Capitalism, Creativity and the Commons*, London and New York: Zed, 2014.

_____. ‘The Commons Against Neoliberalism, the Commons of Neoliberalism, the Commons Beyond Neoliberalism’, in Simon Springer, Kean Birch, and Julie MacLeavy (eds), *The Handbook of Neoliberalism*, London and New York, NY: Routledge, 2016.

Hardt, Michael, and Antonio Negri. *Empire*, Cambridge, MA: Harvard University Press, 2000.

_____. *Multitude: War and Democracy in the Age of Empire*, New York, NY: Penguin, 2004.

Harvey, David. *The Limits to Capital*, 2nd edition, London and New York, NY: Verso, 2006.

_____. *The Enigma of Capital,* Oxford and New York: Oxford University Press, 2010.

_____. *Seventeen Contradictions and the End of Capitalism*, Oxford and New York: Oxford University Press, 2014.

Horowitz, Noah. *Art of the Deal: Contemporary Art in a Global Financial Market,* Princeton, NJ and London: Princeton University Press, 2011.

Knight, Sam. ‘The Bouvier Affair’, *The New Yorker*, 8 February 2016, http://www.newyorker.com/magazine/2016/02/08/the-bouvier-affair.

Lapavitsas, Costas. *Political Economy of Money and Finance,* London and Basingstoke: Macmillan, 1999.

Linebaugh, Peter. *Stop, Thief!: The Commons, Enclosures, and Resistance,* Oakland, CA: PM Press, 2014.

Maddox, A., S. Singh, H. Horst, and G. Adamson, ‘An Ethnography of Bitcoin: Towards a Future

Research Agenda', *Australian Journal of Telecommunications and the Digital Economy* 4.1 (2016), http://wombilical.net/ajtde/2016-03-v4-n1/a49.

Malik, Suhail. 'The Ontology of Finance: Price, Power, and the Arkhéderivative', in *Collapse Vol. VIII: Casino Real,* Falmouth, UK: Urbanomic, 2014.

Malik, Suhail, and Andrea Phillips, 'Tainted Love: Art's Ethos and Capitalization', in *Contemporary Art and Its Commercial Markets. A Report on Current Conditions and Future Scenarios*, Maria Lind and Olav Velthuis (Eds), Berlin: Sternberg, 2012.

Martin, Randy. *Knowledge LTD: Towards a Social Logic of the Derivative*, Philadelphia: Temple University Press, 2015.

Massumi, Brian. *The Power at the End of the Economy*, Durham: Duke University Press, 2015.

Maurer, Bill, Taylor C. Nelms, and Lana Swartz, "When Perhaps the Real Problem Is Money Itself!': The Practical Materiality of Bitcoin', *Social Semiotics* 23.2 (April 2013).

Meyerhoff, Eli. *Political Theory for an Alter-University Movement: Decolonial, Abolitionist Study Within, Against, and Beyond the Education Regime*, Minneapolis, MN: University of Minnesota, 2013, http://conservancy.umn.edu/bitstream/handle/11299/175513/Meyerhoff_umn_0130E_14401.pdf?sequence=1&isAllowed=y.

Neeson, J. M. *Commoners: Common Right, Enclosure and Social Change in England, 1700-1820*, Cambridge and New York: Cambridge University Press, 1993.

Nelson, Anita. *Marx's Concept of Money: The God of Commodities*, London and New York: Routledge, 1999.

Nitzan, Jonathan, and Shimshon Bichler, *Capital as Power,* London: Routledge, 2009.

Ostrom, Elinor. *Governing the Commons: The Evolution of Institutions for Collective Action*, Camridge and New York: Cambridge University Press, 1990.

Read, Jason. *The Micro-Politics of Capital,* Albany, NY: State University of New York Press, 2003.

Rosamond, Emily. 'Shared Stakes, Distributed Investment: Socially Engaged Art and the Financialization of Social Impact', *Finance and Society* (2, no. 2, December 19, 2016).

Scott, Brett. 'How Can Cryptocurrency and Blockchain Technology Play a Role in Building Social and Solidarity Finance?', *Geneva: United Nations Research Institute on Social Development*, 2016, http://www.unrisd.org/brett-scott.

Shukaitis, Stevphen. *The Composition of Movements to Come: Aesthetics and Cultural Labor After the Avant Garde*, London Rowman & Littlefield International, 2016.

Steyerl, Hito. 'Duty-Free Art', *E-Flux* (63, March 2015), http://www.e-flux.com/journal/duty-free-art/.

Taylor, Mark C. 'Financialization of Art', *Capitalism and Society* 6.2 (9 January 2011).

Thompson, E. P. *The Making of the English Working Class*, New York: Pantheon Books, 1968.

Velthuis, Olav. *Talking Prices: Symbolic Meanings of Prices on the Market for Contemporary Art, Princeton Studies in Cultural Sociology*, Princeton, N.J.: Princeton University Press, 2007.

_____. *Cosmopolitan Canvases: The Globalization of Markets for Contemporary Art*, New York, NY: Oxford University Press, 2015.

Wolff, Janet. *The Social Production of Art*, New York: New York UP, 1984.

Yasuyuki, Hirota. 'Monedes Socials i Complementàries', *Oikonomics* 6 (2016), http://oikonomics.uoc.edu/divulgacio/oikonomics/ca/numero06/dossier/yhirota.html.

THINGS THAT TRANSACT: HOW THE INTERNET OF THINGS IS TRANSFORMING PAYMENTS

RACHEL O'DWYER

THINGS THAT TRANSACT: HOW THE INTERNET OF THINGS IS TRANSFORMING PAYMENTS

RACHEL O'DWYER

> When my wallet is connected to your wallet, something in its nature must change. [...] In 10 years' time, my smart wallet and your smart wallet are going to be talking to each other and we won't be in the loop so much, we won't be bothered.
> —David Birch[1]

Eighteenth century literature was rife with stories of dumb, inanimate things: the inner life of a corkscrew, the hidden desires of a top hat, a day in the life of a watch, what the kite saw or the pin overheard. A subset of these 'it narratives', as they were called, concerned the secret lives of monetary tokens, with fictions tracing the circuitous journeys of paper banknotes and the people they encountered. Mary Poovey observes how the 'talking note' illuminated the various social contracts and encounters that took place in economic exchanges at the time.[2] Popular accounts were Thomas Bridge's *Adventures of a Bank Note* (1759-1775),[3] and Charles Jonhstone's *Chrysal; or, the Adventures of a Guinea* (1760-1765).[4] Chrysal tells his reader of the moment he was forged in a mine in Peru and the stories of who and what he encountered as he was passed from hand to hand. Talking notes betray the idea that the stuff of transactions was animate or sentient, more than a 'dumb, lifeless prop' in exchange. These things didn't just serve the wishes of their immediate possessors: they were agents in their own right, they had wants and desires; they spurred action as they met and interacted with other stuff; they observed and recorded everything they came into contact with; and they might just as easily betray or 'tattle' on their owners.

Things have always intervened in the construction of markets. They transact, trade, intervene, monitor, calculate, circulate and abstract. As Viviana Zelizer[5] and more recently Bill Maurer and Lana Swartz have explored,[6] economic mediation is composed of tons of different stuff, from paper tokens and coins, to checks, promissory notes, tallies, dongles, plastic, and electrical impulses. Things are always already 'market devices', part and parcel of the material-discursive assemblages that shape the economy.[7] But today our things are really taking a front seat in economic exchange. The

1 David Birch, cited in Bill Maurer, 'Late to the Party: Debt and Data', *Social anthropology* 20.4 (2012): 474-481.
2 Mary Poovey, *Genres of the Credit Economy*, London: University of Chicago, 2008, p. 148.
3. Thomas Bridge, *Adventures of a Bank Note*, New York, NY: Garland Pub., 1759-1775.
4. Charles Johnstone, *Chysal; or, the Adventures of a Guinea*, London: Printed for T. Becket, 1760-1765.
5 Viviana A. Rotman Zelizer, *The Social Meaning of Money*, London: Princeton University Press, 1997.
6 Bill Maurer and Lana Swartz (eds), *Paid, Tales of Dongles, Checks and Other Money Stuff*, Boston, MA: MIT Press, 2017.
7 Fabian Muniesa, Yuval Millo, and Michel Callon, 'An Introduction to Market Devices'. *The Sociological Review* 55.2 (2007): 1-12.

OECD currently estimates some 25 billion connected things will be online by 2020.[8] One application of these devices is for mobile or 'ambient' payments, with the option to pay for things using things beyond the usual credit card or checkbook — with iPhones and FitBits, cars, fridges, cameras and shoes coming to the register.

This short piece is a call to recognize connected things not only as politically animate, participating in the shaping of discourses and action, as new materialists have been arguing for a while, but also to think of these connected things as *economic* actors that play a role in the shaping of market elements such as exchange, price, the production and circulation of goods, and relations of debt and credit. With the proliferation of the 'its that transact', we can begin to ask: How will markets transform as connected things proliferate and come to the fore of exchange? What does it mean for things, not just humans, to exchange and transact? How does their appearance in the marketplace intensify trends towards algorithmic and data-driven market decisions? For example, how will things negotiate the construction of credit, risk and price? Or will people trust their personal objects to perform transactions on their behalf?

Our Objects are Playing a Greater Role in Exchange and Will Continue to Do So in the Future.

Much like the rise of ubiquitous computing and promised invisible computation,[9] talk today of 'seamless', friction-free, and ambient commerce promises that, with the rise of an Internet of Things (IoT), the messiness of exchange will fade into the background. No more fumbling in your pocket for the right coins as your car approaches the tollbooth, or standing in-line to make inane chitchat with the cashier about how well that dress will suit you. Intelligent things will come to the fore of the market, transacting, abstracting and calculating on behalf or even independently of human users. This intervention doesn't only occur at the point of sale, with the wrist tap, or an authoritative nod from an RFID or Bluetooth enabled device, but all throughout the market.

Connected things increasingly mediate transactions, either on behalf of their users or off their own bat in what are sometimes called machine-to-machine (M2M) payments. We are probably already familiar with instances of these — the growth of contactless payments, e-tolls that automatically pay for motorway use and the development of Amazon Dash buttons being a few examples. Phones, watches and FitBits also authorize in-store purchases; household utensils and white goods stock up on everyday essentials; vehicles invisibly transact in fuel, parking spaces and repairs; smart grids and infrastructures purchase and exchange energy resources and data or engage in carbon trading.[10] When things come to the fore of the market they produce new kinds of money and new payment infrastructures, but also potentially a whole new understanding of the sociality of exchange — how 'its' transact, negotiate, barter and

8 Organisation for Economic Co-operation and Development, Working Party On Communication Infrastructures And Services Policy, 'The Internet Of Things: Seizing The Benefits And Addressing The Challenges', Background Report For Ministerial Panel 2.2, http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/ICCP/CISP(2015)3/FINAL&docLanguage=En.

9 See for example, Mark Weiser's 'The Computer for the 21st Century', *Scientific American* 265.3 (1991): 94-104.

10 Initiatives such as the Visa Ready Program exist to integrate tokenised/secure payments into a range of everyday wireless objects in collaboration with hardware manufacturers and retailers.

settle, and the norms, practices and protocols that develop around these activities. What does the kettle desire? What did the fridge buy from the breast pump? What is your toaster saying about your credit worthiness?

Most human-to-human transactions are structured by legal and social norms (such as those around bargaining, haggling, and the construction of price), mediated by tokens like paper money and credit cards, and supported by age-old institutions such as banks that allow the rest of us to cooperate and transact with people we don't know. In the future, transactions between humans and things and between things and other things may largely be structured by software-defined rules. Many technologists already propose the use of *smart contracts*,[11] not only as a way of securing data produced by so many connected devices against hacking or government surveillance,[12] but also as a means to automate trades and transactions between things and other things. Smart contracts recorded on the blockchain and designed to automatically execute conditions for the use and transfer of property rights would allow objects connected to the Internet of Things (cars, houses, energy infrastructures and so on) to be sold or leased in pre-defined ways, or so the argument goes. Imagine a self-driving car that can be rented, paid for with personal data from a phone or wearable, opened with a smart key, and which stores some of its profits away in order to pay for fuel, repairs and parking spaces, all according to pre-ordained rules.

Autonomous machine-to-machine transactions raise questions not only about security, as seen with the recent DDoS attacks mobilized by printers and baby monitors,[13] but also about cultures of exchange: Who wants transactions to be invisible or just 'fade into the background'? And how might the material or psychosocial attachments people have with their possessions shape the nature of these transactions? Does your weighing scales or your wardrobe mirror put you in the mood to shop? Are you more likely to trust your fridge to authorize a transaction over your necklace, or your car?

Things Will Transform and Produce New Markets
Another recent trend has been for material things to trade in the leftover capacities they produce, such as energy, excess computer processing units, spare bandwidth, or access to whatever utility or service they produce. In 2016, the Industry conference Money 2020 placed emphasis on how the Internet of Things might facilitate markets in this *material latency* a trend already rife in the sharing economy, where owners can trade the leftover capacities in their cars with taxi services, spare rooms in their hous-

11 Smart contracts are contracts that are recorded on the blockchain and designed to automatically execute predefined rules for the use and transfer of property.

12 Paul Brody and Pureswaran Veena. 'Device Democracy: Saving the Future of the Internet of Things', *IBM*, (September 2014).

13 On 21 October 2016, the Mirai botnet was used to coordinate a global DDoS attack on Dyn, a cloud based internet performance management company, resulting in outages for Airbnb, HPQ, the Guardian, Visa, Xbox Live, Twitter, Amazon and many more. What was significant about this attack was that the hackers targeted not personal computers in the sense many of us would understand it, but a host of seemingly innocuous devices – printers, baby monitors, IP cameras and digital video recorders. The botnet targeted IoT devices that were protected by little more than factory-default passwords, gained access and enlisted these objects in coordinated attacks on major internet platforms. It felt like Revenge of the Domestic Devices. This brings to the fore questions about the dangers of IoT infrastructure, namely regarding security and encryption, questions that become even more significant where transactional data is involved.

es, or even their spare time. But with many networked devices transacting, as the new imaginary goes, a thing might trade equity in just about *any* 'thing' for anything else. Imagine, for example, an umbrella that sold shares itself whenever it rained — not too farfetched in China, where umbrella rental is already up and running — or an Airbnb style property with a fluctuating rental price that in turn speculated and purchased shares in profitable start-up companies nearby. 'Its that transact' imagines a kind of fluidity to connected things, that our leftover stuff might shake off their material casings and whatever makes them unwieldy or 'lumpy', as Yochai Benkler puts it (2004), and become instead pure value or information — the ingredients of an on-demand economy with a place for everything and everything in its place.

Money-like things, as Chrysal the guinea observed, have the peculiar 'power of entering into the hearts of their immediate possessors and there reading all the secrets of their lives'.[14] 'It narratives' were constructed around the idea that if only the coin could speak, oh, the stories it might tell! With connected devices, things now trade in what they've seen and where they've been. As well as transacting in and with other stuff, connected devices are developing techniques for negotiating the sale or barter of the data that they gather about their use, their users, and their broader environments. These see complex 'data markets' assembling around connected devices, as networked objects develop new protocols and practices to appraise and autonomously exchange the material they gather from relational entanglements. Data becomes a currency that can be exchanged for goods and services or for other kinds of data sets. Complex matching systems have to be developed to evaluate and price this data and make it transferrable. Sometimes this data is traded, or it is sold or it gets turned into other kinds of value such as fiat money, airtime, or loyalty points. A washing machine, a water meter and a filtration system might enter into a market relationship about the exchange of water consumption data, for example. A self-tracking fitness wearable, a fridge, 0% fat yoghurt and an online retailer might transact in relevant behavioral and transactional data in exchange for rewards such as loyalty points or coupons. If we are already familiar with the 'fridge-buys-milk' vignette of the Internet of Things, here a connected fridge might trade data about its user's grocery consumption with a retailer in exchange for discounts on future food purchases.

Connected Objects Also Intervene in Calculation and Abstraction.
Smart devices will define and intervene in the formation of prices and in the construction of financial instruments such as credit and risk. Our things are learning to keep account. We are probably already familiar with the ways in which algorithmic devices such as high-frequency trading and pricing algorithms are reshaping markets, as well as the ways in which this can go very wrong (see, for example the Flash Crash of 2010 and the inconsistencies with Berkshire Hathaway stock), but now our smart things and their datasets, will also intervene. Though still very much a prospective practice,[15] data gleaned from connected things, particularly self-tracking data from wearables and household devices, might soon play a role in the pricing of health insurance premiums. The use of wearables for personalized in-

14 Johnstone, op.cit, (1760), p. 3.
15 Liz McFall, 'The Politics of Personalised Insurance Pricing in the Age of Wearable Devices', Draft Paper, 2017.

surance not only produces data that can precision risk but it also has the recursive effect of shaping its owners' behavior, enabling these companies to optimize the ways humans exercise or eat, have sex and shop.

An Internet of connected Things will also contribute to the calculation of credit. The secret patterns and social life of our things may now determine our eligibility for a mortgage or loan. Mobile phone, transactional and social network data already play a significant role in credit for the 'underbanked', with companies such as Zest Finance and Kreditech offering loans based on multiple networked data points gleaned from mobile payments, device usage and social media. Connected things such as cars, wearables and household devices now also provide a greater degree of data monitoring that can be used to produce credit offerings based on social graphs, biometric data or on logistical data provided by an Internet of Things. Kabbage, one such company that specializes in small loans for SMEs, makes use of over 5,000 data points from each loan applicant, including their existing credit data and mobile phone data, but also data gleaned from commercial vehicles, GPS logs, the manufacturing of goods, return rates, and supply chains, to determine the conditions of a loan.

How Might Things Fight Back?

Today connected things play a role in the transfer and circulation of property, in the construction of prices and evaluation, and in how credit and risk are calculated and apportioned. When things begin to transact with one another, when they become economic actors, we should think about the implications this has for the future of markets. Arguably what's new here is the peculiar materiality of these things and their intimate connections with people, not just that they represent an intensification of algorithmic governance in market processes.

As things get more lively, and as a vast range of data-gathering things proliferate around everyday users and their transactions, markets are becoming more dynamic but also harder to read and unpick. This is a question not only of how algorithmic governance and big data will shape the future of markets, but also how various material cultures will play a role in shaping the economy going forward. Things are not just more of the stuff of software or data repositories; they are also lively objects with their own psychosocial narratives.[16] In other words, it's not only the status of the thing as a market device with computational and networked capacity that might be significant in the future, but also its own peculiar material culture and people's relationship and attachment to it.

If the Internet of Things becomes central to payments we will also become more entangled with our things and entangled with markets. Much like other algorithmic market devices such as high-frequency trading algorithms and online pricing mechanisms, things are now 'designed to detect and respond [not only to the rhythms of their users and their everyday interactions, but also] to market rhythms'.[17] The sociality of exchange now includes the social lives of many non-human things and

16 Anthony Dunne, *Hertzian Tales*, London: MIT Press, 1999.

17 Christian Borch, Kristian Bondo Hansen, and Ann-Christina Lange, 'Markets, Bodies, and Rhythms: A Rhythmanalysis of Financial Markets from Open-Outcry Trading to High-Frequency Trading', Environment and Planning D: Society and Space 33.6 (2015): 1080-1097.

their protocols and proclivities. Arguably this makes it very difficult for humans or users embedded in these systems to disentangle themselves or 'opt out' of a financial system, if such a thing were ever possible.

Mackenzie et al. call for us to consider the materiality of markets: their physical, technological and corporeal nature.[18] In Mackenzie's case this concerns how physical geography, distance and the materiality of wired signals help to construct prices. With the growth of things that transact, we should consider how the material specificity of our connected devices might come to shape and intervene in markets. We need to think about the socio-economic life of these actors as they enact exchanges, as they 'detach things from other things and attach them to other things'.[19] How might fluctuations in temperature and bacterial organisms shape the ways in which fridges transact, or environmental conditions transform the specifics of rental markets? How might our smart cars drive speculation over fuel up or down? How do objects work alongside humans, exerting influence on our moods, decisions and dispositions?

How might things begin to fight back? Equally important, we might start to think about how objects might frustrate or resist commodification in a market. Tales of IoT hacks, as well as playful findings like @internetofshit, open up an imaginary for a kind of economic resistance that might be specifically non-human in nature. Like the household devices that double-crossed their owners in the Mirai Botnet attack, objects might fight back, changing cultures of exchange or resisting altogether. We should consider the ways in which objects — commodities, minerals, metals, plastics, sensors and actuators — might not only impede the will of *homo economicus* but act out economic trajectories, behaviors and 'desires' of their own.

References

Borch, Christian, Kristian Bondo Hansen, and Ann-Christina Lange, 'Markets, Bodies, and Rhythms: A Rhythmanalysis of Financial Markets from Open-Outcry Trading to High-Frequency Trading'. Environment and Planning D: Society and Space 33.6 (2015).

Brody, Paul, and Pureswaran Veena. 'Device Democracy: Saving the Future of the Internet of Things', *IBM*, (September 2014).

Bridge, Thomas. *Adventures of a Bank Note*, New York, NY: Garland Pub., 1759-1775.

Dunne, Anthony. *Hertzian Tales*, London: MIT Press, 1999.

Johnstone, Charles. *Chysal; or, the Adventures of a Guinea*, London: Printed for T. Becket, 1760-1765.

Maurer, Bill. 'Late to the Party: Debt and Data', *Social anthropology* 20.4 (2012).

Maurer, Bill, and Lana Swartz (eds), *Paid, Tales of Dongles, Checks and Other Money Stuff*, Boston, MA: MIT Press, 2017.

MacKenzie, Donald, Daniel Beunza, Yuval Millo, and Juan Pablo Pardo-Guerra. 'Drilling Through the Allegheny Mountains: Liquidity, Materiality and High-Frequency Trading.' *Journal of Cultural Economy* 5.3 (2012).

McFall, Liz. 'The Politics of Personalised Insurance Pricing in the Age of Wearable Devices', Draft Paper, 2017.

Muniesa, Fabian, Yuval Millo, and Michel Callon, 'An Introduction to Market Devices', *The Sociological Review* 55.2 (2007).

18 Donald MacKenzie, Daniel Beunza, Yuval Millo, and Juan Pablo Pardo-Guerra. 'Drilling Through the Allegheny Mountains: Liquidity, Materiality and High-Frequency Trading.' *Journal of Cultural Economy* 5.3 (2012): 279-296.

19 Fabian Muniesa, Yuval Millo, and Michel Callon, 'An Introduction to Market Devices', *The Sociological Review* 55.2 (2007): 1-12.

Organisation for Economic Co-operation and Development, Working Party On Communication Infrastructures And Services Policy, 'The Internet Of Things: Seizing The Benefits And Addressing The Challenges', Background Report For Ministerial Panel 2.2, http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/ICCP/CISP(2015)3/FINAL&docLanguage=En.
Poovey, Mary. *Genres of the Credit Economy*, London: University of Chicago, 2008, p. 148.
Rotman Zelizer, Viviana A. *The Social Meaning of Money*, London: Princeton University Press, 1997.
Weiser, Mark. 'The Computer for the 21st Century', *Scientific American* 265.3 (1991).

CASH IN THE ERA OF THE DIGITAL PAYMENTS PANOPTICON

BRETT SCOTT

CASH IN THE ERA OF THE DIGITAL PAYMENTS PANOPTICON

BRETT SCOTT

You cannot burn digital money. Not unless you are prepared to engage in arson. To burn digital fiat would require undertaking a mission to an industrial park to burn down the fortified datacentre of a large bank like Barclays. But even then, they would have backups, and to fully burn the digital money supply you would have to destroy all bank and central bank datacentres. Our everyday digital pounds, dollars and euros do not reside in your computer or on your phone. They reside as records imprinted on huge bank-controlled computer arrays, attended to by cooling systems and power generators. Your laptop or smartphone is just there to interact with those central hubs.

Cash, though, you can burn. In the 2008 Batman film *The Dark Knight*, Heath Ledger's Joker burns a small mountain of it to demonstrate just how little he cares for the petty grasping of ordinary criminals who seek out the physical surety of paper dollars in hand. The desire to hoard cash — like Scrooge McDuck swimming in his money bin — is a defensive sign of fear, an attempt to build a direct buffer of control over other people and your environment.

The ability to burn, though, reveals a crucial distinction between cash and digital money. Destruction requires personal autonomy over the thing being destroyed. You cannot burn digital money for the simple reason that you do not directly control it.

Cash Versus Money

The first time I ritualistically sacrificed cash was at a music festival in the California desert. It burned with a green-blue flame, my claim upon the products of society reduced to smoke traces. These burning rituals can help to illuminate hidden dark arts of monetary policy. Money is not a store of value. Rather, it is a tokenized claim that enables you to access, control, or mobilize value that resides in goods and services. Burning money does not destroy value. Rather, it burns up your ability to *control* the value embedded in the products of other's labor.

At the heart of modern economies is a two-part play. Real goods and services are produced by real people using real materials, aided by technology. This real value, though, is not directly exchanged in markets. Rather, one party — the 'seller' — gives a specific real good or service in exchange for tokens dispensed from a 'buyer' that grants the seller access to a general pool of potential goods and services from others in future. In other words, current and specific value is exchanged for *claims* upon potential and general value. The entire capitalist system is built upon this basic social algorithm. It forms a sprawling, interconnected web of enmeshed transactions, a myriad of real things flowing in response to movements of money tokens that grant access to a pool of potentially real things.

In this context, the power to intervene in the money system is a means to exert control over the flow of underlying value and the labor that produces it. Central banks' attempts to expand or contract the money supply — via the commercial banks — are attempts to exert indirect control over people's bodies, minds, and emotions, mobilizing them to produce value, or slowing them down.

We live, however, with two modes of money. Cash is our system of physical tokens — the type you can burn — that are manually transferred to complete transactions. Then we have the bank datacentres. Here our money tokens take the form of 'data objects', inscriptions recorded onto a ledger by an authority granted power to record-into-existence and 'keep score' of money units for you. This is your bank account. Rather than physically transporting this money, we 'move' it by sending messages to our banks — for example, via our mobile phone — and asking them to edit the data. Money 'moves' to your landlord if your two respective banks can agree to edit accounts, reducing your score and increasing your landlord's score.

This latter form of privately-issued digital bank money is much more dominant than cash, forming over 90% of the UK money supply.[1] Nevertheless, the way we think about money always suggests physicality. We talk of money 'moving' or 'flowing', about 'depositing' and 'storing' it, and about 'lending it out', as if it were some kind of grain. Many economics textbooks still insist that a core feature of money is 'portability'. Type 'money' into a Google image search, and you'll find a mass of images of physical *cash*. Type 'digital money' in, and you'll get pictures of cash dissolving into data, or cash flying through wires. Even in the digital realm, we fixate upon the cash form.

A mental and linguistic slip occurs. The term 'money' and the term 'cash' get blended. David Wolman's 2012 book about the 'coming cashless society' was titled *The End of Money*, as if the end of cash meant the end of money itself, rather than the end of but one form of money. The term 'demonetisation' was used to refer to the Indian government's 2016 retraction of banknotes, rather than the term 'de-cashification'.

This confusion seeps into the media. The Panama Papers were leaked in 2016, the website claiming to show tax-dodging 'Politicians, criminals and the rogue industry that hides their cash'.[2] It should have read 'the rogue industry that hides their digital bank deposits'. Articles accompanying it showed men passing duffle-bags of dollar bills, rather than automated systems altering data entries in offshore bank accounts.

This fixation upon 'cash-as-money', therefore, doubles as a blindness towards the custodians of digital money. People imagine digital money as an emergent 'update' to cash, rather than an entirely parallel system run by banks. Digital money isn't an update to cash. It's an update to the old account books that old bankers used to write in with quill pens. Few people recognize that cash is one of the last bulwarks we have against a completely commercial bank-dominated money system.

1 See 'Where Does Money Come From? A guide to the UK monetary and banking system', *New Economics Foundation,* 12 December 2012, http://neweconomics.org/2012/12/where-does-money-come-from/.

2 See 'The Panama Papers: Politicians, Criminals and the Rogue Industry that Hides their Cash', *International Consortium of Investigative Journalists (ICIJ)*, https://panamapapers.icij.org/.

The War on Cash

Against this backdrop of confusion, we see a concerted corporate and political effort to remove that bulwark. The emerging 'cashless society' looms — according to evangelists — like a futuristic sunrise, cleansing us of these filthy notes with rays of hygienic digital salvation. And, it was in response to this flawed and disorientating public narrative that I published two popular essays: *The War on Cash*[3] and *In Praise of Cash.*[4]

A central point I tried to convey in both was that the phrase 'cashless society' is essentially a euphemistic way of framing the 'bank payments society', a society in which you will have to rely upon the banking sector to move money around. Calling a bank digital money system 'cashless' is like calling an all-cash economy 'the bankless society'. By drawing attention to what is not present, you distract from what actually is present.

There are three commercial interest groups who stand to benefit from such a society. The first is the banking sector itself, which controls the underlying bank account infrastructure that people will have to use in a cashless society. The second is big payments companies like Visa and Mastercard, who facilitate the transfer — or, more accurately, editing — of money between those bank accounts. The third is the broader financial technology — or fintech — industry that builds services on top of this, like phone apps and payments gadgets that are plugged into this infrastructure.

While there have long been predictions of a cashless society, the fintech industry has in recent years become increasingly powerful in economic clout and political influence. They, alongside the established oligopoly players like Visa, are on the offensive against cash for purely self-interested reasons. This growing lobby attempt to use their media and advertising power to slowly erode the public's attachment to cash, but their offensive is also conditioning elite political attitudes. In 2017, for example, the EU Commission suddenly saw it fit to investigate the implementation of cash thresholds[5] — limits on the amount of cash that can be used. The EU has promoted legislation like the Revised Payments Services Directive (PSD2) that encourages more integration between banks and fintech companies, a move that superficially appears to threaten individual banks but on net seeks to strengthen the overall digital finance ecosystem that is built upon the banking system. This innovative momentum is juxtaposed against older systems like cash. The digital payments industry presents itself as waiting in the wings to take over, making these types of political pushes more feasible than they were previously.

The political push for cashlessness, however, is not merely due to the capture of state authorities by financial corporations. Government officials have their own reasons too. In forcing people to use the banking system for all monetary transfers, the bank payments society allows far greater monitoring of people's transactions. This is deemed a positive step forward in the battle against crime and terrorist financing, but the pros-

3 See Brett Scott, 'The War on Cash', *TheLong+Short,* 19 August 2016, http://thelongandshort.org/society/war-on-cash.

4 See Brett Scott, 'In Praise of Cash', *Aeon,* 1 March 2017, https://aeon.co/essays/if-plastic-replaces-cash-much-that-is-good-will-be-lost.

5 See 'EU Initiative on Restrictions on Payments in Cash', *European Commission*, 2017, https://ec.europa.eu/info/consultations/eu-initiative-restrictions-payments-cash_en.

pect of monitoring political subversion and opposition looms large in certain countries. And then there's tax. A senior state tax official casually told me over drinks that the reason they're pushing cashlessness is to better monitor the income and expenses of small businesses and individuals. Finally, there is the monetary policy angle. Central banks would like greater power to implement forms of monetary policy that cash hampers, in particular the ability to remotely erode people's bank balances through negative interest rates to get them to spend.

We see an emergent alliance between digital payments companies, banks, central banks and governments, and the far-reaching voice of such powerful interest groups calmly asserting the inevitability of cashlessness impacts public attitudes. The overt propaganda campaigns that flood people with positive messages about digital payments are but one element of this voice. Subtler forms of cultural hegemony — the mainstream newspaper reporting on the Bank of England cash study, or the respectable CEO talking about the EU cash thresholds debate on BBC — repeat and reinforce negative narratives about cash as a dangerous and outdated form.

Many people going about their everyday business do not have strong opinions or concerns about cash — and are certainly not out there campaigning for its demise — but often in my conversations about this issue people repeat the mainstream mantra that cashlessness is inevitable. When asked why it is inevitable, they often vaguely allude to a kind of 'natural progress' towards digital payment. When asked what the driving force of this 'progress' is, they say things like 'people just like technology', or alternatively, 'digital payment is pretty convenient'.

The convenience narrative is very common, and yet it is problematic on two accounts. Firstly, it is not actually obvious that cash is inconvenient. I have experienced contexts in which the cash system has failed — in Mozambique in the early 2000s where certain remote towns suffered from acute shortages of cash, and in Zimbabwe — but those societies suffered from serious problems in non-cash payments too. In many economies it is extremely easy to use cash, and requires no prior setting up of bank accounts, waiting for cards, minimum payment amounts, and so on.

Secondly, inconvenience is not an inherent property of cash, but rather a contextual property that emerges when the cash-supporting infrastructure is neglected or withdrawn. In other words, it is possible to *engineer inconvenience* and irritation by deliberately making cash harder to use. For example, banks in various European countries are cutting down on the number of ATMs and branches they provide,[6] which in turn frustrates people trying to get cash, and which in turn makes digital payment look comparatively easy. They then showcase the inconvenience — that they themselves have engineered — as a reason for why digital payment is superior. On the back of India's 'demonetisation' debacle, Visa launched its #KindnessIsCashless campaign

6 See International Monetary Fund, 'Automated Teller Machines (ATMs) (per 100,000 Adults)', *The World Bank*, https://data.worldbank.org/indicator/FB.ATM.TOTL.P5. The statistics show ATMs per 100,000 adults. Declines — some very significant — are noted for Denmark, Estonia, Finland, Netherlands, Norway, Spain, Sweden, Iceland, Ireland, Latvia, Lithuania, Austria, Belgium, Greece and France. The statistics show that the Euro area as a whole has seen a significant decline in ATMs per 100,000 adults since 2010.

in the country. They produced a video[7] showing a frustrated elderly teacher standing in a long queue for cash who is then rescued by his students who show him how to use a digital payments app on his phone. The campaign carefully avoids mention of the fact that the inefficiency of the Indian cash system has been orchestrated by the Indian government itself.

Breaking the All-or-Nothing Narrative

If I stand in front of an audience and say ‘Raise your hands if you’d like access to digital payment’, most would raise their hands. People find digital payment useful. But if I say ‘raise your hands if you want to have the option to use cash removed’, people are more hesitant. While we may enjoy the benefits of digital payment in various circumstances — for example, in the context of internet purchases — many people have no inherent problem with using cash for everyday in-person purchases, and, given the choice, would prefer for it to remain an *option*.

Cashless society proponents, however, are crafting their narrative in such a way as to fuse the idea of ‘digital payment’ with the idea of ‘no cash’, framing it as a dualistic either-or choice. They present an all-cash world and pit it against an all-digital world, and then conclude that an all-digital world is superior. In reality, the best option would be a hybrid payments system where both are available.

An analogy will help here. Automobile evangelists in the early 1900s might have made grand claims like ‘cars are the future!’ and predicted the demise of all other forms of transport, such as the horse-drawn carriage. Indeed, the world’s first automobile advertisement in 1898 came from the Winton Motor Carriage Company with the tagline ‘Dispense with a horse’.[8] The digital payments lobby is doing that right now for cash, presenting it as the horse-drawn cart of the payments world, outmatched by digital in all possible respects.

But if we reframe the analogy, we can turn the story on its head. Enter the bicycle. Bicycles existed prior to cars, and yet in modern society we still use them *both*. We recognise them as having pros and cons in different situations, and we value having both available. But it’s deeper than that. In the subsequent history of transport, cars have led to big problems of congestion, road accidents, pollution, and urban sprawl. Bicycles, in this context, actually have come to represent a *solution* to the problems caused by the car. To bring the analogy back to money, cash is not the horse-cart of payments but the bicycle. Digital payment is being framed in a futuristic light right now, but it opens up some extremely negative possibilities that we may have to use cash to solve.

So what are those potentialities? Three problems need immediate mention. Firstly, the end of cash will probably mean the beginning of an all-encompassing financial panopticon that can be used for widespread surveillance, tracking and manipulation of individuals by both states and corporations. Secondly, going all-digital exposes us to far

7 See Visa India, ‘A Teacher and Student’s #KindnessIsCashless Story - Visa’, *YouTube,* 23 February 2017, https://www.youtube.com/watch?v=ISpAtMgKdPw.

8 See Borroz, Tony. ‘July 30, 1898: Car Ads get Rolling’, *Wired,* 30 July 2009, https://www.wired.com/2009/07/dayintech_0730/.

greater risks of devastating financial cyberattacks and digital crime. Thirdly, cashlessness brings new forms of digital financial exclusion, the screening out of anyone who lacks the ability to interact with the digital bureaucracies of privately-run commercial institutions that control the money system.

Very few people seem to understand this right now, and the cashless lobby has very little interest in telling you about these dark sides. Ironically, they are actually trying to argue the opposite. Take, for example, The Better than Cash Alliance, a lobby-organisation ostensibly run by the UN Capital Development Fund but started and funded by, among others, Citibank, Visa and Mastercard.[9] The primary argument they put forward is that digital payment can be useful to people in situations of poverty. This in itself isn't problematic: of course, if I live in an all-cash economy I may indeed benefit from the introduction of a new digital option. Their decision, though, to call themselves the 'Better than Cash Alliance', rather than, say, the 'Building Digital Payments Alliance' is a bit like a bus transport initiative calling itself 'The Better Than Bicycles Alliance'. Why the headline focus on attacking cash rather than showcasing how the digital might be a useful addition to a rural cash economy?

A cynical observer browsing through their website might conclude that it is a front-group representing the interests of the payments industry under the guise of a humanitarian project. They have little to no transparency about who actually sits on their Executive Committee, and investigation reveals a range of current and former payments industry personnel — from companies like Paypal, Ripple and Square — who advise them. Among their target audiences are national governments, NGOs and multinational corporations with staff in developing countries. They see corporates — such as large clothing brands with outsourced production in poorer countries that pay their low-level employees in cash — as a leverage point to push digital payments. I met a textiles entrepreneur from Bangladesh who told me that a corporate member of the Alliance pressures its suppliers into paying staff digitally.

We need not see this as some kind of conspiracy: It makes sense that an organisation promoting digital payment would recruit the expert services of people working at digital payment companies, and people who work at digital payment companies are more likely than most to be convinced of the virtues of digital payment. Nevertheless, it is obvious that they specialize in presenting a one-sided glorification of the potential benefits of the digital, whilst ignoring its potential negative consequences, and then setting this against a negative interpretation of cash as a 'burden' upon poorer people. All of this despite the fact that cash is the one form of money that currently forms a lifeline to people excluded from services from banks. Every element of their presentation is designed to associate the idea of digital payment with the idea of cashlessness, rather than presenting digital payment as being potentially complementary to cash.

Most perplexing, though, is that the Better Than Cash Alliance manages to do this all without ever really explicitly laying out an argument for why cash is negative. The

9 See 'Resource Partners', *Better than Cash Alliance*, https://www.betterthancash.org/join-us/resource-partners.

malice of cash is merely implied, hinted at, and left to the reader to infer, as if it is so obvious as to not even be worth mentioning. Their flagship line of 'digital is great' is illuminated in such a to way as to cast a shadow of 'cash is dangerous'.

This may seem pedestrian and benign to an affluent city-dweller in the Western world, but the message is insidious because it hides an implicit value judgement about formality. It carries an assumption that getting drawn into the mainstream world dominated by large-scale corporations and state authorities is obviously superior, and that parts of society that do not exist in that world should not rightfully exist at all. The cash economy is — apparently — a realm of uncontrolled darkness that people must be liberated from, and if they cannot be liberated from it, they must be undesirables. This is a viewpoint that can flourish among people deeply steeped in privileged institutions, with economic interests in the ongoing success of those institutions and respectable positions within them. There is no place for the vast grey areas of marginality that includes people excluded from formal economies, people on the wrong side of official law, and people who thrive on small-scale non-institutional activities, like the busker on a street.

Defending the Grey Areas of Social Progress

The irony is that social progress — if we believe in such a thing — requires grey areas. In August 2017 I gave a talk at the Crypto-Cannabis Salon in Alameda, California, an event bringing together the cryptocurrency industry with the cannabis industry. Marijuana is in the process of being legalized in California and growers are cautiously stepping into the world of legal, respectable business. For many years, cash has kept the cannabis industry alive, allowing it to thrive while political activists pushed for its legalization. For many of those activists the 'War on Drugs' is more than just futile. It is an injustice, an attempt by states to quash ancient plant substances that have benefits to humanity, whilst arbitrarily accepting tobacco and alcohol corporations that push products far more damaging. The legalization of marijuana is seen by the activists as a progressive step forward in humanity.

Seen from this perspective, cash has not merely facilitated 'drug crime' — as pre-legalization cannabis growing was categorized — but also simultaneously kept an industry alive for long enough for laws to be updated. Had cash not been around, the industry might not have developed, and there would be little to legalize. The strictures of the digital payments cage would have killed it before it had a chance to showcase its benefits. In a sense, cash nurtured a practice that has now been legitimized.

The problem, however, is that US banks and payments companies are subject to US federal regulation, and this overrides individual US state regulations. Legal cannabis industry businesses in California, therefore, struggle to get bank accounts or services from payments companies. In this context, they now see themselves as being 'forced' to use cash, and denied the opportunity to gain the benefits that digital payments offer. The large amounts of cash they deal with presents a security problem, and now that they have to pay taxes, they are forced to physically present bundles of cash at the tax office. The money form that has kept them alive for decades is now being perceived as a 'burden'.

This illustrates an important point, though. Cash is the money form of the underdog, of the excluded. If you are a new member of respectable elite society, and you are forced to use it, you feel like you are *missing out* on a more advanced form. To return to our analogy, it is like being forced to ride a bicycle when other members of your class all have cars. Rather than the bicycle appearing as your friend, and as 'better than nothing', it is characterized as 'slow' and 'crude' and you shout, 'Why can't I have a car!' When, however, you get used to having a car, you may begin to see the bicycle in a new light. In combination with the car's long-distance capabilities and speed, your bicycle appears nimble, efficient for short trips, requiring low maintenance, and so on. The perspective really depends on your context. Not wishing to *rely* upon a bicycle is different to saying that bicycles should not exist. Indeed, without bicycles the car might appear increasingly oppressive.

Third party malware in the capitalist market algorithm

In the cashless bank payments society there is never just a buyer of a product, and a seller. There is always a third party, a middleman who is required to pass the money between the buyer and the seller. This grants the middleman — banks and payments networks like Visa and Mastercard — a lot of power. They can see your transactions, when you do them, and where you do them. Furthermore, if they don't like what you're transacting, they have the power to prevent it. We thus have the potential for both financial surveillance and financial censorship. When Visa, Mastercard and Paypal decided they didn't want people to be able to donate money to Wikileaks,[10] they censored not only Wikileaks but also all the people who felt a moral call to support the organisation.

It's comparatively easy to alarm people by pointing to overt instances of aggressive payments gatekeeping and surveillance. The more insidious issue, however, may not actually be whether some Big Brother is really watching you or not. The cashless society stands to create a widespread feeling of *potentially* being watched. This is the essence of a panopticon. The point of a panopticon is not to watch you, but rather to make you internalize the belief that you're being watched, and to self-regulate your behaviour in response. No need to hire armies of watchers, when you can make people watchers of themselves.

Those who argue for the benefits of such surveillance effects always say 'if you have nothing to hide you have nothing to fear', but we value privacy for reasons beyond trying to hide. Many of us like feeling that we have autonomy and that we can engage in private economic decisions without an authority looking over our shoulder all the time. The surveillance society is one in which adults are made to feel like small children who cannot be trusted.

This surveillance concern is one avenue by which the War on Cash is exposing rifts in market libertarian philosophy. Isn't it ironic that our individual privacy may be protected by the old state cash? Isn't it ironic that privatized payments systems allow for far greater state monitoring of transactions?

But the War on Cash presents a second uncomfortable issue for libertarian theorists. How will overall markets function when every general market transaction has to be passed through a specific market of private payments companies that may not have

10 See 'WikiLeaks: Banking Blockade and Donations Campaign', *WikiLeaks*, https://wikileaks.org/IMG/pdf/WikiLeaks-Banking-Blockade-Information-Pack.pdf.

incentives to let all players trade? The treasured intellectual edifice of 'state vs. market' starts to creak as it becomes more apparent that states support markets by upholding the base infrastructure that enables them to work. One half of modern capitalist exchange — the money — has a public component. Cash is M0 money, the base money, the fall-back money, the state money of last resort. It's the money you use when the shop's debit card system crashes. It's the money you use when you're a stranger in a foreign country. Its replacement with the fickle digital promises issued by private commercial banks is risky for good ole capitalism.

And thus, in the context of the cashless society hype, we find a parallel rise in speculations about 'state digital money'.[11] If we indeed are going to become cashless, and if private digital payments intermediaries cannot be trusted to keep a market system running for all, there will be pressure to create a public digital payments infrastructure to guarantee everyone's ability to transact. Right now, the choice is between commercial bank digital and state cash, but the imagined future battle is one between bank digital and state digital.

But, unlike state cash, state digital money is also a potential vector of surveillance and monitoring. This concern of getting trapped in a prison of watchable payments inspired the original attempts at building non-state, non-bank digital currencies. David Chaum — founder of the early privacy currency initiative Digicash — noted this in his 1983 paper 'Blind signatures for untraceable payments':

> On the one hand, knowledge by a third party of the payee, amount, and time of payment for every transaction made by an individual can reveal a great deal about the individual's whereabouts, associations and lifestyle. For example, consider payments for such things as transportation, hotels, restaurants, movies, theater, lectures, food, pharmaceuticals, alcohol, books, periodicals, dues, religious and political contributions.[12]

Cypherpunks like Chaum were acutely aware of the potential for state abuse of this data, but also of corporate abuse. The increased data allows fine-tuned profiling of individuals, opening up ever-more subtle and advanced forms of manipulation. This push has continued apace, with large tech firms entering into collaborations with large financial firms to create hybrid digital payments systems. Companies like Google already have location and search data and to add payments data would deepen their knowledge of individuals greatly. With the rise of machine-learning and predictive analytics, these combined data sets are used as the fuel to produce offerings and nudges that steer you onto future paths. This is a source of that growing feeling — creeping into the back of our minds — that we are being 'helped' and guided by seemingly-benevolent yet eerily overbearing corporate butlers that are always present. It may appear convenient, but may also carry with it the slow erosion of our personal agency and clear independent thought.

11 See, for example, John Barrdear and Michael Kumhof. 'The Macroeconomics of Central Bank Issued Digital Currencies', *Bank of England,* July 2016, http://www.bankofengland.co.uk/research/Documents/workingpapers/2016/swp605.pdf.

12 See David Chaum, 'Blind Signatures for Untraceable Payments', *Taxable Anonymous Libre Electronic Reserves (TALER)*, https://taler.net/papers/chaum-blind-signatures.pdf.

Against Autocorrect: Defending a Right to Criminality

The tradition of Digicash is now being carried forward by the likes of Bitcoin, Monero and Zcash that stand as alternatives to both bank and state digital payment systems. This places them in the somewhat surprising position of being aligned to state cash, mimicking its flexibility, anonymity and with that, an association to the criminal underworld where cash is presumed to be king.

The assertion that cash is the realm of criminality remains one of the most pervasive lines in the War on Cash. To counter it, one could attempt to argue that cash is used for many things beyond crime, that the crime figures are overstated, or that, even if it is a crime-facilitator, its benefits justify that.

There is, however, an even deeper problem to the cash-as-crime narrative, something bigger at stake. As the digital realm expands and seeps into every aspect of our existence, avenues for deviance are being shut down, and this threatens the very basis of our legal morality. In Ursula Le Guin's science fiction classic *The Dispossessed,* teenagers on the anarchist planet Anarres condemn the state-corporate hierarchies of the rival capitalist planet Urras. One asks:

> Would you really like to live in a society where you had no responsibility and no freedom, no choice, only the option of obedience to the law, or disobedience followed by punishment? Would you really want to go live in a prison?

Their point is that living in a society where failure to obey the law automatically results in punishment is essentially the same as living in a prison. The reason we do not feel this in our current society is that failure to obey the law *does not* automatically lead to punishment. There is a buffer zone of variable probability in which we can take a chance and maybe get away with it. The speeder on the highway doesn't always get caught. The cat-and-mouse game between law-breakers and law enforcement is what makes law-abiders feel virtuous for having decided to obey the law. If you cannot break the law — or if its breaking automatically condemns you — you cannot feel virtuous for not breaking it. A world where there is no cat-and-mouse game is one where the law is a hardcoded auto-enforced electric fence that leaves no room for personal responsibility in upholding it.

It's for this reason that we need to protect and uphold a Right to Criminality. A world without it is a world of Behavioural Autocorrect, and corporate digital payments systems are vectors via which such autocorrect will assert itself. The automatic flagging of tax infringements, the automatic fining of the traffic offender, the automatic banning of the political dissident.

The Internet of Fully-Automated Capitalism

The emergent concerns about cashless surveillance and financial exclusion have led anti-cash cheerleaders like Kenneth Rogoff — author of *The Curse of Cash* — to preface his speaker tours of the world's intellectual salons with pre-emptive marketing material. An advert for his talk at London School of Economics promised that the professor would address issues the removal of cash will pose, 'ranging from fears about privacy and price stability to the need to provide subsidized debit cards for the poor'.[13]

Let's say Kenneth is right. It is not inconceivable that we could adequately resolve or reduce problems that accompany the privatization and digitization of all money movement, and put in place protections.

But cast your eyes into the far future. Cash is standing in the way of fully automated capitalism. We've seen our economic system increasingly automated at the production level, with businesses using robots and conveyer belts. Then we've seen it get automated at the management and co-ordination level, the algorithms of work flows and logistics, and the huge digital platform corporations that hover above smaller players, matchmaking them. But at the *exchange* level many transactions remain manual, or organic. We still have to go through a cognitive decision-making process and — sometimes — a social interaction in order to exchange. It is here that traditional economists imagine their 'rational agent', considering a product in light of their money budget, deciding whether it is good value, and perhaps bargaining.

To fully automate capitalism — to make it a truly inhuman, machinic system — would involve not only the automation of production, management and co-ordination, but also the full automation of exchange. This requires the automation of the seller, the buyer and the payment process. This is the Internet-of-Things utopia of fridges buying milk from passing drones. This is the world of toll-road payments automatically triggered by facial recognition as you silently drive by. The further you push this, the more alienated the individual becomes, a passive participant watching markets unfold around them.

Perhaps we'll see a cyberpunk dual economy, with cash eking out an underground existence as a currency for those seeking to preserve the last remnants of human emotional connection within markets. Perhaps we'll tell romantic tales of an imagined past in which red-blooded debates over value were found in marketplaces.

But perhaps it will not reach this stage. You see, while you cannot burn digital money, you can certainly turn it off. We like to think we're electro-digital technological gods, but if our fossil-fuel power transmission lines go down, our cashless economy quickly chokes to death. Maybe cashless society is a dirty radical conspiracy, the ultimate Trojan Horse. Make everyone dependent on digital payment, then break the electrical grid, and watch the system fall like never before.

References

Barrdear, John, and Michael Kumhof. 'The Macroeconomics of Central Bank Issued Digital Currencies', *Bank of England,* July 2016, http://www.bankofengland.co.uk/research/Documents/workingpapers/2016/swp605.pdf.

Borroz, Tony. 'July 30, 1898: Car Ads get Rolling', *Wired,* 30 July 2009, https://www.wired.com/2009/07/dayintech_0730/.

13 'The Curse of Cash', *The London School of Economics and Political Science*, http://www.lse.ac.uk/Events/2016/11/20161123t1830vOT/The-Curse-of-Cash.

'Building a New Economy Where People Really Take Control: Our Agenda for Change', *New Economic Foundation*, http://neweconomics.org/about-us/.
Chaum, David. 'Blind Signatures for Untraceable Payments', *Taxable Anonymous Libre Electronic Reserves (TALER)*, https://taler.net/papers/chaum-blind-signatures.pdf.
'EU Initiative on Restrictions on Payments in Cash', *European Commission*, 2017, https://ec.europa.eu/info/consultations/eu-initiative-restrictions-payments-cash_en.
International Monetary Fund. 'Automated Teller Machines (ATMs) (per 100,000 Adults)', *The World Bank*, https://data.worldbank.org/indicator/FB.ATM.TOTL.P5.
'The Curse of Cash', *The London School of Economics and Political Science*, http://www.lse.ac.uk/Events/2016/11/20161123t1830vOT/The-Curse-of-Cash.
'The Panama Papers: Politicians, Criminals and the Rogue Industry that Hides their Cash', *International Consortium of Investigative Journalists (ICIJ)*, https://panamapapers.icij.org/.
'Resource Partners', *Better than Cash Alliance*, https://www.betterthancash.org/join-us/resource-partners.
Scott, Brett. 'The War on Cash', *TheLong+Short,* 19 August 2016, http://thelongandshort.org/society/war-on-cash.
---. 'In Praise of Cash', *Aeon,* 1 March 2017, https://aeon.co/essays/if-plastic-replaces-cash-much-that-is-good-will-be-lost.
Visa India. 'A Teacher and Student's #KindnessIsCashless Story - Visa', *YouTube,* 23 February 2017, https://www.youtube.com/watch?v=ISpAtMgKdPw.
'Where Does Money Come From? A guide to the UK monetary and banking system', *New Economics Foundation,* 12 December 2012, http://neweconomics.org/2012/12/where-does-money-come-from/.
'WikiLeaks: Banking Blockade and Donations Campaign', *WikiLeaks*, https://wikileaks.org/IMG/pdf/WikiLeaks-Banking-Blockade-Information-Pack.pdf.

THE DEMONS OF DEMONETIZATION: DEVALUING ‘TRUST’ AS A CURRENCY IN INFORMAL ECONOMIES, AN ETHNOGRAPHIC ACCOUNT

TRIPTA CHANDOLA

THE DEMONS OF DEMONETIZATION: DEVALUING 'TRUST' AS A CURRENCY IN INFORMAL ECONOMIES, AN ETHNOGRAPHIC ACCOUNT

TRIPTA CHANDOLA

> In our business, there is no scope of conducting it on credit or barter. Our bodies were our ATMs, and now like all others in the city, it has no currency.
> —Pooja, a sex-worker and resident of Govindpuri, commenting on the impact of demonetization.

Pooja and Akki are residents of the lane no. 15 of Govindpuri, a resettlement colony in South Delhi. They are erstwhile residents of one of the three camps which collectively constitute, and are colloquially referred to as, the slums of Govindpuri (hereafter, GP), evoking the spatial proximity with the legal colony as a marker. One of the first camps to be settled is across the road from Pooja and Akki's house. All their official documentation still bears that address. The identification as slum-dwellers allows them to avail subsidies under different schemes, especially for their children's education. It is on the account of their professional engagement as sex-workers that they decided to rent a house in this side of the locality. It gives them freedom outside of constant social scrutiny and judgement, but also a sense of 'security, ease and trust' to their clients. Whilst both of them have partners who live with them, they are the breadwinners of the family.

When I first got to know them, they were young girls of under 20. I was pursuing my doctoral research in GP, highly keen and motivated by its soundscapes, but not always confident about articulating either the research questions or agenda, and was intensely humbled by the time given by the inhabitants to these ramblings. My acquaintance with Pooja and Akki was one such encounter, and our relationship, mutual interest and tenderness in each other's lives has continued steadfastly ever since. Their age difference is of a couple of years, though it is hard to tell either the difference or their exact age. Whilst their histories, geographies and negotiations as sex-workers is a demanding (and necessary) narrative to engage and understand the modalities of living on the margins, in the context of this present discussion the focus is on the intersection of their bodies, as precarious commodities, and credit-interest enterprises, the mainstay of their financial investments and future securities, as precarious networks.

The credit-interest enterprise, or *byaaz ka business,* as it is colloquially and in its literal translation referred to, operates on the principle of lending money to the interested parties on a negotiable interest rate and time period. These loan businesses form a patchwork of credit and debt connections throughout the community sewn together with its particular, peculiar practices; negotiating skills and fantastical tales of either meteoritic gains or colossal failures.

In both these networks, credit and debt, trust as a currency, and the extent to which it can be accrued, circulated and appropriated, determines the respective position and benefits that can be accrued.

From the early days, when the conversations and interactions with Pooja and Akki were not determined by any specific research agenda, the importance of 'trust' in their professional lives was constantly insisted on:

> Didi, our dhanda (colloquially referring to any business practice, but in popular, cultural reference often evoked to refer to the sex-work) seems to be all random, there are people who still think we stand by the roads and call out to the customers. We have never done it. One of the first things we learn and have to rely on this when we enter this dhanda is to be part of a trustworthy network. Usually we have to travel to other cities and engage with men of all kinds of backgrounds — politicians, goons, muscle-men, etc., in strange hotels and houses, if we are not with people we can trust we put ourselves in great risk. And in Delhi, most of our clients are either regular or through recommendations. Even they need to be able to 'trust' to become regulars, otherwise as has instances some of them are blackmailed or threatened to be charged with 376... and sometimes we have to pull out these cards to keep the customers in tow.

During the last decade, I have closely witnessed the many turmoils the two of them have to undergo on account of their profession. These have included, but are not limited to, one of them being threatened at gun point in a hill resort away from Delhi; a raid in a hotel in Jaipur where they were stationed; and, coming under the cops-on-duty's radar. But whilst negotiating all these hurdles, Pooja and Akki have consistently worked to improve their lives in ways which the opportunities available to them as illiterate, young women from the slums would not have allowed. The intent here — in the capacity of a researcher and as their interlocutor — is not to *normalize* the violence which the sex-workers have to undergo, but to insist that the reality and experience of earning a living as a sex-worker cannot be collapsed into one singular narrative of oppression and exploitation.

The *byaaz ka business* operates on the principle of lending money to the interested parties on a negotiable interest rate and time-period. Both the interest rate and time-period are not arbitrarily arrived at but correspond to the present 'going rate' in the credit-interest network. And the backbone of these transactions is the currency of 'trust' which both the creditor, but especially, the party seeking a loan can establish. I will return to the significance of 'trust' as currency in sustaining these networks, and the impact of demonitization on disrupting the processes which institute it and thus causing long-term ruptures (and perhaps need for innovation and invention) in these networks. However, at the juncture, it is important to acknowledge that the *byaaz ka business* operates within the informal practices and networks which are identified as a 'set of activities that lies largely outside of the government regulation and supports'. Though being outside of the 'institutional' purview does not render either the networks or the transactions lacking regulations in themselves.

But for the moment, I return to Pooja and Akki's narrative. It is not a matter of mere coincidence (or convenience) that both Pooja and Akki (and many others in their network) find investment in *byaaz ka business* as a logical continuation of their professional engagements and financial investments. Both these involvements accommodate the precarity which becomes of the lives of Pooja and Akki for being outside the 'institutional and state regulations'. The former, sex-work, being illegal and posing a threat of persecution for its practitioners, whilst the latter, *byaaz ka business*, though not strictly illegal, invites scrutiny for the same on account of purporting black money, and illicit activities.

In the last decade, Pooja and Akki through astute and timely investments in the *byaaz ka business* managed to accumulate enough money to buy gold, send their children to private schools and maintain a 'respectable' lifestyle. Even their extended families, still living in the slums, accept them by maintaining a stoic silence and distance from their choice of profession, especially since Pooja and Akki offer financial support to them.

Until 8 November 2016, even though aware of the precarious nature of the transactions — both as sex-workers and money in the informal networks — both Pooja and Akki not only felt secured financially and socially, but also were planning to finally take the 'big' plunge of investing in property.

That *manfoos raat (*fateful night), which at first was reckoned to be a *mazaak* (joke) of sorts by Pooja, Akki and many others, and whose impact as it has been unfolding since, has in Pooja's words 'shifted the ground beneath their feet. Never before, even with all the problems — cops, raids and everything — have we felt so helpless. Neither are we in control of our business nor our monies. What has most significantly been compromised is vishwaas (trust) and not to mention the humiliation we have to endure'.

On that 'fateful' night, demonitization (*notebandi)* was announced by the Prime Minister, Narender Modi, in an address to the country on national media in his now characteristic highly performative, hyperbolic style:

> The evil of corruption has been spread by certain sections of society for their selfish interest. They have ignored the poor and cornered benefits. [...]
>
> There comes a time in the history of a country's development when a need is felt for a strong and decisive step. For years, this country has felt that corruption, black money and terrorism are festering sores, holding us back in the race towards development. [...]
>
> Brothers and sisters,
>
> To break the grip of corruption and black money, we have decided that the five hundred rupee and thousand rupee currency notes presently in use will no longer be legal tender from midnight tonight, that is 8th November 2016. This means that these notes will not be acceptable for transactions from midnight onwards. The five hundred and thousand rupee notes hoarded by anti-national and anti-social elements will become just worthless pieces of paper. The rights and the interests of honest, hard-working people will be fully protected. Let me assure you that notes of one hundred, fifty, twenty, ten, five, two and one rupee and all coins will remain legal tender and will not be affected. [...]
>
> Time and again, I have seen that when the average citizen has to choose between accepting dishonesty and bearing inconvenience, they always choose to put up with inconvenience. They will not support dishonesty.

> Once again, let me invite you to make your contribution to this grand sacrifice for cleansing our country, just as you cleaned up your surroundings during Diwali.
>
> Let us ignore the temporary hardship
> Let us join this festival of integrity and credibility
> Let us enable coming generations to live their lives with dignity
> Let us fight corruption and black money
> Let us ensure that the nation's wealth benefits the poor
> Let us enable law-abiding citizens to get their due share.
> I am confident in the 125 crore people of India and I am sure country will get success.
> Thank you very much. Thanks a lot.[1]

Decoding the Byaaz Ka Business

The *biyaaz ka business,* which is the practice of raising and loaning cash at and for an interest (literally translated, business of interest), forms the backbone of the informal modalities of monetary exchange in the slums of Govindpuri. Most residents of the three camps have in one way or another been involved in these networks, mostly in the capacity of raising loans ranging from a few hundreds to more substantial amounts.

The reasons for the residents of the slums to rely on these informal credit networks are complex and unfold within the particular materiality of negotiating different institutions and agencies — here, banks — as slum-dwellers, illiterate and more often than not lacking cash, credit history, and collaterals. One of the reasons for the panic that was unleashed — owing to the lack of circulating and available cash among the urban poor — immediately following demonitization was accorded to the poor not being part of the formal networks, particularly banking institutions. But the reality within which the urban poor claims and takes charge of their financial destiny is far more complex and complicated.

The 'trust' in these informal networks, the access to the agents lending money and the convenient availability of cash — amount, time and urgency notwithstanding — are some of the significant reasons quoted by the residents of the slums for their reliance on these networks.

However, the informal nature of these monetary exchanges does not imply an informality of the social structures and networks within which they unfold. In fact, these informal monetary exchanges have a history in the slums, which in turn accords them their longevity and robustness as a viable and reliable economic practice, as also accruing the 'trust' both amongst the borrowers and the lenders.

One of the many agendas of the demonitization project was to include a significant section of the population — namely, urban and rural poor — in the formal networks, sectors and practices of banking. In pursuing this rhetoric and agenda with a high de-

1 For the full text of the speech, see: 'Here's the Full Text of Modi's Speech on the Discontinuation of ₹500 and ₹1,000 Bank Notes', *Huffington Post,* 9 November 2016, http://www.huffingtonpost.in/2016/11/08/heres-the-full-text-of-modis-speech-on-the-discontinuation-of_a_21601525/.

gree of coercion — the analyses in support of the project demonitization lend towards demonizing informal networks. Within this imagination, of including the urban poor in formal networks of banking, the social structures and practices within which they unfold — here, in the materiality of the slums, are identified to have a lack of social, cultural and political cohesiveness and solidity. The practices of informal monetary exchanges in the slums are thus reckoned to have symbiotic relationship to the social order within which they can thrive, the impetus being to formalize both these at once towards as a discipling agenda to transform these spaces, and their residents, into complicit, responsible citizens.

And thus, the identification of the practices of informal monetary exchanges in the slums — as a constituency representing the urban poor — with the informality of social order is not without its deliberation to deny the well-consolidated and constituted social structures, with their conflicts and politics, legitimacy in marginalized spaces.

The networks of informal monetary exchange abound in Govindpuri in that, indeed to the members of the 'collective' (residents of Govindpuri), cash is readily available outside of both state regulatory norms and structures. However, the access into these networks, the available credit limit, the interest rates offered and the default period available, are determined by the borrower's social position (caste, religious, political affiliations), credibility (the connectedness and embeddedness of the borrower in the broader networks) and collateral (these are not 'mortgaged' but a rented tenement will mean imposition of a higher credit interest and lower credit limit compared to someone who owns a two-room tenement) in value. Moreover, not anyone with available and extra cash can casually start lending it to others.

One of the factors, when inquired of the members of the community who are directly or indirectly involved in the *biyaaz ka business* — creditors, investors and borrowers — significant in getting the loans sanctioned and negotiating the desired interest-rates, is the trust and position the interested debtor has amongst the community. I inquired of the creditors, many of whom I have long-standing engagements with, their ways of monetizing trust to deliberate on the amount of the loan and its interest rate. The usual manner in which trust circulates, and is accrued, in marginalized spaces is on account of a sense of community, religious affiliations and the shared predicaments of being slum-dwellers. Position in the community is also significant to determine the negotiations between the creditor and debtor, this is not established on account of collective affiliation and shared predicaments. Position is evaluated on account of the duration of the individual's or family's stay in the community; their social networks and their credit history.

Besides these considerations it is the collaterals which determine the amount of the loan extended and the interest rates offered. These collaterals include the validity of the ration card, the ownership of the *jhughi*, the number of rooms and whether there are spare rooms which are rented out along with an account payee cheque written in the name of the lender. For example, an individual who owns a *jhughi* and has a valid ration card to establish it will be able to raise a loan of not only a higher amount but also on a lower interest rate, and can also negotiate not handing over an account payee cheque.

The repayment of the loan is not undertaken via bank transfers, but the demand of the account payee cheque is to levy the extra pressure, as this tender being dishonored can lead to criminal persecution against the issuing party. Once the entire credit amount is returned, these collaterals are returned to the borrower.

A new migrant renting a room in one of the camps in Govindpuri and desiring a loan will not be able to raise one beyond a certain amount but will have to bear highly exorbitant interest-rates, often touching 22% payable on a daily or weekly basis. More often than not, the migrants cannot give an account payee cheque to the creditor, and in this situation either the tenant in question has to present the security of a permanent resident as a collateral or repay the calculated interest rate on a daily basis.

However, in the last few years these collaterals, especially with the tenants and migrants (who are often the ones in need of urgent cash and can be demanded any interest rate), are not considered sufficient. And thus, in the present, those seeking loans have to deposit their ration cards and/or voter identity cards in the original. In the last few years of following the *byaaz ka business* I have only twice come across instances of default when the borrowing party has 'left' without paying the dues. In the first case, it was a young girl of 19 who eloped with her lover, and in the second instance, it was a migrant worker from Nepal who never came back. And in both instances, the amount was less than 5,000 INR.

The 'trust' in the informal networks that is accrued is then a delicately calibrated project of social, cultural and financial histories. Whilst the creditors, depending on the scale they operate on, have their 'boys' who act in the capacity of loan-sharks, the visits are 'gentle reminders' and never lend to humiliating the borrowers/clients. Shakeel, a prominent creditor in Govindpuri, contextualized this approach, 'we will get the monies, one way or another. Everyone knows if they default or run away, they will never really be able to find a standing again in the community here. But we also know the compulsions people living here work within, and belonging to the same place, it will be just bad for the business, along with being completely merciless, to extort money from them under duress'.

Losing 'Trust': In Between Visits to the Bank and *Notebandi*

In the third week of the demonetization drive, an afternoon was spent with the few women from the Navjeevan camp deliberating its impact but more importantly trying to make sense of what it – notebandi - means. 'I really thought it was a joke', said an old, wizened lady. Another added, 'what will happen to all the old notes? I never thought about notes having a lifetime, they also die' to be supported by the reckoning that, 'never really thought that having loose change would make you feel rich'. Such was the tenor of these discussions. It was in part seriously jocular, but that did not mean the gravity of the situation was lost to any one of us.

The discussions soon steered toward the visits to the banks[2] and the act of queuing the demonetization drive had necessitated. All the women present in the company had bank accounts, most of them opened prior to the *Jan Dhan Yojna,*[3] however their visits to the banks were few and far between and mostly undertaken in the company of others as a group. In the last few years, I have discussed at length the engagement and experience of residents, and more specifically the women in present company, with (and of) 'formal banking practices'. And, more often than not, these would focus on their visits to the bank.

From evoking anxiety, '*bayaankar sar dard*' (splitting headache) to a sense of helplessness '*kutch samaaj mein hi nahin aata hai*' (don't fathom anything) and anger, *'saale, humse aise baat karte hain ki hum insaan hi na hon'* (they talk to us as if we are not humans), the visit to the banks for the women from Govindpuri, even in the pre-demonetization era, was fraught with uneasiness, constantly reminding them of their position as slum-dwellers. These women carry, and are contained within, the slumming bodies; illiterate as they are, the lives they live on the margins are etched on their bodies with seemingly an indelible ink. Of all the State institutions, banks[4] as spaces of interactions between the slum-dwellers and the mainstream networks evoke the most immediate and violent sense of disenfranchisement amongst the residents of the slums. 'We are not valued here, the poor are not given any respect' is one of the most-often evoked sentiments in regard to the visit to the banks articulated by the urban poor.

The announcement of demonetization necessitated visits to the banks by some, if not all, of these women. Most of them are beneficiaries of one of the many state-pensions, in this situation either old-aged or widowed. However, the main reason for the visit to the bank was not withdrawal, but to exchange the thus announced illegal tenders of 500 and 1000 either for themselves or their family members and others in their extended networks. When recounting their experiences of the visits to the bank, interlinked as they were with the demonetization drive, what irked the women was not as much the waiting, standing in the queues or even compromising on their daily schedules, as much as having to seek '*bheek*', alms, of their own money from the State. '*Ek tho saala paisa nahin, us par bhi jo thoda bahut hai uske ke liye bhi maara-maari*' (this money is ours, and then we have to suffer to claim it), is the usual refrain.

2 The media coverage of the demonitization as a 'disaster' and its focus on the queues captured the imagination of the masses, and allowed a common vocabulary to insert themselves into the narrative by sharing their experiences.

3 Pradhan Mantri Jan-Dhan Yojana (P.M.J.D.Y), Prime Minister's People Money Scheme is India's National Mission for Financial Inclusion to ensure access to financial services, namely Banking Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner. This financial inclusion campaign was launched by the Prime Minister of India Narendra Modi on 28 August 2014 ('Prime Minister to Launch Pradhan Mantri Jan Dhan Yojana Tomorrow: To Dedicate Mobile Banking Facility on Basic Mobile Phones to the Nation', *Press Information Bureau, Government of India,* 27 August 2014, http://pib.nic.in/newsite/erelease.aspx?relid=109113). He had announced this scheme on his first Independence Day speech on 15 August 2014; ('Pradhan Mantri Jan Dhan Yojana', *Wikipedia*, https://en.wikipedia.org/wiki/Pradhan_Mantri_Jan_Dhan_Yojana. For more information, see 'Pradhan Mantri Jan Dhan Yojana (PMJDY)', *Pradhan Mantri Jan Dhan Yojana,* https://www.pmjdy.gov.in/scheme.

4 State hospitals and educational institutions are also uncomfortable spaces of interactions, but here the sense of disenfranchisement is not so acute as in these spaces the middle-class presence is not so pronounced.

'Being there means not being somewhere else' is how Lela Aunty, the one with a slight limp, spoke about waiting, here in particular reference to queuing at the banks immediately following *notebandi.* The manner in which 'not being there' — evoked in the sense of routines of the everyday being disrupted — was negotiated by relying on social networks (mostly in the immediate materiality of the lane, comprising of a few families) to take shifts in ensuring the smooth operations of different chores, errands, especially towards tending to the children.

The waiting at the banks evoked reminiscence of the days when the women from the Navjeevan camp had to queue to fetch water, almost a decade back. In the conversations that followed parallels were drawn: from the need to collect the wares (plastic bottles/containers and here plastic cards — Aadhar cards, Voters IDs); the anticipation of how much could be expected depending on the spot in the queue and the fights that happened whilst standing in the queues.

The preparations, queuing and waiting for water, as I have elaborated in my thesis, have a sociality which cannot be singularly viewed from the lens of lacks. Here, social, cultural and political identities and spaces were claimed and recalibrated, which had resonances in the manner that the everyday was negotiated among the residents. In a similar vein, the spatial-temporal 'ruptures' of queuing for the banks in the wake of demonetization thus have to be situated in the context of the continuation of everyday negotiations which those living in the margins have to negotiate with.

The deliberations of the residents of Govindpuri then compel a far more engaged, in-depth understanding of how poverty is sustained (structurally, socially, politically) but also more importantly the manner the poor articulate this predicament. A very strong sense of one's self was evidenced in the categorical manner in which the difference between queuing for water and banks was identified as 'zaroorat' (need) and 'haq' (right), respectively: 'to stand in the queues for water was our need, compulsion, but to stand in front of the banks to what is rightfully ours is humiliating, this is only exaggerated by the manner in which they treat the poor'.

Cashless Bodies, Bouncing Cheques:
In the first couple of weeks of demonetization Pooja and Akki's business suffered significant cut-backs. Their regular clients, mostly men from business and middle-class households, were equally affected by the cash crunch which brought a halt to their visits to Pooja and Akki's. They contextualised the situation thus: 'Earlier they could easily account for the missing few thousands, especially to their wives, but now with each penny being guarded over, how do they explain? They call us, and are sympathetic, some rather worried as well, but what can even they do?' Some of the clients offered to pay for their services in old currency notes of 500 and 1000, but the offer was not amenable to Pooja and Akki.

As soon as demonetization was announced, in the local markets it was possible to 'change' the old currency notes for still-legal tender of 100-rupee notes for a 'cut'. And thus, to change 500 currency notes for legal tender, 100 rupees was charged. Whilst most daily-wage laborers, more often than not migrants, illiterate and not having a bank account (or at least in any of city's local banks), had little or no choice but to make do with the loss. Moreover, they could not afford to lose out on a day's wages to queue outside the banks to change the currencies.

Pooja and Akki's household is run on a day-to-day basis of procuring the necessary items, rice, lentils, vegetables and milk. Considering both have been residents of the local neighbourhood for a few years, in the initial phase of cash-crunch they could rely on good-will and their position here to acquire the necessary items on credit. During this phase, I found myself spending a lot of time with the two of them, but also others in the extended networks whom I have known for a few years. Whilst the sense of something going wrong was palpable, the gloom and doom of demonetization has still not settled in. And most of these women were treating this slow-time in their business as well-deserved holiday.

The gravity of the situation drew closer to home with the demonetization severely impacting the *byaaz ka business,* destabilizing the until then secured social and financial position and investments. Here, Pooja and Akki encountered the double-whammy of not receiving the monthly interests on the money they had lent out but also in being harassed by the loan-sharks whom they had in return borrowed from. Pooja and Akki's involvement (and investments) in the *byaaz ka business* were an astute, ingenious and innovative negotiation between their role as 'creditors' and borrowers. In effect, Pooja and Akki would raise a significant amount (usually up to 100,000 INR) from the 'big guys', the creditors, at a negotiable interest rate of 8-10%. This money they would then further re-introduce into the *byaaz ka business* by lending them out piecemeal, in smaller amounts, for a shorter period of time on an interest rate significantly higher to what they pay.

The rate, depending on the need of the borrower, time-period and collateral provided, can be as high as 22% per month. In the last decade, Pooja and Akki managed to significantly improve their financial situation, and thus also alleviating the opportunities available to them, by their ingenious investments in these intersecting and overlapping credit networks.

Both have had bank accounts since the last decade, but these are rarely used to conduct financial transactions. They do not receive payments for their services through these accounts, and their investments are primarily in the *byaaz ka business.* The most significant use of having a bank account in the last few years, since they have made serious investments in the *byaaz ka business,* for them is in issuing cheques whilst seeking loans, and in turn demanding from borrowers who can issue them as collaterals.

As mentioned earlier, the threat of criminal persecution in case of the issued cheque being dishonoured was evoked merely as that, a threat as everyone involved knows that the proceedings are long and tedious, and more often than not the sum is not as significant to pursue it legally. It is the combined loss of valid identification, threat of criminal persecution but most importantly losing the 'trust' of the creditors that lends these informal networks their tenacity and robustness.

With the announcement of *notebandi* on the night of 8 November, the sustenance of the informal networks of monetary exchange in Govindpuri suffered a serious blow, and this was not solely on account of the lack of circulating currencies but more significantly on the challenging of the delicately calibrated project of ensuring 'trust'. In the weeks following demonetization, an announcement was made to the effect of the government considering taking sterner actions against default and dishonouring of the cheques issued (i.e. bouncing of cheques). These included the threat of arrest after a month's notice-period to the issuing party, even if the case is not yet settled.

By the second-week of demonetization, Pooja and Akki's professional engagements were still limited, and the task of running their household on a daily basis was posing serious concerns. The shopkeepers were refusing credit beyond a limit, and whatever few thousand cash they had in old currencies had been changed, even at the cost of the change commission. The *byaaz ka business* was not yielding any returns. The borrowers were unable to return either the principal amount or the interest accrued, and whilst Pooja and Akki took turns to visit them on an almost daily basis, even their hopeless situation was not lost to them to exert any undue pressure.

As Akki put it, 'of course we would go there, and often abusive arguments would ensue, but what else to be done? They did not have the money, period. We were only so insistent because we had the creditors breathing down our necks, but what could have been done? We have been in this business together for so long, but never has it been this bad. We have lost monies, trust and respect. The creditors have started sending their 'boys' as regularly as we were visiting those who borrowed money from us. We have never felt so humiliated and helpless in all these years'.

Pooja tried to raise a loan against her gold jewellery, which is another common practice of those who can afford it in the slums, from firms operating locally. However, she was informed that not only are the credit-interest rates as high as 24% but also that the money will be transferred in the bank accounts and handed to them in cash. This was not a viable option on both the accounts; the high interest rate (and the subsequent inability to repay it and thus loss of the jewellery) but also the transfer into their bank account did not offer them any respite as the withdrawals were still limited to a daily amount of only 2,500, if indeed cash was available in the banks.

Unable to manage the serious and severe financial crisis, Akki decided to take on an assignment for two weeks in Jaipur whilst Pooja agreed to stay back to hold the fort in Delhi. It was thought that Akki's visit would yield earnings up to 80,000 INR of which they would pay half to the creditors, thus placating them until the situation was stabilised.

On one of the days whilst Akki was away, and Pooja was not at home running some errands, two of the 'boys' paid a visit to 'yet again remind them' about their due payments. At their house, the 'boys' have visited when I have been there, both before and during demonetization. Even when Pooja and Akki's respective partners would be present (both of them are unemployed), it would be the women of the house who would engage with them. These interactions even though meant to be showing of strength are marked by friendly banter and gentle reminders of the payments due.

However, on this occasion with both Akki and Pooja absent, their payment overdue by almost two-months and a cold, reticent welcome by the latter's partner refusing to give any reassurance irked the creditors. They tried to reach Akki, but she was unavailable, and dreading that they might have done a runner, the creditor deposited the post-dated, account payee cheque issued by Akki in his bank.

Discussion

In the immediate, everyday materiality it was not so much the lack of the money to transact with — the loose change, so to say — which was being lamented upon, but its impact on networks of monetary exchanges which form the lifeline of sustenance in the slums, especially for the women with no regular jobs (steady employment). These included the manner that the chit-fund groups would conduct their business; the investments (or the money) circulating in the informal, credit interest networks (byaaz ka business) and how it would affect the 'side-businesses'. The last included, but were not limited to, taking up sowing assignments from nearby 'import-export' factories, casual sex-work and such '*beech ka kaam*', which remains an indeterminate but important form of employment and revenue generation for the women.

In that, the demons that the machinations of demonization had (and are still continually) unleashing were compelling women to not reflect on new strategies to negotiate the 'disaster', but instead accessing the accrued lived, experiential knowledge(s) and strategies of living in poverty as a series of continual, concomitant disastrous events.

Once the realization and the reality that the currency notes of 500 and 1000 were no longer legal, but to indeed actualize its worth, the residents of Govindpuri had to go through a long, arduous and 'humiliating' experience, the initial 'euphoria' about demonetization as 'surgical strike' began to be treated with certain circumspection. In the first week of the drive, the residents' response to it resounded the 'popular' sentiment: 'of course, it is a good move, finally all the black monies in the county will be dealt with; there will be no corruption; for the good of the Nation, we can endure some pains'. In the initial-euphoric phase, the 'ruptures' the demonetization drive necessitated – namely, being cashless and standing in the queues – did not pose a threat to the fabric of everyday life in Govindpuri. These predicaments are not 'new' to the residents, and it was reckoned '*jo thoda bahut saheyega woh sambaal lega'*, those who persevere, they will wade through the tide.

However, the everyday, especially for those living in conditions of precarity, is not a neatly folded negotiation between individuals, situations, structures, interruptions and eventualities. The co-and-inter-dependence between the different factors/actors/ events which lend to the everyday of the poor the tenacity — often (problematically) celebrated as *'juggad*' — to 'innovate, improvise and eventually overcome' the 'ruptures' also operate in the same or similar realm of precarity which becomes of the poor.

The precariousness of the networks within which the poor have to negotiate their everyday lives however should not be confused with a lack of tenacity of these networks. The tenacity of these networks (and thus the lives of the poor) is a delicately balanced and negotiated act of 'trust', accrued on account of long-term, sustained and shared experiences of poverty; a compulsion to constantly negotiate structures of power for often basic access of resources; and a collective experiencing of marginality insidiously and extensively affected in their immediate, extended, imagined and aspirational sites of selves which lends to further accentuating their distance from the sites of the structures of power.

Whilst it is tempting, and the general tendency is, to situate the value of trust as a currency in the lives of those living in conditions of precarity and on the margins, an arbitrariness outside of the realm of formal logic and reasoning, this is a deliberately (systemically and systematically) perpetuated reckoning solely on the account that poverty is a difficult text to read, and its committed readers few and far between.

References

‘Here's the Full Text of Modi's Speech on the Discontinuation of ₹500 and ₹1,000 Bank Notes’, *Huffington Post,* 9 November 2016, http://www.huffingtonpost.in/2016/11/08/heres-the-full-text-of-modis-speech-on-the-discontinuation-of_a_21601525/.

‘Pradhan Mantri Jan Dhan Yojana (PMJDY)’, *Pradhan Mantri Jan Dhan Yojana,* https://www.pmjdy.gov.in/scheme.

‘Pradhan Mantri Jan Dhan Yojana’, *Wikipedia*, https://en.wikipedia.org/wiki/Pradhan_Mantri_Jan_Dhan_Yojana.

‘Prime Minister to Launch Pradhan Mantri Jan Dhan Yojana Tomorrow: To Dedicate Mobile Banking Facility on Basic Mobile Phones to the Nation’, *Press Information Bureau, Government of India,* 27 August 2014, http://pib.nic.in/newsite/erelease.aspx?relid=109113.

FIRST AS ARTS, THEN AS TRAGEDY — TWO CENTS ON PERSONAL CROWDFUNDING AND CREATIVE ENTREPRENEURIALISM

SILVIO LORUSSO

FIRST AS ARTS, THEN AS TRAGEDY — TWO CENTS ON PERSONAL CROWDFUNDING AND CREATIVE ENTREPRENEURIALISM

SILVIO LORUSSO

Crowdfund Everything

What is crowdfunding for? One could assume that, if asked such a question, most of the people that know this word (according to a study by the Pew Research Center, 61% of Americans have never heard of it[1]) would refer to innovative products or services, album releases, documentaries, books, videogames, or comics. In other words, they will be inclined to associate crowdfunding with the endeavors of tech startups and the creative industries.

This assumption is partly confirmed by the data available on the highest funded crowdfunding projects.[2] Besides the great number of cryptocurrency-related campaigns run independently or through Ethereum in the top ten, most of the projects were hosted by either Kickstarter or Indiegogo, both platforms generally used to finance creative or innovative undertakings. Of course, the sheer amount of money raised lures a comparable magnitude of media attention, thus establishing a feedback loop between the aggregation of a large public through big news outlets and financial success. This is the case of Pebble, a smartwatch idea which collected more than 40 million dollars during three separate Kickstarter campaigns. This massive crowdfunding achievement didn't prevent the company from shutting down after four years of activity.

Another reason why crowdfunding is generally associated with creativity and innovation has to do with its origins. The practice of collecting monetary contributions from internet users emerged primarily as a means of financing artistic ventures. One of these was the U.S. tour of the British rock band Marillion, made possible in 1997 by the $60,000 of their fans' online donations.[3] This early instance, in which online fundraising wasn't yet a streamlined process, reminds us that crowdfunding itself is an entrepreneurial idea first implemented in the context of the arts. Thanks to crowdfunding, what was an informal exchange with an audience was turned into a business model. Now, two decades later, nurturing a community is considered one of the fundamental features of crowdfunding.[4]

1 Aaron Smith, 'Shared, Collaborative and On Demand: The New Digital Economy', *Pew Research Center: Internet, Science & Tech*, 19 May 2016, http://www.pewinternet.org/2016/05/19/the-new-digital-economy/.

2 'List of Highest Funded Crowdfunding Projects.' *Wikipedia*, 12 May 2017, https://en.wikipedia.org/w/index.php?title=List_of_highest_funded_crowdfunding_projects&oldid=780102024.

3 Jack Preston, 'How Marillion Pioneered Crowdfunding in Music', *Virgin Blog*, 20 October 2014, https://www.virgin.com/music/how-marillion-pioneered-crowdfunding-in-music.

4 Ethan Mollick, 'The Unique Value of Crowdfunding Is Not Money — It's Community', *Harvard Business Review*, 21 April 2016, https://hbr.org/2016/04/the-unique-value-of-crowdfunding-is-not-money-its-community.

The managerial impetus of these musicians adds a new layer of meaning to the notion of *creative destruction* formulated by Viennese economist Joseph Schumpeter, where a new commodity, technology, type of organization, etc. erodes preexisting economic structures and creates new ones.[5] Since the relationship with fans is part of an artist's practice, using it to gather donations is a financial invention where the artistic, creative component is fundamental. Crowdfunding originates as an idea that *creatively* deteriorates the role and position of middlemen and evolves as an expression of *creative entrepreneurialism*, where there is no clear boundary between the 'creative' and the 'entrepreneurial'. More specifically, the former becomes a function of the latter and vice-versa. As the band recounts:

> We then sacked the manager. We emailed the 6000 fans on our database to ask, 'Would you buy the album in advance?' most replied 'yes.' [...] That was the crowdfunding model that has been so successfully imitated by many others including the most successful, KickStarter.

Surprisingly, despite the artistic legacy of crowdfunding and the recurrent media coverage of innovation, the primary destination of online contributions is neither edgy technology nor artistic work, but personal fundraising. While 68% of U.S. donors have contributed to campaigns launched to help a person in need, only 34% funded a new product and 30% decided to support musicians and other kind of artists.[6] Furthermore, GoFundMe, a platform focused on social and personal campaigns, surpassed the bar of $3 billion dollar raised in 2016 while Kickstarter reached that goal only one year afterwards.[7]

GoFundMe is not the only platform mainly devoted to personal crowdfunding. There is also YouCaring, GiveForward, and even Indiegogo has its own parallel charity crowdfunding platform called Generosity. Does their core business make them different from, say, Kickstarter? Do they incarnate a fundraising logic different from the one of crowdfunding sites focused on art and invention? In other words, is there a fundamental difference between asking money for a medical emergency and an Internet of Things gadget? In the following sections I describe a series of campaigns that reveal the way in which personal crowdfunding encourages, and to some extent requires, creative entrepreneurialism. The reason why I am specifically interested in the campaigns initiated by these 'entrepreneurs of the self' is that while undergoing the dynamics of crowdfunding, they expand its scope in different ways.

The Unpaid Intern as Media Company

Nowadays, internships represent one of the few viable paths to initiate a career in the most diverse professional sectors. The internship, which is originally meant to be a learning experience, is therefore reframed as an opportunity to eventually land a job.

5 Joseph Schumpeter, *Capitalism, Socialism and Democracy*, London and New York, NY: Routledge, 2013, pp. 83, 84.

6 Aaron Smith, 'Shared, Collaborative and On Demand'.

7 Ingrid Lunden, 'Gofundme Passes $3b Raised on Its Platform, Adding $1b in Only the Last 5 Months', *TechCrunch*, 18 October 2016, https://techcrunch.com/2016/10/18/gofundme-raises-3b-on-its-platform-raising-1b-in-only-the-last-5-months/. Justin Kazmark, '$3 Billion Pledged to Independent Creators on Kickstarter.' *Kickstarter Blog*, 26 April 2017, https://www.kickstarter.com/blog/3-billion-pledged-to-independent-creators-on-kickstarter.

Because of high demand, companies and institutions — even well-established ones — can easily offer internships that are paid little money or not paid at all. In other words, the internship is understood as a required investment to enter the labor market. It isn't hard to appreciate the way in which these unpaid internships contribute to exacerbate class advantage, since only the individuals who have enough *financial stamina* are able to afford this point of access to professional life.[8]

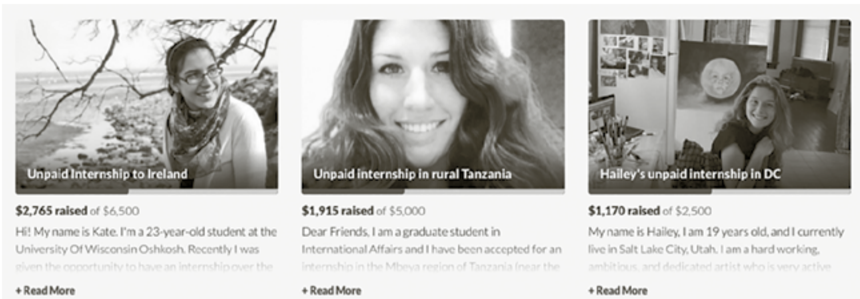


Fig. 1. Unpaid internship campaigns on GoFundMe.

What about all the others? They need to come up with *creative* solutions. Crowdfunding is one of those. At the time of writing, a search for 'unpaid internship' on GoFundMe generates almost five hundred results, while the campaigns generically related to internships are more than ten thousand. These campaigns feature young graduates smiling at the camera, passionately describing their interests and academic achievements while detailing their specific financial needs. The descriptions, which fluctuate between very elaborate pitches and extremely concise blurbs, are characterized by a mongrel literary genre in which the diary, the résumé and the business plan converge. This new literature already has its own manuals, like a GoFundMe guide for a successful education-related campaign.[9]

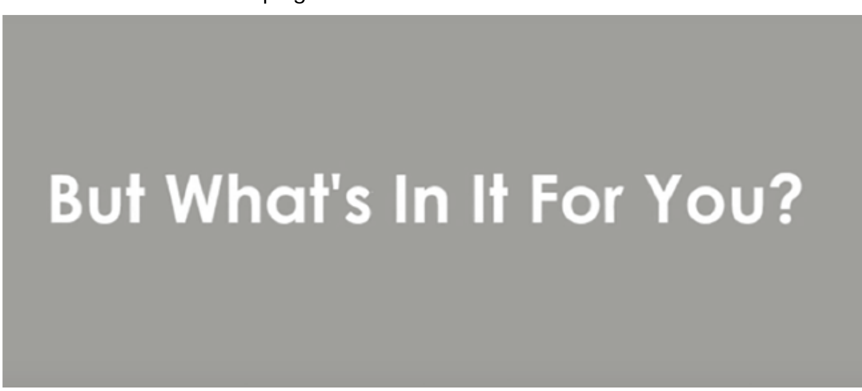


Fig. 2. Still from Clement Nocos' video pitch.

8 Cfr. Precarious Workers Brigade, *Training for Exploitation?*, London/Leipzig/Los Angeles: Journal of Aesthetics and Protest, 2017, pp. 12-3; Ross Perlin, *Intern Nation: How to Earn Nothing and Learn Little in the Brave New Economy*, London: Verso, 2014.

9 'How to Run a Successful GoFundMe Campaign for College Expenses.' *GoFundMe Tutorials*, https://pages.gofundme.com/fundraiser-success-tips/college-fundraising-tips/.

The story of Clement Nocos is at the same time an exemplary case of crowdfunding an unpaid internship and an exceptional one. In 2016, Nocos, a Master of Public Policy graduate and activist from Canada, got accepted for a prestigious internship at the United Nations, a 'one-time-only' opportunity, as he somehow ironically defines it.[10] There was only one drawback: the internship was unpaid, a decisive problem given the steep cost of living in a city like New York.

For his campaign, Nocos chose Generosity, Indiegogo's side-platform 'for human goodness', because of the absence of an expiry date, the possibility of adding 'perks' and the regular disbursement of funds. In order to gather attention, he produced a four-minute-long videoclip explaining why people should donate to his campaign. To make the video effective, Nocos, a political scientist, crafted his message with the aim of entertaining his audience: he included some photoshopped images of himself and a few ironic intermezzos accompanied by an old school hip-hop soundtrack. Furthermore, Nocos took advantage of some promotional strategies, such as asking only half of the money he needed or offering a United Nations mug ('not for sale!') to particularly generous donors. The campaign's description resembles the FAQ section of a website, including such questions as 'Why should I help you?' and 'What do you need?' At the bottom of the page, Nocos offers a breakdown of his expenses (250$ per month are for food). His efforts included a 'crafty social media campaign', deemed almost indispensable by the platform which constantly insists on sharing public updates.

Fig. 3. Detail from Nocos' video pitch.

In a post on Medium, Nocos explains the reasons and the results of his campaign in detail.[11] As he puts it,

> it seems like getting on the internship grind was the only way to get that work experience that has apparently become necessary for securing at least precarious, entry-level employment.

10 Clement Nocos' crowdfunding campaign on Indiegogo's Generosity, https://www.generosity.com/education-fundraising/clem-s-united-nations-internship-blog-podcast/.

11 Clement Nocos, 'The Crowdfunding Grind: Why It's Not Paying for an Unpaid Internship', *Medium*, 1 August 2016, https://medium.com/@amaturhistorian/the-crowdfunding-grind-why-its-not-paying-for-an-unpaid-internship-96a3d82c0d22#.j3vs4pw2j.

He describes crowdfunding as his only viable choice for financing the internship, while still having to deal with student debt (‘Why Crowdfunding? What else do I got?’). In preparation of his campaign, Nocos realized that he wasn't the only one trying to finance his internship through crowdfunding, and this is why he ‘felt the need to differentiate’. So, he started a blog and a podcast about the grinds of internship at the United Nations (12 episodes to date). Out of the $6,000 he aimed to raise, he was able to gather less than $2,000 over a year. Reflecting back on his experience, Nocos, who was skeptical of crowdfunding in the first place, could only confirm his original feelings. He speaks of social media fatigue, he mentions the uneasiness of having to ask money to a circle of friends who are often going through a tough situation, and he concludes that ‘the crowdfunding market has literally crowded itself out when it comes to people asking for money to replace labour income for their unpaid internships.’

Despite the meager loot he gained, Nocos’ efforts produced an additional result. It didn’t take long before self-promotion turned into a critique addressing the very issue of unpaid internships. In his podcast ‘The Internship Grind’, he discussed the Fair Internship Initiative, the book *Intern Nation* by Ross Perlin, and he interviewed Nathalie Berger and David Leo Hyde, currently shooting *An Unpaid Act*, a documentary on unpaid internships and precarity. Nonetheless, looking back at this activity, Nocos humbly acknowledges the ambivalence of ‘selfishly’ lobbying for a personal cause and addressing a structural condition:

> But to be frank, the podcast isn’t all just about documenting this kind of crappy quirk of the modern labour market. It was intentionally self-serving, in a way, to draw attention to my own crowdfunding campaign and make it more visible for potential donors.

What role did Nocos play in his own campaign? As he was aware that crowdfunding success is strictly related to the user's ability to operate as a media company, he acted simultaneously as a copywriter, a video-maker, a social media manager, and an accountant.

Call to Action Meets Activism

On personal crowdfunding platforms, it is not uncommon to read about a broken arm, a heart transplant, or a rare disease. In these cases the campaign goals range from a few thousand dollars to more than half a million. $60,000 was the amount asked by Kati McFarland, a 25 year-old photographer from Arkansas suffering from Ehlers-Danlos Syndrome, a genetic disorder causing many different complications like fainting, fatigue and stomach paralysis. She sums up her condition by saying that she ‘can barely walk /stand / eat w/o severe pain/ dislocations / vomiting / blackout’.[12]

12 Kati McFarland’s campaign on YouCaring: https://www.youcaring.com/kati-mcfarland-588646.

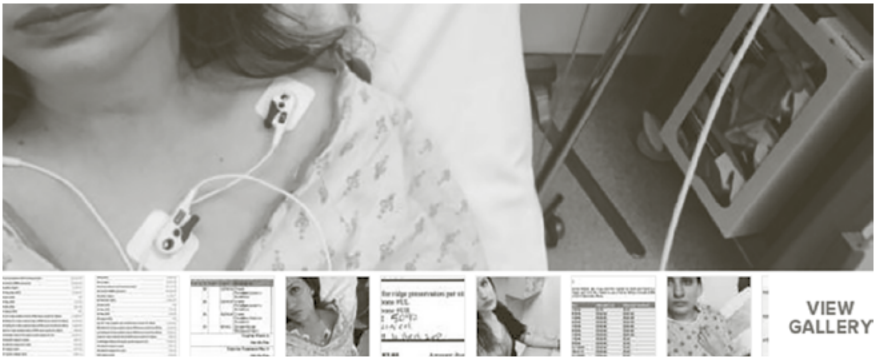


Fig. 4. Detail from the image gallery on McFarland's campaign.

After her father suddenly passed away, McFarland found herself alone struggling to manage her medical expenses that exceed by far the benefits provided by the State. This is why she started a fundraiser on YouCaring, a platform that unlike GoFundMe doesn't take any fee on the donations.[13] McFarland's campaign doesn't look as carefully crafted as Nocos' one. She doesn't have a video on her page, only a few images showing her while being under medical treatments and some screenshots of the related costs. The first part of the description follows the usual script of personal storytelling while the second part is an extremely detailed cost breakdown filled with medical technicalities. Given the short attention spans internet users have grown accustomed to, it isn't hard to understand why it took her more than 7,000 re-blogs and shares to reach a preliminary goal of 1,200 dollars.

Fig. 5. Detail from the interface of Generosity.

Things changed for McFarland when she attended a talk by congressman Tom Cotton, an ardent opponent of Obamacare, the healthcare act that the new Trump administration is trying to repeal. During the event, she took the floor and explained to the congressman that without the coverage provided by the Affordable Care Act she

13 YouCaring and Generosity don't charge any fee. However, a 2.9% is deducted by credit card processors like Paypal, We Pay, or Stripe: 'Free Fundraising', *YouCaring,* https://www.youcaring.com/c/free-fundraising.

would lose her life ('I will die. That is not hyperbole.'). McFarland asked him whether he would commit not only to the repeal of the act, but also to building a proper substitute. This is when the audience exploded in a big round of applause. After Cotton tried to skirt the issue, the crowd vocally expressed its disapproval by repeatedly shouting 'do your job'.[14]

After being published on the internet, Kati McFarland's intervention gained some degree of virality. Then, she started to see her fundraiser grow at a surprisingly increased rate. In the meantime, McFarland had been invited to talk about what happened on several TV news programs, where she asserted the need to give a face to the collective demand for accessible healthcare. However, this effort wasn't disconnected from the promotion of the campaign, a matter of life and death for her:

> there are many things I wish I could have said [...] but unfortunately I just had to focus on shoehorning in the link to this fundraiser (probably to Don Lemon's chagrin), but you gotta do what you gotta do when medical bills are involved.[15]

Of course, the media attention that McFarland got thanks to her intervention had a positive effect on the donations to her campaign. But at the same time, her story became symbolic of all the patients endangered by ill-advised policy making. In a similar way to Nocos, Kati McFarland had to deal with the highly ambiguous space where personal promotion goes hand in hand with the attempt to shed light on a structural deficit.

First as Arts, Then as Tragedy

Around 2007 a meme started to circulate on the internet. It was the picture of a kid on a beach holding a fist full of sand, with an expression of pride on his face. The picture became known as 'Success Kid' and it is still used nowadays to either express frustration or describe situations in which one is 'winning'.[16] In 2015, Sam Griner, the boy impersonating the 'Success Kid' meme, now 8 years old, availed himself of his online popularity to fund the transplant of his father's kidney. A campaign was launched on GofundMe including only one family picture with Sam in the middle and a concise account of the calamity. The campaign raised more than $100,000, thanks to which the transplant was eventually possible. Significantly, on The Verge, the news was published under the category of entertainment.[17]

Despite its happy ending, this vicissitude can be read as a cautionary tale about the role played by social and news media attention when it comes to personal crowdfunding. Here, a series of more or less arbitrary criteria increase the chances of a campaign's success, although without guaranteeing it. After all, there is still no such thing as a science of virality. Such vagueness is confirmed by the overly generic tips

14 Adi Cohen, 'Donations Pour In For Woman Who Yelled At Her Senator', *Vocativ*, 23 February 2017, http://www.vocativ.com/405313/donations-woman-yelled-senator-town-hall/.

15 McFarland, ibid.

16 'Success Kid / I Hate Sandcastles', *Know Your Meme,* http://knowyourmeme.com/memes/success-kid-i-hate-sandcastles.

17 Amar Toor, 'The Internet Just Helped 'Success Kid' Raise Money for His Dad's Kidney Transplant', *The Verge*, 17 April 2015, https://www.theverge.com/2015/4/17/8439483/success-kid-father-kidney-transplant-crowdfunding.

offered by GoFundMe itself: 'avoid blurry pictures [...] Write a catchy and descriptive title. Which title sounds better? 'I Need Money!' or 'Julie's Rally Against Cancer'... the second one, right?'[18] A title needs to be 'catchy' in order to stand out from the plethora of running campaigns. In this scenario, the access to an informal means of protection against emergencies turns into a race where online media literacy is a valuable competitive advantage.

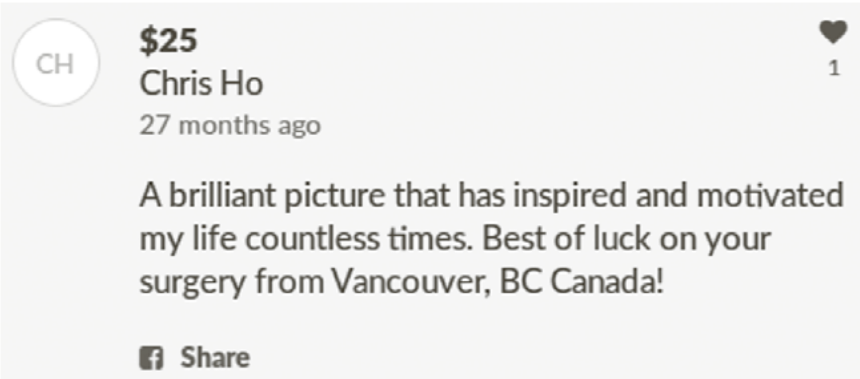


Fig. 6. Message from a donor to the 'Success Kid''s father.

As writer Alana Massey points out, crowdfunding for medical care represents the most radical transformation of fundraising since the 80s. At that time, another crucial shift was taking place: charities were converting their model into an individual-based sponsorship. Instead of being asked to 'sponsor children in need', donors would be now invited to 'sponsor *a* child in need'.[19] The singularization of solidarity which is also embedded in crowdfunding sites is often understood as a positive feature, because it offers 'the opportunity to help one specific person and help change one person's life'.[20] Furthermore, the individual-based relationship between the donor and the beneficiary is reinforced by the direct contact between them offered by crowdfunding platforms.

Considering the telegraphic style of several campaigns, one could assume that many of those are only meant to address family members and friends who are already aware of the issue at stake. In this case, crowdfunding offers a convenient interface that facilitates the coordination of fundraising. But frequently the hope is to reach a crowd of strangers and therefore compete for their attention. A crowd whose choices are likely reflective of several biases.[21] Among them, there is one that sounds particularly gloomy

18 'GoFundMe Guide: Six Steps to a Successful Campaign.' *GoFundMe Help Center*, http://support.gofundme.com/hc/en-us/articles/203604494-GoFundMe-Guide-Six-Steps-to-a-Successful-Campaign.

19 Alana Massey, 'Mercy Markets', *Real Life*, 11 April 2017, http://reallifemag.com/mercy-markets/.

20 Amanda Mikelberg, 'Gofundme Is a Tuition Money Machine in New York City', *Metro*, 15 February 2017, http://www.metro.us/new-york/gofundme-is-a-tuition-money-machine-in-new-york-city/zsJqbo---bbddbvpGbRm6.

21 A 2016 study shows that Kickstarter crowdfunding projects including photos of black subjects have a significantly lower success rate. Cfr. Lauren Rhue and Jessica Clark. 'Who Gets Started on Kickstarter? Racial Disparities in Crowdfunding Success', *SSRN Scholarly Paper*, Rochester, NY: Social Science Research Network, 9 September 2016, https://papers.ssrn.com/abstract=2837042.

when associated with personal crowdfunding: survivorship bias, the habit of focusing on successful past experiences while ignoring the others.[22] As writer Anne Helen Petersen puts it, 'crowdfunding is fantastic at addressing need — but only certain types, and for certain people.'[23]

Crowdfunding success is bolstered by online media dexterity. Journalist Luke O'Neil emphasizes this aspect: 'I often joke lately that I used to think I've wasted my life on Twitter, but it might actually come in handy when I inevitably need to crowdfund an operation. You have to hustle. You have to market. You have to build your brand.' O'Neil also draws a direct parallel between medical crowdfunding and the ecosystem of tech entrepreneurship. He sarcastically associates the presentation of GoFundMe users' medical history to the stereotypical narrative of startups, implicitly revealing a similarity between an appeal to charitable spirits and a pitch to a venture capital firm: 'Think of your cancer as the origin story a tech startup tells about itself on the About section of its website', he suggests.[24]

Emerging from O'Neil's remarks is the alleged content neutrality of crowdfunding, no matter whether it is employed to finance the 'Coolest Cooler' or used as a means to alleviate the hardships looming throughout the whole spectrum of a lifetime.[25] The way in which Indiegogo introduces Generosity reveals the way in which crowdfunding is generalized by a mere extension of its target group:

> We started Indiegogo in 2008 with a simple idea: Give people the power and resources to bring their ideas to life. Over the years we've watched in delight as inventors, musicians, storytellers, and activists pushed the boundaries of our original vision. [...] Inspired by the seemingly boundless compassion and creative spirit of our users, we challenged ourselves to do more — this time for the very people and causes that often need help the most. The ones that fall through the cracks. The ones that need a second chance. The ones on the brink. Generosity helps cancer patients with bills and students with tuition. Generosity boosts humanitarian efforts into new countries and helps nonprofits move quickly with their causes. Generosity fills the gap at the end of a tough month and supports the village after the storm.[26]

In other words, crowdfunding repeats itself, first as arts, then as tragedy. But while doing so, it preserves the promotional language and entrepreneurial dynamics that characterize fundraising for art or innovation: things like 'perks', enforced social media bombardment, strategies borrowed from advertising, and, as Ian Bogost

22 In 2014, I created Kickended.com, an archive of Kickstarter's $0-pledged campaigns, to be able to navigate and bring attention to campaigns unable to raise any money, thus opposing the survivorship bias embedded in both news media and the interfaces of crowdfunding platforms.

23 Anne Helen Petersen, 'The Real Peril of Crowdfunding Health Care', *BuzzFeed*, 10 March 2017, https://www.buzzfeed.com/annehelenpetersen/real-peril-of-crowdfunding-healthcare.

24 Luke O'Neil, 'Go Viral or Die Trying.' *Esquire*, 28 March 2017, http://www.esquire.com/news-politics/a54132/go-viral-or-die-trying/.

25 The 'Coolest Cooler' is a cooler equipped with a blender and speakers that raised more than 13 million dollars on Kickstarter.

26 Generosity's mission statement: https://www.generosity.com/.

maintains, a semblance of the reality show.[27] All of these aspects, critically addressed by artist and activist Josh MacPhee, survive in campaigns about survival:

> Our goal — our **imperative** — is to harden ourselves and our projects into cohesive, likable, and salable commodities. We wake up as brands, joyously exulting in these flattened, logo-like versions of ourselves. Clean and efficient with soft, smooth corners and antiseptic Helvetica expressions. What is not to love about these new forms, so sleek and attractive on the outside, with the promise of aiding us in the fulfillment of the last remaining human right in our society: the right to be an entrepreneur?[28]

Sadtrepreneurs

During the MyCreativity Sweatshop event, American novelist Bruce Sterling gave a talk entitled 'Whatever Happens to Musicians, Happens to Everybody'. He portrayed musicians as 'patient zero in the critical injury clinic of the creative sweatshop'. Sterling referred to them as an avant-garde of the precarity experienced by creative workers. He also reflected on crowdfunding as a means to sustain their practice, concluding that wouldn't be a good idea since 'the crowd lacks imagination'.[29] According to Brett Neilson and Ned Rossiter, the creative worker is considered by many the precarious subject *par excellence.*[30] Now that *creative* solutions are becoming a crucial means of addressing various forms of precariousness, we might read Sterling's portrait of musicians as canaries in the coal mine as an alarmingly vivid prediction. The people running campaigns on sites like GoFundMe can be seen as creative workers whose very medium is their own adversities, carrying out a practice sustained by an entrepreneurial attitude that includes management and promotion.

The Web is full of labels referring to specific types of entrepreneurs. Online, we read of kidtrepreneurs, solopreneurs, or even botrepreneurs. Looking at these campaigns, it seems that the more precariousness is present, the less entrepreneurialism becomes voluntary.[31] So, we might introduce yet another blend-word to identify the users of personal crowdfunding sites. Many of those are 'sadtrepreneurs', subjects that unwillingly, or at least ambivalently, behave as entrepreneurs. To them, the creativity needed to run a successful campaign is not a liberating force, but a strategic necessity linked to subsistence or even survival.

Far from being uniquely the result of one's own passion, entrepreneurially performed 'creative' undertakings are increasingly becoming an obligation. More and more people reluctantly join the ranks of a novel kind of creative underclass whose very medium

27 Ian Bogost, 'Kickstarter: Crowdfunding Platform Or Reality Show?', *Fast Company*, 18 July 2012, https://www.fastcompany.com/1843007/kickstarter-crowdfunding-platform-or-reality-show.

28 Josh MacPhee. 'Who's the Shop Steward on Your Kickstarter?', *The Baffler*, 4 March 2014, https://thebaffler.com/salvos/whos-the-shop-steward-on-your-kickstarter.

29 Bruce Sterling, 'Whatever Happens to Musicians, Happens to Everybody', MyCreativity Sweatshop, Amsterdam, 20 November 2014, https://vimeo.com/114217888.

30 Brett Nielson and Ned Rossiter, 'From Precarity to Precariousness and Back Again: Labour, Life and Unstable Networks', *Fibreculture* 5 (2005), http://five.fibreculturejournal.org/fcj-022-from-precarity-to-precariousness-and-back-again-labour-life-and-unstable-networks/.

31 I call 'entreprecariat' the mutual relationship between entrepreneurialism and precarity. Cfr. Silvio Lorusso, 'What Is the Entreprecariat?', *The Entreprecariat*, 27 November 2016, http://networkcultures.org/entreprecariat/what-is-the-entreprecariat/.

is constituted by its members' personal necessities. Is there a possibility to combine compulsory creative entrepreneurialism with genuine expressions of discomfort? Is it possible to do PR through precarity and against precarization? In this grim scenario, the stories of Clement Nocos and Kati McFarland reflect the urge to divert attention solely from individual miseries to the broader structural conditions causing them. Would this effort be worth a monumental crowdfunding campaign?

References

Bogost, Ian. 'Kickstarter: Crowdfunding Platform Or Reality Show?', *Fast Company*, 18 July 2012, https://www.fastcompany.com/1843007/kickstarter-crowdfunding-platform-or-reality-show.

Cohen, Adi. 'Donations Pour In For Woman Who Yelled At Her Senator', *Vocativ*, 23 February 2017, http://www.vocativ.com/405313/donations-woman-yelled-senator-town-hall/.

'Free Fundraising', *YouCaring,* https://www.youcaring.com/c/free-fundraising.

'GoFundMe Guide: Six Steps to a Successful Campaign', *GoFundMe Help Center*, http://support.gofundme.com/hc/en-us/articles/203604494-GoFundMe-Guide-Six-Steps-to-a-Successful-Campaign.

'How to Run a Successful GoFundMe Campaign for College Expenses', *GoFundMe Tutorials*. https://pages.gofundme.com/fundraiser-success-tips/college-fundraising-tips/.

Kazmark, Justin. '$3 Billion Pledged to Independent Creators on Kickstarter', *Kickstarter Blog*, 26 April 2017, https://www.kickstarter.com/blog/3-billion-pledged-to-independent-creators-on-kickstarter.

'List of Highest Funded Crowdfunding Projects', *Wikipedia*, 12 May 2017. https://en.wikipedia.org/w/index.php?title=List_of_highest_funded_crowdfunding_projects&oldid=780102024.

Lorusso, Silvio. 'What Is the Entreprecariat?', *The Entreprecariat*, 27 November 2016, http://network-cultures.org/entreprecariat/what-is-the-entreprecariat/.

Lunden, Ingrid. 'Gofundme Passes $3b Raised on Its Platform, Adding $1b in Only the Last 5 Months', *TechCrunch*, 18 October 2016, https://techcrunch.com/2016/10/18/gofundme-raises-3b-on-its-platform-raising-1b-in-only-the-last-5-months/.

MacPhee, Josh. 'Who's the Shop Steward on Your Kickstarter?' *The Baffler*, 4 March 2014, https://thebaffler.com/salvos/whos-the-shop-steward-on-your-kickstarter.

Massey, Alana. 'Mercy Markets', *Real Life*, 11 April 2017, http://reallifemag.com/mercy-markets/.

Mikelberg, Amanda. 'Gofundme Is a Tuition Money Machine in New York City', *Metro*, 15 February 2017, http://www.metro.us/new-york/gofundme-is-a-tuition-money-machine-in-new-york-city/zsJqbo---bbddbvpGbRm6.

Mollick, Ethan. 'The Unique Value of Crowdfunding Is Not Money — It's Community', *Harvard Business*

Review, April 21, 2016. https://hbr.org/2016/04/the-unique-value-of-crowdfunding-is-not-money-its-community.

Nielson, Brett and Ned Rossiter, 'From Precarity to Precariousness and Back Again: Labour, Life and Unstable Networks', *Fibreculture*, no. 5 (2005), http://five.fibreculturejournal.org/fcj-022-from-precarity-to-precariousness-and-back-again-labour-life-and-unstable-networks/.

Nocos, Clement. 'The Crowdfunding Grind: Why It's Not Paying for an Unpaid Internship', *Medium*, 1 August 2016. https://medium.com/@amaturhistorian/the-crowdfunding-grind-why-its-not-paying-for-an-unpaid-internship-96a3d82c0d22#.j3vs4pw2j.

O'Neil, Luke. 'Go Viral or Die Trying', *Esquire*, 28 March 2017, http://www.esquire.com/news-politics/a54132/go-viral-or-die-trying/.

Perlin, Ross. *Intern Nation: How to Earn Nothing and Learn Little in the Brave New Economy*, London: Verso, 2014.

Petersen, Anne Helen. 'The Real Peril of Crowdfunding Health Care', *BuzzFeed*, 10 March 2017, https://www.buzzfeed.com/annehelenpetersen/real-peril-of-crowdfunding-healthcare.

Precarious Workers Brigade, *Training for Exploitation?*, London/Leipzig/Los Angeles: Journal of Aesthetics and Protest, 2017.

Preston, Jack. 'How Marillion Pioneered Crowdfunding in Music', *Virgin Blog*, 20 October 2014, https://www.virgin.com/music/how-marillion-pioneered-crowdfunding-in-music.

Rhue, Lauren and Jessica Clark. 'Who Gets Started on Kickstarter? Racial Disparities in Crowdfunding Success', *SSRN Scholarly Paper*. Rochester, NY: Social Science Research Network, 9 September 2016, https://papers.ssrn.com/abstract=2837042.

Schumpeter, Joseph. *Capitalism, Socialism and Democracy*, London and New York, NY: Routledge, 2013.

Smith, Aaron. 'Shared, Collaborative and On Demand: The New Digital Economy', *Pew Research Center: Internet, Science & Tech*, 19 May 2016, http://www.pewinternet.org/2016/05/19/the-new-digital-economy/.

'Success Kid / I Hate Sandcastles', *Know Your Meme*, http://knowyourmeme.com/memes/success-kid-i-hate-sandcastles.

Sterling, Bruce. 'Whatever Happens to Musicians, Happens to Everybody', MyCreativity Sweatshop, Amsterdam, 20 November 2014, https://vimeo.com/114217888.

Toor, Amar. 'The Internet Just Helped 'Success Kid' Raise Money for His Dad's Kidney Transplant', *The Verge*, 17 April 2015, https://www.theverge.com/2015/4/17/8439483/success-kid-father-kidney-transplant-crowdfunding.

THE DATA PARADOX: HOW THE WAR ON POVERTY BECAME A WAR ON THE POOR

NATHALIE MARÉCHAL

THE DATA PARADOX: HOW THE WAR ON POVERTY BECAME A WAR ON THE POOR

NATHALIE MARÉCHAL

This essay is adapted in part from Nathalie Maréchal, 'First They Came for the Poor: Surveillance of Welfare Recipients as an Uncontested Practice', Media and Communication *3.3 (20 October 2015).*

Introduction

One of the main functions of government is to provide certain benefits (cash, goods, or services) to the people who need them. We call this 'the welfare state'. Some needs are universal (clean running water, national security) while others only apply to certain categories of people (only children go to public schools; only homeowners get homeowner tax credits). The state collects data on people in order to know what categories they fall in, and consequently what kinds of benefits they should receive. At times it may collect additional data to learn how well a program is working and how it might be improved. Ideally, the point of this surveillance is to direct resources to the right places to maximize human wellbeing and minimize waste. Unfortunately, it doesn't always work that way. The system of poverty relief ('welfare') in the United States exemplifies how surveillance systems can reinforce social structures of oppression by measuring what elites care about (welfare fraud) and ignoring the things that common sense and human decency might emphasize (alleviating poverty).

The Surveillance Society

We are now living in a pervasive surveillance society, and most of us either don't know it or don't care. There are at least three interlinked yet distinct 'surveillant assemblages': the remnants of the welfare state, the national security state, and surveillance capitalism. While some people are uncomfortable with any data being collected about them at all, others argue that some degree of surveillance is necessary for governments and businesses to function. States need to know how many children live in a given city to ensure there are enough teachers, and law enforcement agencies have a legitimate interest in (for example) lawfully wiretapping suspected criminals in order to prosecute them. Meanwhile, businesses can often provide better service when they know who their customers are, what they want, and how much they are willing to pay for it.

There are a lot of good reasons to resent and resist surveillance. One of those reasons is that surveillance systems are designed with particular goals in mind that aren't necessarily clear to the people being surveilled, that they may not share, and that may not be to their benefit. Once the system is in place it takes on a life of its own, ruthlessly replicating its own logic even if that logic defies common sense. In this essay, I use the example of poverty relief programs in the United States, also known as 'welfare', to show how a mass surveillance system built on faulty premises — key among them, the notion that preventing fraud is more important than ending poverty — actually perpetuates poverty and prevents itself from learning how to end it. Even as the system relentlessly seeks out every scrap of information about the poor to verify their deservingness, it deliberately fails to provide data that would help administer programs more effectively. This is a stunning paradox: a system whose guiding principle is the collection of information yields virtually no data that could meaningfully inform public policy.

What I Mean by 'Surveillance'

By surveillance, I mean the routinized collection of data and monitoring of populations in their daily lives and routines through the use of networked databases — what Roger Clarke calls 'dataveillance'.[1] Many individual data collection events — a web search, a car rental, a fingerprint — are fairly trivial on their own. When people say they have 'nothing to hide', what they often mean is that they can't imagine the mundane data points of their daily lives being interesting to someone else. And that's often true of individual data points taken in isolation. They acquire their value when billions of them are combined in vast networked databases. Data sitting quietly in vast repositories isn't the main issue either. It's what people do with the data that matters. Big data analytics, data science and data mining all refer to the complex operations of discovery that allow surveillant organizations to piece together disparate pieces of information in order to generate insight and act on it. That action can take many forms: to grant a government benefit, to order a drone strike against a suspected terrorist target, or to display a 'more relevant' piece of advertising.

Government surveillance conducted for law enforcement, intelligence or national security reasons has gotten a lot of attention since Edward Snowden's 2013 revelations about US government surveillance of the internet. As the Snowden documents showed, this surveillance often piggybacks on corporate data collection through covert programs like PRISM, overt law enforcement requests for user information, and brazen demands for access to certain travelers' social media accounts. Unconstitutional government programs should be resisted on their own merits, yet it is important to remember that government agencies' appetite for unlimited data access is enabled by the private sector.

Indeed, the past quarter-century has seen the emergence and growth of surveillance capitalism, 'a deeply intentional and highly consequential new logic of accumulation' built on 'big data', which 'aims to predict and modify human behavior as a means to produce revenue and market control'.[2] Google was among the first major companies to monetize internet users' data, and before long, advertising became the default business model for new technology companies.[3] Surveillance capitalism has consequences for social institutions, and even for democracy itself. Claims of voter manipulation perpetrated by private and/or foreign interests during the 2016 'Brexit' vote and US presidential election via social media platforms have spurred renewed interest in the power of internet giants like Facebook, Google and Twitter.

The third type of routinized mass surveillance involves government agencies outside of the national security sphere, notably the ones tasked with providing social welfare — what I call 'governance surveillance'. At its best, governance surveillance aims to be

1 Roger A. Clarke, 'Information Technology and Dataveillance', *Communications of the ACM* 31 (1988): 498–511.

2 Shoshana Zuboff, 'Big Other: Surveillance Capitalism and the Prospects of an Information Civilization', *Journal of Information Technology* 30 (2015): 75–89.

3 Zuboff, 'Big Other', p. 77.

responsive to the needs of the population, and public servants put safeguards in place to protect citizens from privacy violations and human rights harms. Population registries and identification systems in both rich and developing countries are the cornerstone of this 'surveillant assemblage'. Beyond that, the types of data that is collected and the uses of that data are highly context-specific. Some countries consider certain types of information too dangerous to be collected at all. For example, after population registries containing information about religious affiliation were used to murder over 6 million Jews during World War II, a number of European countries banned the collection of data about religion, race or ethnicity. This raises challenges for monitoring various kinds of disparities between ethnic groups, and is powerless to prevent many forms of discrimination, but the experience of the Holocaust taught many Europeans that the risks of collecting this data outweighed the potential benefits.

As societies become more connected, it becomes more and more rare for people to take even mundane actions without leaving a digital trace of that activity. Most of this activity is recorded in some database, somewhere. The 'digital exhaust' produced by the everyday activities of millions of internet users is mined by internet companies, whose databases are in turn targeted by national governments eager to use this data for their own purposes, using both legal and extralegal means.[4] Companies outside of the internet sector are also amassing data on users, customers, and other humans, and leveraging this data for financial profit. The data brokerage system is so complex and so opaque, it is impossible to know for certain what the cybernetic machine of the surveillance society knows about any of us.[5]

Together, the parallel logics of governance surveillance, national security surveillance, and surveillance capitalism point to a near-future where all human activity is recorded and monitored, and where people are sorted into categories based on what the databases know about them. People then receive differential treatment based on their assigned categories, such as extra screening at airports, public subsidies, and targeted advertising. This is what French philosopher Gilles Deleuze called the 'control society',[6] and what Kevin Haggerty and Richard Ericson[7] call the 'surveillant assemblage': an 'only partially coordinated coming together of many and varied contemporary practices and processes that record, monitor, locate, track, observe and, yes, identify individuals so that they can be profiled and their personal data can be mined for further analysis'.[8]

In this context, the use of the term 'surveillance' isn't necessarily a moral judgment. The word can have positive, negative, or neutral connotations depending on the context. For example, public health surveillance (as understood by epidemiologists, for instance) is decidedly beneficial, while wiretapping leaders of an opposition political

4 Glenn Greenwald, *No Place to Hide: Edward Snowden, the NSA, and the US Surveillance State,* New York, NY: Henry Holt and Co, 2014.

5 Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society*, New York, N.Y: Da Capo Press, 1988.

6 Gilles Deleuze, 'Postscript on the Societies of Control', *October* (Winter 1992): 3–7.

7 Richard V. Ericson and Kevin D. Haggerty (eds), *The New Politics of Surveillance and Visibility*, Toronto: University of Toronto Press, 2006.

8 David Lyon, *Identifying Citizens: ID Cards as Surveillance*, Cambridge, UK and Malden, MA: Polity, 2009, p. 55.

party is more negative. A surveillance camera in a parking garage can be used for good (preventing or solving crimes) or for bad (surreptitiously recording the comings and goings of one's spouse). Indeed, many kinds of surveillance and 'dataveillance' are requirements for modern societies to function. In many cases the phrase 'monitoring and evaluation' is an accurate stand-in for 'surveillance'. The people who run both public and private programs or projects use data to check whether they are meeting their goals, or to look for ways to make programs more efficient. Few people would disagree with this strategy in principle. The problem emerges when people in positions of power decide to measure the things that are important to them — and nothing else. The American social welfare system provides a poignant — if dispiriting — example of what happens when a system measures what elites care about (in this case, welfare fraud) and ignores the things that common sense and human decency might emphasize (in this case, alleviating poverty).

Surveilling the Poor: The US Welfare State

It's important to understand that the history of US social welfare diverges from the history of comparable programs in other rich countries. While European countries began providing state-run and tax-funded social safety nets and labor protections starting in the late 19th century, in the US the prevailing view of the elites was that assistance to the needy would only encourage idleness and other undesirable behavior, and that social Darwinism would ensure that only the individuals with the best work ethic and moral character would prosper and reproduce. Franklin Delanoe Roosevelt's New Deal, in the wake of the Great Depression, represented a departure from the past through programs such as the Works Progress Administration, later renamed the Works Projects Administration (WPA), which created employment through great work projects; Social Security, a retirement program for old age and the disabled; and many other poverty-relief programs collectively referred to as 'welfare'.[9]

In addition to Social Security, intended to care for those relatively few (compared to today) individuals who made it to old age, New Deal welfare programs were designed to replace the earnings of an absent, deceased or otherwise incapacitated father figure, thereby allowing mothers to continue in their roles as homemakers and primary caregivers for their children. It is important to note that women of color were largely excluded from receiving benefits through both structural and individual-level racism on the part of program administrators.[10]

Decades later, Lyndon Johnson's Great Society, which included both the War on Poverty and civil rights legislation, went a long way toward easing the structural barriers preventing poor blacks from receiving aid as well as institutionalizing the welfare system. The welfare assistance program was further expanded in the 60s as part of Lyndon Johnson's Great Society initiative, intended to eradicate poverty and correct structural racial injustice. The War on Poverty was thus intertwined with government efforts to enact the demands of the civil rights movement. By the end of the Johnson Administration, the US appeared to be on its way to easing, if not eradicating, poverty.[11]

9 Brendon O'Connor, *A Political History of the American Welfare System: When Ideas Have Consequences*, Lanham, Md: Rowman & Littlefield, 2003.

10 Ibid.

11 Ibid.

However, as black Americans fought to access welfare programs,[12] public perception of the average welfare recipient shifted from the virtuous white widow heroically raising her children alone to the lazy, promiscuous, deviant (and wholly imaginary) black 'welfare queen' mythologized by Ronald Reagan.[13] In the context of the Republican Party's Nixon-era Southern Strategy, conservative attacks on poverty relief programs are to be understood as part of the ideology of white supremacy.

The 70s, 80s and early 90s saw two broad social changes that would prove crucial to the welfare system: changes to the family structure and demographic composition of welfare rolls, and technological advances in information management.[14] Divorce and single parenthood became more prevalent, some of the structural barriers preventing poor people of color from accessing aid were dismantled, and the availability of birth control made single motherhood seem more and more like a choice, and less like an unavoidable tragedy. As a result, the American public (and legislators) became less willing to provide support to the poor, and especially to poor, black, single mothers who were increasingly stigmatized as lazy, promiscuous and undeserving. The 'welfare queen' rhetoric espoused by Reagan and others also contributed to increased prejudice and stigmatization of poor Americans.[15]

At the same time, networked databases made it possible to classify and surveil large populations, and to do so across administrative boundaries of city, county and state human services offices. The combination of increased motivation to reduce welfare spending and increased technical ability to monitor welfare recipients could only lead to increased surveillance. In the run-up to the 1996 election, Bill Clinton made a deal with the Gingrich Republicans to 'end welfare as we know it'. The War on Poverty gave way to a war on the poor.

The 1996 welfare reform bill, formally (and tellingly) titled the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), was more concerned with sending a message to the poor (especially women of color) about personal morality than about designing evidence-based interventions to provide Americans with a basic minimum standard of living, much less durably lifting families out of poverty. As Brendon O'Connor notes, 'the preamble to the PRWORA openly describes it as being principally concerned with overcoming the problems caused by out-of-wedlock births and welfare dependency. Further, the act claims that its purpose is to strengthen marriage, personal responsibility, and the work ethic'.[16] Actually reducing poverty is nowhere on the agenda; the guiding principle is not meeting the basic needs of poor Americans, but fraud prevention.[17]

The Clinton welfare reform was based on the premise that nearly all parents should work outside the home to support their children, even if the wages they could com-

12 Frances Fox Piven and Richard A. Cloward. *Poor People's Movements: Why they Succeed, How they Fail*. Vintage, 1979.

13 Ibid.

14 John Gilliom, *Overseers of the Poor: Surveillance, Resistance, and the Limits of Privacy*, Chicago: University of Chicago Press, 2001.

15 Kaaryn S. Gustafson, *Cheating Welfare: Public Assistance and the Criminalization of Poverty*, New York, NY: New York University Press, 2011.

16 O'Connor, *A Political History of the American Welfare System.*

17 Gustafson, *Cheating Welfare*.

mand in the labor market were less than the cost of childcare. By the 90s, women's participation in the workforce was already well-entrenched, and that the idea that welfare ought to provide an income to poor, husbandless mothers, so that they might stay at home raising their children, was no longer acceptable to the American public. For many, the difficulties of raising children alone while working outside the home were simply the natural consequence of the 'irresponsible choice' to have children without a husband's practical and financial support. As we will see, restricting poor women's options with respect to their sexual and reproductive lives — arguably the most personal, private realms of human existence — is a feature, not a bug, of the American welfare system.

As a result, the welfare system's priority isn't relieving poverty, but making sure that no one who could be working receives public assistance — regardless of whether they are in school or caring for small children. The system prioritizes short-term self-sufficiency over giving people the tools to lift themselves out of poverty in the long run. Benefit levels are woefully inadequate,[18] and families must resort to alternative sources of income to make ends meet. The result is both endemic fraud and widespread underutilization of benefits to which individuals and families are legally entitled.[19]

The 1996 Act set time limits on how long individuals could receive benefits, imposed work requirements, and drastically tightened eligibility rules. The federally-run Assistance for Families with Dependent Children (AFDC) was replaced by Temporary Assistance for Needy Families (TANF), which is implemented by the states. Under PRWORA the states are given clear incentives from the federal government to get as many of their welfare population working as possible. States are also free to impose even tighter eligibility rules and shorter time limits than those envisioned by the PRWORA.[20]

The Act also empowered state governments to delve into women's personal and sexual lives by requiring single mothers to identify the biological fathers of their offspring and by capping TANF payments to families, meaning that 'recipients do not receive any further money if they have more children while on the TANF program'. These 'family size caps' are meant to dissuade women from having additional children while on welfare by barring newly born children from being included in benefit calculations. The implication is that the only 'legitimate' children are those born to a married mother and father, and that, by definition, the child of a mother on welfare

18 Any good faith discussion of welfare fraud must begin by acknowledging the inadequacy of benefits. To use California as an example, as of 2011, the minimum basic standard of adequate care, as determined by the federal government, for a family of three was $1,135 per month. The Maximum Income for Initial Eligibility for a Family of Three was $1,224, meaning that families earning more than that amount are ineligible for aid. Families needed to already be significantly below the poverty line before they could even apply for aid. The asset limit was $2,000 ($3,000 for households including an elderly person), plus one automobile per licensed driver — requiring families to have sold off virtually all their assets. The Maximum Monthly Benefit for a Family of Three with No Income was $638 (non-exempt) or $714 (exempt) — slightly more than half of what the government considers necessary for survival. By contrast, the MIT Living Wage Calculator project estimates that such a family needs $54,764 per year, or $4,564 per month, to make ends meet in California. See Amy K. Glasmeier and Eric Schulteis. 'Poverty in America: Living Wage Calculator (California)', *MIT*, 2015, http://livingwage.mit.edu/states/06.

19 Gustafson, *Cheating Welfare*.

20 O'Connor, *A Political History of the American Welfare System*.

is not 'legitimate'. During the PRWORA negotiations, 'much of the debate cast 'illegitimacy' as America's most pressing social problem, and quickly blamed 'welfare' as its root cause'.[21]

While the Act's authors preferred co-parents to be married to each other, in the absence of marriage they were determined to more strictly enforce child support requirements. The implementation of a national computer tracking system made it easier to locate non-resident parents across state lines and garnish their wages. Mothers who can't or won't identify their children's biological father risk losing their TANF eligibility. Money recouped from so-called 'dead-beat dads' goes not to the children or their mother, but to the state as a reimbursement for the cost of support that the father should have been providing in the first place, with the exception of a $50 pass-through. Mothers thus have every economic incentive to resist identifying their children's father.[22]

States also 'have the discretion to deny benefits to unmarried teenage mothers', 'can mandate teenage mothers attend school', and 'require unwed minors to live with a parent or guardian' to receive aid[23] — regardless of whether that is in the best interest of the young mother or her child. Meanwhile, 'the act required the federal government to spend $50 million per year on a new abstinence education program in American schools'[24] and provided 'financial rewards to states that reduce the number of out-of-wedlock births as long as there is not a corresponding increase in the number of abortions performed in that state'.[25] Yet for all the emphasis on preventing child-bearing by unmarried poor women, PRWORA did nothing to promote use or affordability of methods of birth control other than sexual abstinence. The real problem that PRWORA sought to eradicate wasn't child poverty or even fatherlessness, but sexual activity by poor women (and especially poor women of color) outside the bounds of holy matrimony.

The Data That isn't Collected

Welfare offices at every level of government spend exorbitant sums cross-referencing databases, following up on tips from welfare fraud hotlines, drug-testing, physically surveilling, and legally prosecuting the poor, ostensibly to save the taxpayer money by cutting off welfare frauds and cheaters. Yet there is next to no effort to measure how good these welfare programs are at actually relieving poverty.

The decentralized structure of welfare administration since 1996 makes it all but impossible to come by nationally comparable datasets on the welfare population or benefit levels (or how much fraud prevention and eligibility enforcement costs). Because welfare programs are administered by the states on a county-by-county basis, the federal government has little to no authority to oversee or critically assess the adequacy of benefit levels, bureaucratic processes, or the return on investment in terms of assuring a decent quality of life for the poorest among us, much less helping people durably lift themselves out of poverty. For example, the statistics maintained by the Department of Health and Human Services (HHS) measure expenditures and the number of beneficia-

21 Ibid.
22 Ibid.
23. Ibid., p. 230.
24. Ibid., p. 231.
25 Ibid.

ries; no effort is made to account for how well welfare programs meet recipients' basic needs, or how well the programs are administered. In fact, states measure the success of their welfare programs by the number of needy Americans they can remove from the welfare rolls, regardless of what happens to these families afterward. Many simply lose eligibility and stop receiving aid.

The official statistics on welfare and poverty measure the wrong things in the wrong way, thereby creating non-factual 'knowledge' that hides genuine problems (hunger, poverty) while surfacing imaginary ones (illegitimacy, drug abuse, fraud, etc.). Rather than measuring the prevalence of poverty and its human costs, federal statistics focus on the administration of the programs. For example, the Tenth TANF Annual Report to Congress noted that in 2011, the Federal poverty threshold for a family of four (two adults plus two children) was $22,811, that 21.9% of children were living in poverty that year (16.1 million), and that the child poverty rate in 2011 was 5.7 percentage points higher than in 2000. However, the report does not mention whether TANF (or other welfare programs) was successful in reducing the number of American children (much less adults) living in poverty, or the percentage of need that is met. Even the report's authors seem to be aware of the limitations of their data, noting that only a minority of poor families actually received the aid to which they were entitled:

> Participation of Eligible Families
>
> While many see TANF's caseload decline as a measure of the success of welfare reform, the sharp decline in participation among eligible families also raises concerns about its effectiveness as a safety net program. HHS uses an Urban Institute model to estimate the percentage of families eligible for assistance under state rules that are actually receiving TANF assistance.
>
> As shown in Figure 2-E, and Appendix Table 2:3, this participation rate data shows that the share of eligible families receiving TANF declined from 84 percent in 1995 to 32 percent in 2009.[26]

From these figures, it should be possible to compare benefits awarded against the need they are intended to ameliorate, yet this is not done. The closest that the report comes is Figure 9B, 'Income Poverty Gap for All Families with Children 1997–2011'. The poverty gap refers to the amount of money that would be required to raise all poor families to the poverty line. However, the figures are only provided with respect to families with children — demonstrating a lack of concern for adults living in poverty — and are not broken down by state or by any other category. The figures convey the fact that in 2011, it would have cost $76.5 billion to raise all American children out of poverty, but stops short of providing any information that would help achieve this.

The example of federal statistics concerning TANF illustrates the broader reality that assessments of welfare programs emphasize inputs such as expenditures, ignoring pro-

26 'Temporary Assistance for Needy Families Program (TANF): Tenth Report to Congress', *US Department of Health and Human Services,* 12 December 2013, http://www.acf.hhs.gov/programs/ofa/resource/tenth-report-to-congress.

gram outputs and other measures of human wellbeing. From a public administration perspective this makes sense: the Department of Health and Human Services is legally mandated to collect and report these statistics. The question remains why it does not *also* provide measures of human wellbeing. Moreover, the fact that a practice is legally mandated provides an explanation for why it exists, but does not constitute a moral or ethical justification. As with many other situations (legal protections for whistleblowers come to mind), the United States and post-modern societies more broadly lack a mechanism for reconciling the gap between what is legal and what is ethically or morally just.

The information that is most crucially lacking in the current data flows concerning welfare fall under three categories: the extent of need, how much of that need is met by the social safety net, and cost/benefit analyses of fraud prevention. The fact that so many members of the wealthiest society in human history are needy is reprehensible, and welfare programs ought to be evaluated by their success in meeting that need. Granular datasets and tables that examine these two types of measures by state, county, and various demographic dimensions would shed light on outcome disparities between different groups, thus allowing for targeted remedies. Finally, the effectiveness of fraud-prevention schemes should be methodically assessed. Schemes that cost more than the amount saved should be eliminated, and the funding reinvested into benefit payments. For example, in 2009 the California State Auditor found that 'the measurable savings resulting from early fraud detection activities exceed the costs of such efforts for CalWORKs and approach cost neutrality for the food stamp program'.[27] By this logic, then, early fraud detection was a valuable investment for CalWORKS, but not for food stamps. More state and local level auditors and Inspectors General should pursue this kind of analysis and pressure the agencies that administer welfare programs to do the same.

Conclusion

This brief case study on the American welfare system has demonstrated how a cybernetic surveillance system can perpetuate existing social inequality by measuring the wrong things in the wrong way, thereby creating non-factual 'knowledge' that hides genuine problems (hunger, poverty) while surfacing imaginary ones (illegitimacy, drug abuse, fraud, etc.).

Surveillance of welfare recipients is overwhelmingly concerned with the sexual and reproductive lives of poor women, as reflected by practices such as bed checks, family size caps, and home visits designed to catch women living with an unrelated male. Additionally, poor women — and increasingly, working class women — are denied access to birth control, then shamed and punished for becoming pregnant. As abortion care becomes increasingly restricted, the message sent to poor women is a simple choice: marriage or abstinence. Meanwhile, poor men are largely excluded from receiving aid since most welfare programs are designed to support children (and by association their caregivers, albeit begrudgingly). The main mechanism through which poor men are expected to interact with the welfare system is through child support collections.

27 Elain M. Howle, 'Department of Social Services: For the CalWORKs and Food Stamp Programs, It Lacks Assessments of Cost-Effectiveness and Misses Opportunities to Improve Counties' Antifraud Efforts', *California State Auditor,* November 2009, https://www.bsa.ca.gov/pdfs/reports/2009-101.pdf.

Paradoxically, the reality is that welfare fraud is indeed endemic (both because benefits are inadequate and because compliance with the Kafkaesque welfare rules is nearly impossible), but so is underutilization of benefits to which individuals and families are legally entitled.[28] The guiding principle of the welfare system, and of the Temporary Aid to Needy Families (TANF) program in particular, is not ensuring that people's basic needs are met but preventing fraud through labyrinthine means tests and reporting requirements.[29] States measure the success of their welfare programs by the number of needy Americans they can remove from the welfare rolls, regardless of what happens to these families afterward. A large body of social science research suggests that the guiding logic of the US welfare system is not the actual wellbeing of poor families, but punishing the poor *for being poor* and setting them up as cautionary examples to discourage others from being poor as well.[30]

American welfare policy is plagued by the inaccurate beliefs that many Americans hold about people who receive public assistance. Popular opposition to welfare is deeply rooted in the historical legacy of racism.[31] Indeed, opposition to the social safety net is connected to the (inaccurate) belief that welfare recipients are overwhelmingly black.[32]

In turn, correcting these misperceptions is hindered by the information and data flows concerning welfare and its beneficiaries. Even as the system relentlessly seeks out every scrap of information about the poor to verify their deservingness, it deliberately fails to provide systemic data that would help administer programs more effectively. This is a stunning paradox: a system whose guiding principle is the collection of information yields virtually no data that could meaningfully inform public policy.

The administration of welfare in the United States is a vicious cycle that must be broken. Only when the state, and the bureaucrats who comprise it, start measuring success by human impact factors rather than economic measures of thrift will meaningful policy change be possible. In light of the political situation in the US, civil society should lead the way by producing these datasets to the extent possible, perhaps by focusing on a specific state or local jurisdiction, then confronting relevant public sector actors about the relative inadequacy of their own data. Legislative and regulatory changes will be necessary as well. Once county, state, and federal agencies start evaluating welfare

---

28 Gustafson, *Cheating Welfare*.

29 Ibid.

30 Elizabeth Bussiere, *(Dis)entitling the Poor: The Warren Court, Welfare Rights, and the American Political Tradition,* University Park, PA: Pennsylvania State University Press, 1997; Virginia Eubanks, *Digital Dead End: Fighting for Social Justice in the Information Age*. Cambridge, MA and London: MIT Press, 2012; John Gilliom, *Overseers of the Poor: Surveillance, Resistance, and the Limits of Privacy*, Chicago: University of Chicago Press, 2001; Gustafson, *Cheating Welfare*; O'Connor, *A Political History of the American Welfare System*; Piven and Cloward, *Regulating the Poor;* Karen Seccombe, *'So You Think I Drive a Cadillac?' Welfare Recipients' Perspectives on the System and Its Reform*, 3rd edition, Boston, MA: Allyn & Bacon, 2011; Joe Soss, *Unwanted Claims: The Politics of Participation in the US Welfare System*, Ann Arbor: University of Michigan Press, 2002.

31. Linda Gordon, *Pitied but Not Entitled: Single Mothers and the History of Welfare*, Cambridge, MA: Harvard University Press, 1994; Jill Quadagno, *The Color of Welfare: How Racism Undermined the War on Poverty*, Oxford: Oxford University Press, 1994.

32. Martin Gilens, *Why Americans Hate Welfare: Race, Media, and the Politics of Antipoverty Policy*, Chicago, IL: University of Chicago Press, 1999.

programs not on the basis of how little they cost and how few people receive support, but according to human needs being met and families becoming economically self-sufficient in the long term, we can start building a cybernetic surveillance machine that can perpetuate a virtuous cycle of data collection, action, and adjustment.

References

Bussiere, Elizabeth. *(Dis)entitling the Poor: The Warren Court, Welfare Rights, and the American Political Tradition,* University Park, Pa: Pennsylvania State University Press, 1997.

Clarke, Roger A. 'Information Technology and Dataveillance', *Communications of the ACM* 31 (1988), 498–511.

Deleuze, Gilles. 'Postscript on the Societies of Control', *October* (Winter 1992), 3–7.

Ericson, Richard V. and Kevin D. Haggerty (eds), *The New Politics of Surveillance and Visibility*, Toronto: University of Toronto Press, 2006.

Eubanks, Virginia. *Digital Dead End: Fighting for Social Justice in the Information Age*. Cambridge, MA; London: MIT Press, 2012.

Gilens, Martin. *Why Americans Hate Welfare: Race, Media, and the Politics of Antipoverty Policy*, Chicago, IL: University of Chicago Press, 1999.

Gilliom, John. *Overseers of the Poor: Surveillance, Resistance, and the Limits of Privacy*, Chicago: University of Chicago Press, 2001.

Glasmeier, Amy K., and Eric Schulteis. 'Poverty in America: Living Wage Calculator (California)', *MIT*, 2015, http://livingwage.mit.edu/states/06.

Gordon, Linda. *Pitied but Not Entitled: Single Mothers and the History of Welfare*, Cambridge, MA: Harvard University Press, 1994.

Greenwald, Glenn. *No Place to Hide: Edward Snowden, the NSA, and the US Surveillance State,* New York, NY: Henry Holt and Co, 2014.

Gustafson, Kaaryn S. *Cheating Welfare: Public Assistance and the Criminalization of Poverty*, New York, NY: New York University Press, 2011.

Howle, Elain M. 'Department of Social Services: For the CalWORKs and Food Stamp Programs, It Lacks Assessments of Cost-Effectiveness and Misses Opportunities to Improve Counties' Antifraud Efforts', *California State Auditor,* November 2009, https://www.bsa.ca.gov/pdfs/reports/2009-101.pdf.

Lyon, David. *Identifying Citizens: ID Cards as Surveillance*, Cambridge, UK and Malden, MA: Polity, 2009, p. 55.

O'Connor, Brendon. *A Political History of the American Welfare System: When Ideas Have Consequences*, Lanham, Md: Rowman & Littlefield, 2003.

Quadagno, Jill. *The Color of Welfare: How Racism Undermined the War on Poverty*, Oxford: Oxford University Press, 1994.

Piven, Frances Fox, and Richard A. Cloward. *Poor People's Movements: Why they Succeed, How they Fail*. Vintage, 1979.

Seccombe, Karen. *'So You Think I Drive a Cadillac?' Welfare Recipients' Perspectives on the System and Its Reform*, 3rd edition, Boston, MA: Allyn & Bacon, 2011.

Soss, Joe. *Unwanted Claims: The Politics of Participation in the US Welfare System*, Ann Arbor: University of Michigan Press, 2002.

'Temporary Assistance for Needy Families Program (TANF): Tenth Report to Congress', *US Department of Health and Human Services,* 12 December 2013, http://www.acf.hhs.gov/programs/ofa/resource/tenth-report-to-congress.

Wiener, Norbert. *The Human Use of Human Beings: Cybernetics and Society*, New York, N.Y: Da Capo Press, 1988.

Zuboff, Shoshana. 'Big Other: Surveillance Capitalism and the Prospects of an Information Civilization', *Journal of Information Technology* 30 (2015), 75–89.

HOW TO COOP THE DIGITAL ECONOMY

TREBOR SCHOLZ

HOW TO COOP THE DIGITAL ECONOMY

TREBOR SCHOLZ

Over the past few years, investor-funded internet firms have continued to push unabated into market sectors such as food delivery, home health care, house cleaning, and data entry, offering customers much-appreciated, immediate convenience. Just take the geo-location-driven ride-ordering capabilities that Uber's app offers, with all its fare splitting between friends and automatic carpooling. These technological features are a meaningful improvement over the low-tech cab riding that was brought to you by way of hand waves, phone calls, and whistles. The potential benefits for an Uber driver are also clear: she can work when she wants, and it is easy for her to be reached via the app. The company subjects drivers to the same five-star rating system as customers, potentially shielding them from abuse. Fares and fees are charged automatically, avoiding the need for awkward exchanges of loose change. For one thing, Uber's model is reasonably beneficial, providing the opportunity to earn a supplemental income for people in between jobs and others in need of immediate and somewhat flexible work. For another, there is now a subgenre of books, news articles, blog essays, and research papers that have provided ample evidence of the harm caused by the extractive platform economy.[1] The list of wrongs is long. It includes meager pay, predatory market practices, unlawful operations such as gray balling,[2] and a misogynistic work culture (think: #susanfowler). There have been lawsuits by workers demanding their reclassification from independent contractors to full-fledged employees, as well as the strikes of thousands of Uber and Ola drivers in India. In Capetown, South Africa, Uber drivers sued the company, and are likely to set up a cooperatively owned platform.[3] With the notable exception of a handful of cities and a ruling by the EU court, municipalities and governments have been eager to embrace the extractive platform economy.[4] Though Austin, Texas stood its ground against Uber and Lyft, and Barcelona has repeatedly fined Airbnb while crafting policy in favor of a more just sharing economy, these efforts still have to develop into coordinated global dissent.

The Economy is not Working for Most People

Why do we need platform coops? A discussion about platform capitalism that only considers platforms is as inadequate as a narrow study of the mechanics of the assembly line meant to explain Fordism. The platform economy is inseparable from the condition of labor and the market failures and broader challenges of capitalism that platform coops challenge.

1 https://platform.coop/resources/tags/platform-capitalism.
2 'Gray balling' is based on Uber's algorithmic blacklisting of municipal policy makers.
3 The Platform Cooperativism Consortium is supporting the efforts of local activists and a union to form a platform coop.
4 'Collaborative Economy', *European Commission on Growth*, 22 May 2017, http://ec.europa.eu/growth/single-market/services/collaborative-economy_en.

Income inequality. Unsurprisingly, the sharing economy emerged against the background of deliberate shockwaves of austerity that followed the global inflation of the 70s, the explosion of public debt in the 80s, and the 2008 financial crash. Income inequality has continued to grow as capital gains have outpaced those of labor.[5] In 2015, sixty-two people controlled the combined wealth of 3.5 billion people.[6] Women are overrepresented in the bottom half of the economy in most countries. In addition, the lowest paid workers dominate the service sector, bringing about a neo-feudal servant culture. In 2014 in the United States, the median adjusted income for households headed by blacks was $43,300, and for whites it was $71,300.[7]

Platform monopolies and the monetization of surveillance. The Web has hit rock bottom; the concentration of power and surveillance are at odds with how Tim Berners-Lee had envisioned the World Wide Web in 1989. The concerning power of platform companies enabled through network effects, and data concentration weakens competition and creates vast power asymmetries. Why should a small number of owners and investors be the main benefactors of the riches of the Web? And this question not only concerns those who are toiling in the digital economy to make a living but it also applies to the users of Google, Facebook, Twitter, or Microsoft who don't have control over the very platforms that organize their lives. Workers and internet users toil under conditions they do not choose, for CEOs they cannot ouster.

*A lack of digital workplace democracy***.** Democracy is at the core of the rhetoric of Silicon Valley, and yet it is a far cry from being a reality on the Net. While the project of political democracy made inroads in many countries in the 20th century, the idea of workplace democracy has skipped the digital workplace. In fact, insofar as workers on app-mediated factory floors fall outside of the National Labor Relations Board's definition of 'employees', workers in the sharing economy have lost the ability to unionize and collectively bargain — a step backward from the democratic gains of the labor movement.[8]

Stalled rights. Those working on digital labor brokerages like TaskRabbit pay brokerage fees of 30% on each transaction, yet as independent contractors they do not benefit from workers comp, unemployment benefits, health insurance, or minimum wage protections under the Fair Labor Standards Act.[9]

---

5 Trebor Scholz, 'Platform Cooperativism vs. the Sharing Economy', *Medium*, 5 December 2014, https://medium.com/@trebors/platform-cooperativism-vs-the-sharing-economy-2ea737f1b5ad.

6 Oxfam, '62 People Own Same as Half World', *Oxfam*, http://www.oxfam.org.uk/media-centre/press-releases/206/01/62-people-own-same-as-half-world-says-oxfam-inequality-report-davos-world-economic-forum.

7 'On Views of Race and Inequality, Blacks and Whites Are Worlds Apart', *Pew Research Center,* 27 June 2016, http://www.pewsocialtrends.org/2016/06/27/on-views-of-race-and-inequality-blacks-and-whites-are-worlds-apart/.

8 Chris Opfer, 'Gig Worker Organizers Still Looking for Road Map', *Bloomberg BNA, 26* May 2017, https://www.bna.com/gig-worker-organizers-n73014451571/.

9 Taskrabbit, 'What is the TaskRabbit Service Fee?', *TaskRabbit*, https://support.taskrabbit.com/hc/en-us/articles/204411610-What-is-the-TaskRabbit-Service-Fee-.

Stagnating wages. Over the last forty years, real wages of most American workers have stagnated and there is a growing sense that capitalism is not good for most people. The expansion of demands by the #FightFor15 campaign, which began with a focus on fast-food workers and expanded to a push for a more than 100% increase in the federal minimum wage, is evidence that the rate of seven dollars and twenty-five cents an hour, instituted in 1991, is not viable. Models of digitally-mediated work which evade even this meager existing protection further exacerbate the problem.

Systemic racism. Consumers have found themselves equally in the wild, with African-American Airbnb guests expressing their frustrations on Twitter through the hashtag #AirbnbWhileBlack.[10] One study found that booking requests by African-American users are 16% less likely to be accepted than their white counterparts.[11] Another study showed that the problem of catching a cab as a person of color persists on ride-hailing platforms, with increased acceptance times on Lyft and twice as many canceled rides on Uber for users with 'African-American sounding' names.[12]

The myth of choice. 'Flexible workers' not only include Uber drivers but also baristas, crowd workers, fast-food cooks, models, and adjunct professors. Workers in the platform economy can decide when to work but the choice of which fourteen-hours in a day to work, and on which low-paying, platform is little choice at all.

Shift away from direct employment. Over the past decades in the United States, labor markets have increasingly shifted to the internet. In 2016, an estimated fifty-five million Americans were freelancers, representing a steady shift away from direct employment toward an economy dominated by independent contractors. In the same year, 24% of Americans reported earning money from the digital platform economy, which is increasingly dominated by the Big Five.[13]

Invisible labor. '486,679 floors made flawless in Manhattan', the ad by a cleaning service platform boasts in the New York City subway. The cleaning professionals who power the app are not mentioned — your apartment will simply be clean after a swipe on your on your mobile phone. Law professor Marion Crain emphasizes that, 'invisibility has physical effects on workers and their bodies. If workers are symbolically invisible, then no one sees their health conditions.'[14]

---

10 Maggie Penman and Shankar Vedantam, '#AirbnbWhileBlack: How Hidden Bias Shapes The Sharing Economy', *NPR,* 26 April 2016; learn more about racial discrimination at Airbnb in Benjamin Edelman and Michael Luca, 'Digital Discrimination: The Case of Airbnb.com', *Harvard Business School Working Paper* 14.054 (January 2014).

11 Benjamin Edelman, Michael Luca, and Dan Svirsky, 'Racial Discrimination in the Sharing Economy: Evidence from a Field Experiment', *American Economic Journal: Applied Economics,* 2016, http://www.benedelman.org/publications/airbnb-guest-discrimination-2016-09-16.pdf.

12 Eric Newcomer, 'Study Finds Racial Discrimination by Uber and Lyft Drivers', *Bloomberg,* 31 October 2016, https://www.bloomberg.com/news/articles/2016-10-31/study-finds-racial-discrimination-by-uber-and-lyft-drivers.

13 Aaron Smith, 'Gig Work, Online Selling and Home Sharing', *Pew Research Center,* 17 November 2016, http://www.pewinternet.org/2016/11/17/gig-work-online-selling-and-home-sharing/.

14 Marion G. Crain, Winifred Poster, and Miriam A. Cherry, *Invisible labor: Hidden Work in the Contemporary World,* Oakland, CA: University of California Press, 2016, p. 284.

Risks are shifted onto workers. Airbnb is the largest hotelier and yet, it owns no hotels; Uber is the largest taxi company and owns no cars. Drivers for Uber do not 'share' their cars with passengers: it is the assets these workers own which are rented out through these firms. The costs of fixed-capital depreciation have been outsourced onto the workers. Sharing economy firms have been running on your car, apartment, labor, and importantly, time. Uber and Airbnb are logistics companies where all participants pay up the middleman.

Rights for the disabled. Americans with disabilities have also been victimized by the platform economy. As it scaled up, Uber maintained that, as a technology company, the onus of fulfilling the requirements of the Americans with Disabilities Act lay squarely on its contracted workforce. Lawsuits in California, Texas, Arizona, and Illinois have led to the creation of services like UberASSIST, but the number of accessible vehicles on the road is nowhere near those required of licensed taxi companies.[15] Using the slogan 'Nothing About Us Without Us!', disabled people fight back.

Market appropriation of social reciprocity. Social practices that were once outside of the realm of market transactions have become subject to capital. Canadian technologist Tom Slee observes that 'the sharing economy is extending a harsh and deregulated free market into previously protected areas of our lives'.[16] The sharing economy could be a boon to the communities and individuals who constitute it, but extractive speculation has led to outcomes quite different than those originally proposed by the likes of BlaBlaCar and Couchsurfing.

The smokescreen of counterculture. The gig economy is morphing into a dangerous fantasy; the television show Silicon Valley is frightfully accurate in its satire. By now, only few people still fall for the sharing theater of the extractive platform economy and its deceptive 'peer' rhetoric. Sharing economy monopolies promote their companies as a #woke friend, with their CEOs delivering a 'we are all connected' voiceover, ending with mystifying references to environmental sustainability or Occupy Wall Street. Their community managers highjack the values and social capital not only of open source and peer-to-peer projects but also the cooperative movement. The language of innovation is equal part of this linguistic obfuscation. How is a firm innovative when its main focus is the creation of short-term benefits for shareholders? We need to downplay this kind of innovation and instead promote a focus on broader, long-term impact, actual needs, and a people-centered economy.

All too often it seems that all of these challenges — from inequality to exploitation — point to an inevitable future of work in which inequality has significantly sharpened, and the digital economy is in the hand of just four or five players. In his book *Average is Over*, the conservative economist Tyler Cowen introduces us to one possible endgame for this trend. Soon, he predicts, there will be a superclass of 10 to 15% of the population that will make over $1 million per year. For the bottom 85%, he envi-

15 There have been new developments like the 'Toronto model', where Uber has essentially been mandated by the city to subsidize rides for the disabled, but they are far and few between.

16 Tom Slee, *What's Yours Is Mine: Against the Sharing Economy*, New York City: OR Books, 2015, p. 11.

sions an annual income along the lines of $5,000–10,000[17] In Cowen's vision, there's nothing that we can do to avert a future in which a tiny 'hyper-meritocracy' of Americans enjoy fantastically interesting lives while the rest slog along, tranquilized by free internet and low-paying gigs.

But the future of work is by no means uncontested. As this economy is not working for most people, the need for alternative economic models is as pressing as it is apparent. It is time for cooperatives to speak truth to platform capitalists. They can re-envision the internet–mediated economy as something that can work for the benefit of all its stakeholders, not just shareholders.

Humane Alternatives to the Winner-Takes-All Economy

Platform cooperativism is about economics by other means. It is a nascent but growing political and economical movement that builds a fairer future of work by joining the values of the cooperative movement with internet technologies — apps, platforms, and protocols. Building on the successes of the free software movement, coop members, technologists, unionists, and freelancers create a concrete near-future alternative to the extractive sharing economy that is rooted in democratic ownership.

By decentralizing the power of apps, protocols, or websites, platform coops allow low and volatile income households to benefit from the shift of labor markets to the internet. Steering clear of the belief in one-click fixes of social problems, the model is poised to vitalize genuine innovation by joining the rich heritage and values of coops with emerging internet technologies.

Platform cooperatives are owned and governed by those who depend on them most — workers, users, and other relevant stakeholders. In their most common form, platform cooperatives are operated through websites or mobile apps that facilitate the sale of goods or services, not unlike other businesses in the platform economy. Platform coops are based on values of pluralistic, egalitarian ownership and worker self-governance, seeking to create a dignified and sustainable digital economy. By returning control of platforms to those whose lives and livelihoods they impact, platform coops make good on the democratizing aspirations of the early internet.

Platform Coops Build on an Economic Model that Works — It's Hidden Around Us in Plain Sight

Platform coops build on the cooperative business model. Coops offer a clear and successful alternative to the extractive economy, with a history that dates back to the Society of Equitable Pioneers, a consumer cooperative of weavers founded in Rochdale in 1844. Today, coops understand the need for businesses to be responsive to all their stakeholders, which include not only the men and women who work for them but also the consumers who depend on them and the communities in which they live. Coops aim to be sustainable, proving by example that alternatives to predatory markets are feasible.

17 Tyler Cowen, *Average Is Over: Powering America Beyond the Age of the Great Stagnation*, New York: E P Dutton & Co, 2013.

In the U.S. to date, coops have created close to one million jobs with $25 billion in wages and benefits. One in three Americans is a coop member.[18] 233 million Americans are served by coop owned and affiliated insurance companies.[19] Worldwide, AC Hardware, REI Coop, Ocean Spray, Mondragon, Associated Press, and FC Barcelona are well known, but because they project few of their cooperative values outward, there is little public awareness of them being coops.

Cooperative businesses worldwide employ 250 million people.[20] Mondragon, an often-cited example of a thriving coop in a competitive market, is a federation of worker cooperatives that was founded in 1956 in the Basque region of Spain. It is worker-owned but not worker-managed.[21] At the end of 2013, it employed 74,061 people in finance, retail, and education. Mondragon cooperatives are united by a humanist concept of business, with the general manager in a Mondragon coop making no more than five times the minimum wage paid in his or her cooperative. Compare that to Walmart's CEO who is paid 1,034 times more than the median Walmart worker.[22]

Existing platform coops and the larger ecosystem. Can platform coops overcome the challenges of inequality, crowd fleecing, systemic racism, and invisible labor? A few examples will sketch an overview of the platform cooperative ecosystem.

The labor-brokerage *Up & Go* is a platform that connects users with professional house cleaning services provided by low-income immigrant women who organized in local cooperatives.[23] The platform is cooperatively owned and governed by the women who use it. As owners, they decide how they want to provide their services to clients. 95% of Up & Go's profits go to the workers in a market where corporate platforms take 25 to 50%. Up & Go provides access to dignified work for low-income communities and offers a living wage in an industry of predominantly Latino and African-American women, to the benefit of their families and children.

The music-streaming site *Resonate* offers a stream-to-own model driven by blockchain technology.[24] Resonate is a multi-stakeholder cooperative that gives stakeholders democratic control: artists (45%), listeners (35%), employees (20%). The coop pays musicians 200% more on 100,000 plays than Spotify.

Fairmondo is a cooperative online marketplace for ethical goods and services serving Germany and the UK. It is owned by a diverse group of stakeholders — buyers, sellers, workers, and investors — who exercise democratic control over the platform through the one-member-one-vote principle.[25] Contentiously, Fairmondo

18 National Cooperative Business Association, 'Building a Cooperative Future,' *NCBA,* 2014.

19 Ibid.

20 'Facts and Figures', *International Co-operative Alliance,* http://ica.coop/en/facts-and-figures.

21 George Cheney, *Values at Work: Employee Participation Meets Market Pressure at Mondragon,* Ithaca, NY: Cornell University Press, 1999.

22 'CEO Pay in Perspective: Infographic', *Payscale,* http://www.payscale.com/career-news/2013/03/ceo-pay-in-perspective-infographic.

23 https://www.upandgo.coop/.

24 http://resonate.is.

25 http://fairmondo.de.

describes itself a cooperative alternative to Amazon and eBay, with the goal of defying such 'winner takes all' marketplaces.

MIDATA is a cooperatively owned, Zurich-based, online platform that seeks to serve as an exchange for members' medical data. Using an open-source application, members can selectively and securely share their medical data with doctors, friends, and researchers. For-profit researchers are charged a fee, negotiated by the cooperative, for the opt-in use of users' data. These funds are used for the development and administration of the cooperative, with all surplus funds directed to public-good projects selected by the cooperative. The cooperative aspires to use medical data as a proof-of-concept for how cooperative data-aggregation can provide a safe way of monetizing user-data for social benefit.

*Green Taxi Coop***,** launched in 2015, is a cooperative taxi service that uses a mobile phone app.[26] It has 800 members among which are immigrants from thirty-seven countries.[27] The Communication Workers of America Local 7777 helped clear regulatory hurdles for them and leased Green Taxi Coop a basement office. The coop received $2,000 from each driver for startup costs and today, it holds a third of the ride-hailing market in Denver, Colorado.

These five examples can give you a sense of the various forms of platform coops. But there is more. For me, 2014 was an intellectual turning point; I developed the concept of platform cooperativism but a directory of this ecosystem did not yet exist. But it was immediately clear that as an ecosystem, the organizations that supported platform cooperatives were equally important actors. They provided them with, for instance, payment systems (think: GratiPay[28]) or democratic decision-making tools like Loomio.[29] Thanks to the work by the team at Internet of Ownership, close to 200 platform cooperatives and related organizations worldwide have now been counted.[30] These businesses operate in sectors like short-term rental, transportation, data, finance, food, governance, home services, music, and news. Platform coops are part of the scaffolding on which a fairer future of work will be built.

Stocksy United

Let's have a closer look at Stocksy. In early 2000, Bruce Livingstone founded the stock photography company iStockphoto, which reached near-immediate profitability.[31] iStock was the first website of its kind and grew to support a vibrant community of freelance photographers. In 2006, Livingstone sold the company to Getty Images, one of the largest American stock photography agencies, for fifty million dollars. Livingstone resigned just three years later.[32]

26 http://greentaxico-op.com.
27 Out of the 800 members, only about 280 were active in 2017.
28 https://gratipay.com/about/.
29 https://www.loomio.org/.
30 http://ioo.coop.
31 https://web.archive.org/web/20000501000000*/iStockphoto.com.
32 Stephen Shankland, 'iStockphoto founder, CEO leaves Getty', *CNET*, 23 March 2009, https://www.cnet.com/news/istockphoto-founder-ceo-leaves-getty/.

Though Getty had paid 29% of revenues to photographers in the first year after its purchase, the average rate for stock photographers at the time, the proportion of revenues it paid out would eventually fall to just fourteen.[33] As the reason for his forced resignation, Livingstone would later cite his refusal to enact policies of profit-maximization, to the detriment of iStockphoto's community.[34] Tensions in the community grew, with calls by iStockphoto contributors for the representation of photographers in the company but Getty Images refused.[35] Brianna Wettlaufer, the number four employee at iStockphoto, said of that period, 'Everyone had the same story. They were feeling disenfranchised. They weren't creatively inspired anymore. The magic was gone.'[36]

In March 2013, Livingstone and Wettlaufer founded a new stock photography website, Stocksy United, with the funds from the sale of iStockphoto. For Livingstone and Wettlaufer, Stocksy United was a chance to make a better platform, informed by their experiences at iStockPhoto. The duo chose a cooperative model as a way of protecting photographers' interests and ensuring that a repeat of the Getty Images buyout could not occur without the majority support of the cooperative's members.[37] Wettlaufer: 'We realized we could do it differently this time. We could enter the market with a model that ensured artists were treated fairly and ethically.'[38]

How it Works. Stocksy United is registered in British Columbia, Canada, as laws in the United States are too restrictive to efficiently manage the payment of photographers in countries across the globe.[39] As Stocksy United's more than 960 members reside in sixty-five countries, laws amenable to global operations are a prerequisite.[40] If global platform cooperatives are to become a more common challenge to investor-backed firms that incorporate in each national market they enter, there is a an urgency to work with local policymakers to secure regulatory frameworks which can support them.

Stocksy United's low membership is a strategic decision the cooperative has made in an attempt to sustainably scale itself. It began with 500 photographers and only later opened applications for 500 more, but they still receive around 5,000 applications a year.

33 Roger Mexico, 'Front Page Blog: A H*ck of a Lot! iStock contributors make $21 Million in 2007', *iStock,* 1 April 2008, http://www.istockphoto.com/forum_messages.php?threadid=67521; Brianna Wettlaufer, presentation on Stocksy United, notes made by author in attendance, 23 May 2017.

34 Ashleigh Macro, 'iStock Founder Reveals Real Reason He Left & Why He's Started a New Stock Company', *Digital Arts*, 10 October 2013, http://www.digitalartsonline.co.uk/news/creative-business/founder-of-istockphoto-reveals-real-reason-he-left-why-hes-started-new-stock-photo-company/.

35 Sean Locke, 'Steering the Ship', *Sean Locke Photography,* 15 October 2013, http://www.seanlockephotography.com/2013/10/15/steering-the-ship/.

36 Amy Cortese, 'A New Wrinkle in the Gig Economy: Workers Get Most of the Money', *The New York Times, 20* July 2016, https://www.nytimes.com/2016/07/21/business/smallbusiness/a-new-wrinkle-in-the-gig-economy-workers-get-most-of-the-money.html.

37 Brianna Wettlaufer, 'No More Bad Stock Photos: How a Great Image Inspired Me to Launch Stocksy', *Success,* 13 May 2015, http://www.success.com/mobile/blog/no-more-bad-stock-photos-how-a-great-image-helped-inspire-me-to-launch-stocksy.

38 Cortese, 'A New Wrinkle in the Gig Economy'.

39 Brianna Wettlaufer, presentation on Stocksy United, notes made by author in attendance, 23 May 2017.

40 Nuno Silva, presentation on Stocksy United in Sydney, notes made by author in attendance, 23 May 2017.

> A lot of the other agencies have upwards of a million contributors, and at that point everybody's uploading the same thing shot in ten different ways, and people are fighting over that one sale because the profit is so dispersed. We wanted to keep the numbers low enough that people's portfolios could sustainably grow, and their income could similarly grow.[41]

According to Livingstone, this slow growth has allowed cooperative members to get to know each other on a personal basis, writing to each other on forums hosted by Stocksy United and helping to create a tightknit community. When photographers stop participating in discussions or begin to submit fewer photographs, these interpersonal relationships allow management to reach out and resolve the issue. To ensure there is no rupture in these bonds, prospective applicants are judged specifically on their difference from the already contributing photographers. Livingstone noted that, 'If someone's shooting particular content in a particular style, and then we bring in someone who's doing the same thing, that's no longer going to be a collaborative relationship — it's going to get very competitive.'[42]

In 2015 Stocksy United brought in $7.9 million in revenue, doubling its 2014 revenues, and paid more than half of that — $4.3 million — in royalties.[43] While most stock photography firms pay 15 to 45% of sales, Stocksy United pays photographers 50% of revenue from non-exclusive licenses and 75% from exclusives.[44] 2015 was also the first year the platform brought in surplus revenue, which allowed it to pay $200,000 to the cooperative's membership as dividends.[45] The trend continued into 2016, with the cooperative generating $10.7 million in sales, allowing it to pay $300,000 in dividends.[46] As a multi-stakeholder cooperative, there are three different categories of members which are afforded different proportions of this surplus under Stocksy United's bylaws: the founders and full-time staff each receive 5% and contributing photographers receive 90% divided in proportion to individual photographers' earnings on the platform.[47]

As the Stocksy team is not planning to increase the number of photographers beyond the 1,000 mark, it is reliant on the output of that relatively small group. They have to deliver a product that holds up to Stocksy's criteria. To achieve that, the cooperative runs online training that aims at showing photographers the way to take photographs that will be accepted, a process which develops the talent of the photographers and increases the value of the product. Rather than a race to the bottom with countless photographers competing with ever lower price offerings and huge quantities of images, Stocksy United invests in their photographers. Continuing education, one of the rules that I had defined for good digital work in 2014, is part of Stocksy United's business model.

---

41 Anna Bergren Miller, 'Interviewed: Stocksy's Brianna Wettlaufer and Nuno Silva on Building a Cooperative Stock Photo Platform', *Shareable, 31* May 2016, http://www.shareable.net/blog/interviewed-stocksys-brianna-wettlaufer-and-nuno-silva-on-building-a-cooperative-stock-photo.

42 Ibid.

43 Cortese, 'A New Wrinkle in the Gig Economy'.

44 Ibid.

45 Ibid.

46 Email exchange with the author. June 2017.

47 Brianna Wettlaufer, presentation on Stocksy United, notes made by author in attendance, 23 May 2017.

Ownership. Stocksy United is a producer cooperative which is a form similar to but distinct from 'worker-owned' cooperatives. While worker-owned cooperatives take the individual as their base unit of membership, classifying members as employees of the cooperative, producer cooperatives are typically comprised of individual businesses that share cooperatively owned infrastructure to gain advantages from economies of scale.[48] For example, farmers who belong to the producer cooperative Land of Lakes share the costs of processing and distribution facilities, as well as a brand name under which to market their goods, but still function as independent businesses with mostly independent paths to market.[49]

Similarly, photographers who are members of Stocksy United are not employees, but rather independent producers who cooperatively own the platform which markets and sells their work. According to Wettlaufer, this producer-cooperative model was chosen because though photographers are interested in having an outlet for their work that treats them fairly and ethically, they tend to not be interested in the demands of the coop model itself.[50] Stocksy leadership is learning how to engage members to teach them about the coop model and to give member-owners more of a sense of co-governance.

To become a member of the cooperative, applicants must submit a portfolio of their work for review through Stocksy's website. The artists selected from that pool are contacted for a more complete submission of full-resolution sample images.[51] The cap on cooperative membership to one thousand photographers allows for close observation of members' contributions, part of Stocksy's goal of supporting career photographers, not just people churning out cheap, 'stocky stock' product.[52]

Governance. Stocksy United's governance structure is broken down into three groups, with each group having a different level of involvement in the scale of the cooperative's operations. Class A is composed of the founders and senior advisors. Class B is staff: the people who run the day-to-day. Class C is the photographers. Major decisions — such as changing the terms of profit sharing, or business strategy — are presented to the members for a vote in annual general meetings where any member can propose a resolution.[53]

A resolution model based on member votes not only demands organizational transparency, it also gives members tangible voice in the big-picture operations. The pragmatic potential of the resolution process was made remarkably evident when the

48 John R. Whitman, 'Types of Cooperatives', *Cooperative-Curriculum,* 7 March 2011, https://cooperative-curriculum.wikispaces.com/file/view/Types+of+Cooperatives-Whitman.pdf.

49 Andrew McLeod, 'Types of Cooperatives', *Cooperative Starter Series*, December 2006, http://cets.coop/moodle/pluginfile.php/75/mod_folder/content/0/Types%20of%20Co-operative.pdf?forcedownload=1.

50 Brianna Wettlaufer, presentation on Stocksy United, notes made by author in attendance, 23 May 2017.

51 'About Becoming A Stocksy Contributor', *Stocksy.com*, https://www.stocksy.com/contributor.

52 Lee Torrens, 'Stocksy United', *Microstock Diaries,* 13 July 2015, http://www.microstockdiaries.com/stocksy.html.

53 Trebor Scholz and Nathan Schneider (eds), *Ours to Hack and to Own: The Rise of Platform Cooperativism, a New Vision for the Future of Work and a Fairer Internet,* New York City: OR Books, 2016.

members — by a margin of 400 votes to four — voted to change the profit sharing of extended licenses, accepting a decrease in payment to 75% from 100% profit margin.[54] The member-approved decision to reinvest value into the coop, instead of retaining it as individual members, was, according to Wettlaufer, 'a really proud moment — of everyone being truly committed to what was best for the company, and what was best for them.'[55]

While the prospect of upwards of a thousand people meeting to discuss strategic planning may sound daunting, Stocksy United's track record demonstrates that the method of member-based resolution is feasible. Cooperatives aren't always more work, as some critics have leveled. (Or, as Oscar Wilde put it, 'The trouble with Socialism is that it takes too many evenings.') Wettlaufer: 'It's a matter of where you invest your efforts, because at the end of the day if you're a business, you're always accountable to somebody, and if you can choose who you're accountable to, I would always want to choose members.'[56]

What differentiates Stocksy United from traditional stock photography websites is its focus on quality over quantity. Wettlaufer says that the cooperative's members are proud to host only 700,000 photos, an exceptionally low number in an industry where the volume of photos on offer is considered a key to success.[57] Cooperative members use a private channel to examine new submissions, up and down voting them to determine which are appropriate for the site.[58] Content curators reject about 50% of photo submissions and an even higher percentage of video content.[59]

The goal is to avoid the quantity trap of the micro stock industry which iStockphoto invented. Stocksy United claims a certain prestige position in the stock photography industry. It has sold photos to 124 of Fortune 500 firms[60] and its photos have appeared in magazines like Elle and Glamour.[61] By paying its photographers fairly and giving them voice in the cooperative's operations, the cooperative has been able to avoid a race to the bottom and produce what it calls 'sustainable stock' that will not be diluted as the platform's catalog grows.[62]

Making Good

Platform cooperativism is only a few years old; it's still an unproven economic model but its cultural influence is hard to ignore. Cooperativists are working on the ground

54 Anna Bergren Miller, 'Interviewed'.
55 Ibid.
56 Brianna Wettlaufer, 'Power and Ethics in Online Communities with Stocksy United', Lecture, University of Colorado Boulder, Boulder, CO, 15 September 2016, https://livestream.com/accounts/983593/events/6351458/videos/135862964.
57 Nuno de Silva, presentation on Stocksy United, notes made by author in attendance, 23 May 2017.
58 Ibid.
59 Ibid.
60 'Platform Co-Op, Stocksy United, Doubles Revenue to $7.9M', *Business Wire,* 8 June 2016, http://www.businesswire.com/news/home/20160608005340/en/Platform-Co-Op-Stocksy-United-Doubles-Revenue-7.9M.
61 Amy Cortese, 'A New Wrinkle in the Gig Economy'.
62 Brianna Wettlaufer, presentation on Stocksy United, notes made by author in attendance, 23 May 2017.

and scholars, going beyond advocacy and inspiring articles, founded a new subfield of academic research focusing on platform cooperativism: what works and what does not in terms of novel organizational forms and startup methodologies.[63]

With the fast-approaching baby boomer retirement wave, where business owners may be amenable to buyouts by workers, the conversion of dated infrastructures into platform coops also becomes a viable strategy to expand the model. Similarly, the taking over of failing venture capitalist–funded platforms has become a possible avenue of conversion.

The #WeAreTwitter[64] campaign inspired scores of journalists, geeks, coop leaders to think about ownership and governance of the platforms that we rely on most. It made a name for itself. As a practical proposal, the campaign had only modest success when, in May 2017, Twitter's shareholders voted on whether to discuss the transformation the platform into a user-owned cooperative. Over 4% of Twitter's shareholders voted in favor of discussing the proposal and it is now eligible to be debated again at next year's board meeting.

The Benefits of the Platform Coop Model

Platform cooperatives have numerous advantages over the traditional start-up model, both in terms of market competition and societal benefit.

Protection from exploitation. Workers are protected from exploitation because they co-own and steer the cooperative. Budgets and other financial data are transparent to members in platform coops like Fairmondo.

Lower retention costs. Retention is less of an issue on a platform where ownership, transparency, and control protect workers from exploitation. It should surprise no one that, given the extractive practices of Uber, 50% of drivers quit the platform after six months, and only 4% of drivers make it a full year.[65] Stocksy showed that photographers who are well compensated, being trained, and who have a say in what happens on the platform, will stick with it.

Surplus revenues are transferred to members. Surplus revenue is seen by extractive platforms as capital to be used for reinvestment or to be doled out as dividends to investors. In contrast, numerous platform cooperatives return surplus revenue to member-owners at the end of the year. Stocksy, which paid dividends of $200,000 to its members in 2015, uses this model but also Fairmondo, which returned 25% of its yearly surplus to members.

---

63 Fewer millenials tolerate burnout in traditional structures. Top-down firms increasingly fail to hire talent. How can platform coops structure themselves to welcome such young professionals? How can they attract corporate dropouts?

64 http://buytwitter.org.

65 Chantel McGee, 'Only 4% of Uber Drivers Remain on the Platform a Year Later, Says Report', *CNBC,* 20 April 2017, http://www.cnbc.com/2017/04/20/only-4-percent-of-uber-drivers-remain-after-a-year-says-report.html; Chris Tomlinson, 'The Problem is with Uber and Lyft, Not City Rules', *Huston Chronicle,* 10 May 2016, http://www.houstonchronicle.com/business/columnists/tomlinson/article/The-problem-is-with-Uber-and-Lyft-not-city-rules-7450937.php.

Lower failure rate. 80% of cooperatives survive their first five years in business, as compared to 41% of other business ownership models.[66] On the one hand, this may be because worker cooperatives are themselves more productive than conventional businesses, 'with staff working 'better and smarter' and production [being] organized more efficiently'.[67] On the other, the belief in a cooperative's mission, can keep the business afloat long enough to achieve success. While Fairmondo is now self-sustaining, its communications-lead, Christian Peters, describes that up to now, Fairmondo was 'mainly carried by the ideology of the people who work' there.[68]

Money flows within local communities. Corporate platforms use their intermediary status to exact high rents on workers' earnings. This means that a large portion of money, which would have passed between the local participants of each transaction is siphoned out of the community.

Against short-termism and the growth imperative . The Silicon Valley model motivated by 'exit' rather than sustainable business has been perfected: 1) invest in a startup, 2) develop its technology just enough to grow a user base, 3) sell to a larger company for a golden payday. This mode of thinking breeds apostles of short-termism and growth at all costs.

Prospect of a cooperative data commons. For-profit companies that rely on the monetization of users' data, such as Facebook, FitBit, and personal-genoming service 23andMe, do not pay users for the valuable data that they generate. Essentially, people are performing uncompensated data labor. Unlike corporations, the advantage of coops is that they are explicitly designed to benefit each other. The health data cooperative MIDATA aims to allow users to come together and monetize the health-related data, which they generate, particularly the genetic data of which we all have an equal amount. While MIDATA will donate all its surplus revenue to public-benefit projects, co-founder Ernst Hafen has noted that data cooperatives in developing countries could generate a meaningful revenues for their populations. Amidst a broader discussion about privacy as a right versus privacy as a commodity, a cooperative data commons is in reach.

Advantages Despite Obstacles

While several key obstacles to the proliferation of platform cooperatives pose difficulties to the model's expansion, they are in no way insurmountable.

Funding. The greatest challenge faced by platform cooperatives is the acquisition of funding in the absence of venture capital investment. So far, member-founders, members of multi-stakeholder coops, and foundation capital have often borne the brunt of startup costs. The Platform Cooperativism Consortium and Outlierventures.io are experimenting with a platform coop crypto token that could pay FLOSS pro-

66 'The Co-operative Economy 2015: An Ownership Agenda for Britain', *Co-operatives UK*, http://www.uk.coop/sites/default/files/uploads/attachments/co-op_economy_2015.pdf.

67 Virginie Perotin cited in Odin, 'Worker Cooperatives are More Productive than Normal Companies', *Generational Theory Forum*, 13 May 2016, http://generational-theory.com/forum/thread-68-post-416.html.

68 Felix Weth, Christian Peters, Merlint, and Fairmondo staff in discussion with the author, 2015.

grammers. Redundant costs could be greatly reduced if the code bases of platform coops would be made freely licensable for other coops.

Governance. The problem of governance of distributed workers is unresolved. Platform cooperatives, however, explore new models of worker representation following the one-worker, one-vote model, but no dominant form has emerged so far. Governance models focus on tools like Loomio and the democratic representation of different stakeholders via the election of board members.

Marketing. The marketing resources available to platform cooperatives are dwarfed by those of incumbents like Uber and Airbnb who spend millions of dollars to seed network effects in individual cities. Guerilla marketing projects like Crowdacting should also leverage the vast social networks of conventional cooperatives.[69]

Value proposition. Platform cooperatives must keep their eyes on a strong value proposition. They need to build dignified workplace practices that are also a sufficient draw for consumers.

Network effects. As user bases grow, the value of a platform increases exponentially. As platforms accumulate data, the efficiency of their algorithms rapidly increases. One solution for this may be to create federations of local cooperatives, which can scale locally while still benefiting from their participation in larger networks. Alternatively, platform cooperatives may find their greatest success when they are able to enter untapped markets too small to hold interest for the Big Five.

Regulation. Finally, the regulatory inroads of incumbent platforms serve as something of a double-edged sword; while, for example, Uber's challenges to local regulations prohibiting non-licensed ride-hailing services opens up space for ride-hail platform cooperatives, they are also able to lobby to eliminate regulations that favor platform cooperatives.

Broader questions still remain. Will any of the historical disadvantages of coops be offset by the technological affordances of platform cooperatives? What models for democratic governance effectively account for the reality of dispersed gig-workers? What is the reason that relatively few coops have decided to enter the digital economy? Is voting for a board of directors sufficient? Are there existing funding solutions that have been overlooked, such as blockchain-driven social currencies and crypto-tokens? What interface design models can counteract the harmful racial dynamics of online labor markets such as TaskRabbit? What sectors are most promising for the growth of this model? How can the principles of economic democracy — which drove the 20th century cooperative movement — be brought into, and accelerated, in today's emerging digital economy? How can investors in the digital economy make a fair return while these types of platforms achieve sustainability? How can we find a framework of analysis that goes beyond the success or failure dichotomy given the diverging forms of value creation that may play out over the long- rather than the short term?

69 https://www.youtube.com/watch?v=u6tqZqoh8DY.

Platform cooperativism can serve as a remedy for some of the corrosive effects of capitalism, serving as a reminder that work can be dignifying rather than diminishing for the human experience. Platform cooperatives are not a panacea for all the wrongs of platform capitalism. They will have to tie in with the diverse efforts of the solidarity economy, the pro-commons movement, b-corps, green activists, localist movements, and others. There is a common fight and platform cooperativism can do its part against the shared enemy of exploitation. It's time to weave some ethical threads into the fabric of 21st-century work.

References

'About Becoming A Stocksy Contributor', *Stocksy.com*, https://www.stocksy.com/contributor.

Bergren Miller, Anna. 'Interviewed: Stocksy's Brianna Wettlaufer and Nuno Silva on Building a Cooperative Stock Photo Platform', *Shareable, 31* May 2016, http://www.shareable.net/blog/interviewed-stocksys-brianna-wettlaufer-and-nuno-silva-on-building-a-cooperative-stock-photo.

'CEO Pay in Perspective: Infographic', *Payscale,* http://www.payscale.com/career-news/2013/03/ceo-pay-in-perspective-infographic.

Cheney, George. *Values at Work: Employee Participation Meets Market Pressure at Mondragon*, Ithaca, NY: Cornell University Press, 1999.

Cortese, Amy. 'A New Wrinkle in the Gig Economy: Workers Get Most of the Money', *The New York Times, 20* July 2016, https://www.nytimes.com/2016/07/21/business/smallbusiness/a-new-wrinkle-in-the-gig-economy-workers-get-most-of-the-money.html.

'Collaborative Economy', *European Commission on Growth,* 22 May 2017, http://ec.europa.eu/growth/single-market/services/collaborative-economy_en.

Cowen, Tyler. *Average Is Over: Powering America Beyond the Age of the Great Stagnation*, New York: E P Dutton & Co, 2013.

Crain, Marion G., Winifred Poster, Miriam A. Cherry. *Invisible labor: Hidden work in the Contemporary World*. Oakland, CA: University of California Press, 2016.

Edelman, Benjamin, and Michael Luca. 'Digital Discrimination: The Case of Airbnb.com', *Harvard Business School Working Paper* 14.054 (January 2014).

Edelman, Benjamin, Michael Luca, and Dan Svirsky, 'Racial Discrimination in the Sharing Economy: Evidence from a Field Experiment', *American Economic Journal: Applied Economics,* 2016, http://www.benedelman.org/publications/airbnb-guest-discrimination-2016-09-16.pdf.

Dillet, Romain. 'Uber France Leaders Arrested For Running Illegal Taxi Company', TechCrunch, 29 June 2015, https://techcrunch.com/2015/06/29/uber-france-leaders-arrested-for-running-illegal-taxi-company/#.sdpulz:fhsN.

'Facts and Figures', *International Co-operative Alliance,* http://ica.coop/en/facts-and-figures.

Graeber, David. 'On the Phenomenon of Bullshit Jobs', *STRIKE! Magazine*, 18 June 2014, https://www.strikemag.org/bullshit-jobs/.

Locke, Sean. 'Steering the Ship', *Sean Locke Photography,* 15 October 2013, http://www.seanlockephotography.com/2013/10/15/steering-the-ship/.

Macro, Ashleigh. 'iStock Founder Reveals Real Reason He Left & Why He's Started a New Stock Company', *Digital Arts*, 10 October 2013, http://www.digitalartsonline.co.uk/news/creative-business/founder-of-istockphoto-reveals-real-reason-he-left-why-hes-started-new-stock-photo-company/.

McGee, Chantel. 'Only 4% of Uber Drivers Remain on the Platform a Year Later, Says Report', *CNBC,* 20 April 2017, http://www.cnbc.com/2017/04/20/only-4-percent-of-uber-drivers-remain-after-a-year-says-report.html.

McLeod, Andrew. 'Types of Cooperatives', Cooperative Starter Series, December 2006, http://cets.coop/moodle/pluginfile.php/75/mod_folder/content/0/Types%20of%20Co-operative.pdf?forcedownload=1.

Mejias, Ali Ulises. *Off the Network: Disrupting the Digital World*., Minneapolis, MN: University of Minnesota Press, 2013.

Mexico, Roger. 'Front Page Blog: A H*ck of a Lot! iStock contributors make $21 Million in 2007', *iStock,* 1 April 2008, http://www.istockphoto.com/forum_messages.php?threadid=67521.

National Cooperative Business Association, 'Building a Cooperative Future,' *NCBA,* 2014.

Newcomer, Eric. 'Study Finds Racial Discrimination by Uber and Lyft Drivers', *Bloomberg,* 31 October 2016, https://www.bloomberg.com/news/articles/2016-10-31/study-finds-racial-discrimination-by-uber-and-lyft-drivers.

O'Connell, Ainsley. 'Investors are paying $2 billion per year to subsidize your Uber ride', *Fast Company News*, 1 December 2016, https://news.fastcompany.com/investors-are-paying-2-billion-per-year-to-subsidize-your-uber-ride-4026256.

Odin. 'Worker Cooperatives are More Productive than Normal Companies', *Generational Theory* Forum, 13 May 2016, http://generational-theory.com/forum/thread-68-post-416.html.

'On Views of Race and Inequality, Blacks and Whites Are Worlds Apart', *Pew Research Center,* 27 June 2016, http://www.pewsocialtrends.org/2016/06/27/on-views-of-race-and-inequality-blacks-and-whites-are-worlds-apart/.

Opfer, Chris. 'Gig Worker Organizers Still Looking for Road Map', *Bloomberg BNA, 26* May 2017, https://www.bna.com/gig-worker-organizers-n73014451571/.

O'Reillly, Tim. 'We've Got This Whole Unicorn Thing All Wrong!' *Medium*, 25 September 2015, https://medium.com/the-wtf-economy/we-ve-got-this-whole-unicorn-thing-all-wrong-3f3d108cc71d#.d9ir543xa.

'Overview – Creating Community Owned Food Systems through Homemade Food Policy', *Sustainable Economies Law Center,* February 2017, http://www.theselc.org/creating_community_owned_food_systems.

Oxfam, '62 People Own Same as Half World', *Oxfam*, http://www.oxfam.org.uk/media-centre/press-releases/206/01/62-people-own-same-as-half-world-says-oxfam-inequality-report-davos-world-economic-forum.

Parker, Geoffrey G. *Platform Revolution: How Networked Markets Are Transforming the Economy – And How to Make Them Work for You*, New York: W. W. Norton & Company, 2016.

Penman, Maggie, and Shankar Vedantam. '#AirbnbWhileBlack: How Hidden Bias Shapes The Sharing Economy', *NPR*, 26 April 2016.

'Platform Co-Op, Stocksy United, Doubles Revenue to $7.9M', *Business Wire,* 8 June 2016, http://www.businesswire.com/news/home/20160608005340/en/Platform-Co-Op-Stocksy-United-Doubles-Revenue-7.9M.

Scholz, Trebor. 'Platform Cooperativism vs. the Sharing Economy', *Medium*, 5 December 2014, https://medium.com/@trebors/platform-cooperativism-vs-the-sharing-economy-2ea737f1b5ad.

Scholz, Trebor, and Nathan Schneider (eds). *Ours to Hack and to Own: The Rise of Platform Cooperativism, a New Vision for the Future of Work and a Fairer Internet,* New York City: OR Books, 2016.

Schor, Juliet. 'Debating the Sharing Economy', *Great Transition Initiative*, October 2014, http://www.greattransition.org/publication/debating-the-sharing-economy.

Shankland, Stephen. 'iStockphoto founder, CEO leaves Getty', *CNET*, 23 March 2009, https://www.cnet.com/news/istockphoto-founder-ceo-leaves-getty/.

Sibilla, Nick. 'California Legalized Selling Food Made At Home And Created Over A Thousand Local Businesses', *Forbes*, 29 January 2014, https://www.forbes.com/sites/instituteforjustice/2014/01/29/california-legalized-selling-food-made-at-home-and-created-over-a-thousand-local-businesses/#6ad701ac63b7.

Slee, Tom. *What's Yours Is Mine: Against the Sharing Economy*. New York City: OR Books, 2015. p.11.

Smith, Aaron. 'Gig Work, Online Selling and Home Sharing', *Pew Research Center,* 17 November 2016, http://www.pewinternet.org/2016/11/17/gig-work-online-selling-and-home-sharing/.

Solomon, Brian. 'The Numbers Behind Uber's Exploding Driver Force', *Forbes*, 1 May 2015, https://www.forbes.com/sites/briansolomon/2015/05/01/the-numbers-behind-ubers-exploding-driver-force/#536083ad5750.

Taskrabbit, 'What is the TaskRabbit Service Fee?', *TaskRabbit*, https://support.taskrabbit.com/hc/en-us/articles/204411610-What-is-the-TaskRabbit-Service-Fee-.

'The Co-operative Economy 2015: An Ownership Agenda for Britain', *Co-operatives UK*, http://www.uk.coop/sites/default/files/uploads/attachments/co-op_economy_2015.pdf.

Tomlinson, Chris. 'The Problem is with Uber and Lyft, Not City Rules', *Huston Chronicle,* 10 May 2016, http://www.houstonchronicle.com/business/columnists/tomlinson/article/The-problem-is-with-Uber-and-Lyft-not-city-rules-7450937.php.

Torrens, Lee. 'Stocksy United', *Microstock Diaries,* 13 July 2015, http://www.microstockdiaries.com/stocksy.html.

Wark, McKenzie. 'Digital Labor and the Anthropocene', *DIS magazine*, November 2014, http://dismagazine.com/disillusioned/discussion-disillusioned/70983/mckenzie-wark-digital-labor-and-the-anthropocene/.

Weber, Lauren. "Routine Jobs' Are Disappearing', *The Wall Street Journal*, 3 January 2017, https://www.wsj.com/articles/routine-jobs-are-disappearing-1483455600. Accessed May 22, 2017.

Wettlaufer, Brianna. 'No More Bad Stock Photos: How a Great Image Inspired Me to Launch Stocksy', *Success,* 13 May 2015, http://www.success.com/mobile/blog/no-more-bad-stock-photos-how-a-great-image-helped-inspire-me-to-launch-stocksy.

_____. 'Power and Ethics in Online Communities with Stocksy United', Lecture, University of Colorado Boulder, Boulder, CO, 15 September 2016, https://livestream.com/accounts/983593/events/6351458/videos/135862964.

Whitman, John R. 'Types of Cooperatives', Cooperative-Curriculum, 7 March 2011, https://cooperative-curriculum.wikispaces.com/file/view/Types+of+Cooperatives-Whitman.pdf.

UNIVERSAL BASIC INCOME IS A NEOLIBERAL PLOT TO MAKE YOU POORER

DMYTRI KLEINER

UNIVERSAL BASIC INCOME IS A NEOLIBERAL PLOT TO MAKE YOU POORER

DMYTRI KLEINER

This article was first published by Furtherfield.[1]

Basic income is often promoted as an idea that will solve inequality and make people less dependent on capitalist employment. However, it will instead aggravate inequality and reduce social programs that benefit the majority of people.

At its Winnipeg 2016 Biennial Convention, the Canadian Liberal Party passed a resolution in support of 'Basic Income'. The resolution, called 'Poverty Reduction: Minimum Income,' contains the following rationale: 'The ever growing gap between the wealthy and the poor in Canada will lead to social unrest, increased crime rates and violence. [...] Savings in health, justice, education and social welfare as well as the building of self-reliant, taxpaying citizens more than offset the investment.'[2]

The reason many people on the left are excited about proposals such as universal basic income is that they acknowledge economic inequality and its social consequences. However, a closer look at how universal basic income (UBI) is expected to work reveals that it is intended to provide political cover for the elimination of social programs and the privatization of social services. The Liberal Party's resolution is no exception. Calling for 'Savings in health, justice, education and social welfare as well as the building of self-reliant, taxpaying citizen',[3] clearly means social cuts and privatization.

UBI has been endorsed by neoliberal economists for a long time. One of its early champions was the patron saint of neoliberalism, Milton Friedman. In his book Capitalism and Freedom,[4] Friedman argues for a 'negative income tax' as a means to deliver a basic income. After arguing that private charity is the best way to alleviate poverty, and praising the 'private […] organizations and institutions' that delivered charity for the poor in the capitalist heyday of the nineteenth century, Friedman blames social programs for the disappearance of private charities: 'One of the major costs of the extension of governmental welfare activities has been the corresponding decline in private charitable activities.'

To Friedman and his many powerful followers, the cause of poverty is not enough capitalism. Thus, their solution is to provide a 'basic income' as a means to eliminate social programs and replace them with private organizations. Friedman specifically

1. https://www.furtherfield.org/universal-basic-income-is-a-neoliberal-plot-to-make-you-poorer/.
2 'Poverty Reduction: Minimum Income', *Liberal Party of Canada*, https://winnipeg2016.liberal.ca/policy/poverty-reduction-minimum-income/.
3 Ibid.
4 Milton Friedman, *Capitalism and Freedom,* Chicago: University of Chicago Press, 1962.

argues that 'if enacted as a substitute for the present rag bag of measures directed at the same end, the total administrative burden would surely be reduced'.[5]

Friedman goes on to list some the 'rag bag' of measures he would hope to eliminate: direct welfare payments and programs of all kinds, old age assistance, social security, aid to dependent children, public housing, veterans' benefits, minimum-wage laws, and public health programs, hospitals and mental institutions.

Friedman also spends a few paragraphs worrying whether people who depend on 'Basic Income' should have the right to vote, since politically enfranchised dependents could vote for more money and services at the expense of those who do not depend on these. Using the example of pension recipients in the United Kingdom, he concludes that they 'have not destroyed, at least as yet, Britain's liberties or its predominantly capitalistic system'.[6]

Charles Murray, another prominent libertarian promoter of UBI, shares Friedman's views. In an interview with PBS, he said: 'America's always been very good at providing help to people in need. It hasn't been perfect, but they've been very good at it. Those relationships have been undercut in recent years by a welfare state that has, in my view, denuded the civic culture'.[7] Like Friedman, Murray blames the welfare state for the loss of apparently effective private charity.

Murray adds: 'The first rule is that the basic guaranteed income has to replace everything else — it's not an add-on. So there's no more food stamps; there's no more Medicaid; you just go down the whole list. None of that's left. The government gives money; other human needs are dealt with by other human beings in the neighborhood, in the community, in the organizations. I think that's great.'[8]

To the Cato Institute, the elimination of social programs is a part of the meaning of Universal Income. In an article about the Finish pilot project, the Institute defines UBI as 'scrapping the existing welfare system and distributing the same cash benefit to every adult citizen without additional strings or eligibility criteria'.[9] And in fact, the options being considered by Finland are constrained to limiting the amount of the basic income to the savings from the programs it would replace.

'Basic Income' Won't Alleviate Poverty

From a social welfare point of view, the substitution of social programs with market-based and charitable provision of everything from health to housing, from child support to old-age assistance, clearly creates a multi-tier system in which the poorest may be

5 Ibid., p. 158.

6 Ibid., p. 160.

7 Charles Murray, 'Libertarian Charles Murray: The Welfare State has Denuded our Civic Culture', *PBS News Hour*, 10 April 2014, https://www.pbs.org/newshour/nation/libertarian-charles-murray-the-welfare-state-has-denuded-our-civic-culture.

8 Ibid.

9 Charles Hughes, 'Finland to Break New Ground with Basic Income Experiment', *CATO Institute*, 9 December 2015, https://www.cato.org/blog/finland-break-new-ground-basic-income-experiment?utm_content=buffer3f10a&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer.

able to afford some housing and health care, but clearly much less than the rich — most importantly, with no guarantee that the income will be sufficient for their actual need for health care, child care, education, housing, and other needs, which would be available only by way of for-profit markets and private charities.

Looking specifically at the question of whether Friedman's proposal would actually improve the conditions of the poor, Hyman A. Minsky, himself a renowned and highly regarded economist, wrote the *The Macroeconomics of a Negative Income Tax*.[10] Minsky looks at the outcome of a 'social dividend,' which 'transfers to every person alive, rich or poor, working or unemployed, young or old, a designated money income by right'.[11] Minsky conclusively shows that such a program would 'be inflationary even if budgets are balanced'[12] and that the 'rise in prices will erode the real value of benefits to the poor [...] and may impose unintended real costs upon families with modest incomes'.[13] This means that any improved spending power afforded to citizens through an instrument such as UBI will be completely absorbed by higher prices for necessities.

Rather than alleviating poverty, UBI will most likely exacerbate it. The core reasoning is quite simple: the prices that people pay for housing and other necessities are derived from how much they can afford to pay in the first place. If you imagine the way housing is distributed in a modern capitalist society, the poorest get the worst housing, and the richest get the best. Giving everyone in the community, rich and poor alike, more money, would not allow the poorest to get better housing, it would just raise the price of housing.

If UBI came at the expense of other social programs, such as health care or child care, as Friedman intended, then the rising cost of housing would draw money away from other previously socially provisioned services, forcing families with modest incomes to improve their substandard housing by accepting worse or less childcare or healthcare, or vice versa. A disabled person whose mobility needs requires additional expenditure on accessible housing may not have enough of the basic income left for any additional health care they also require. Yet replacing means testing and special programs that address specific needs is the big idea of UBI.

The notion that we can solve inequality within capitalism by indiscriminately giving people money and leaving the provisioning of all social needs to corporations is extremely dubious. While this view is to be expected among those, like Murray and Friedman, who promote capitalism, it is not compatible with anticapitalism. UBI will end up in the hands of capitalists. We will be dependent on these same capitalists for everything we need. But to truly alleviate poverty, productive capacity must be directed toward creating real value for society and not toward maximizing shareholder value of profit-seeking investors.

10 Hyman P. Minsky, 'The Macroeconomics of a Negative Income Tax', *Hyman O, Minsky Archive*, 16 May 1969, digitalcommons.bard.edu/cgi/viewcontent.cgi?article=1428&context=hm_archive.

11 Ibid., p. 1.

12 Ibid., p. 4.

13 Ibid., p. 5.

There is No Possibility of Another Kind of Basic Income

Many people don't dispute the fact that establishment promoters of UBI are only doing it in order to eliminate social programs, but they imagine that another kind of basic income is possible. They call for a basic income that disregards the deal that Charles Murray advocates, but want UBI in addition to other social program, including means-tested benefits, protections for housing, guarantees of education and child care, and so on. This view ignores the political dimension of the question. Proposing UBI in addition to existing program mistakes a general consensus for replacing social programs with a guaranteed income for a broad base of support for increasing social programs. But, no such broad base exists.

Writing in 1943, with the wartime policies of 'full employment' enjoying wide support, Michal Kalecki wrote a remarkable essay entitled 'Political Aspects of Full Employment.'[14] Kalecki opens by writing, 'a solid majority of economists is now of the opinion that, even in a capitalist system, full employment may be secured by a government spending programme'.[15] Though he is talking about full employment, which means an 'adequate plan to employ all existing labour power',[16] the same is true of UBI. The majority of economists would agree that a plan to guarantee an income for all is possible.

However, Kalecki ultimately argues that full employment policies will be abandoned: 'The maintenance of full employment would cause social and political changes which would give a new impetus to the opposition of the business leaders. Indeed, under a regime of permanent full employment, the "sack" would cease to play its role as a disciplinary measure. The social position of the boss would be undermined, and the self-assurance and class-consciousness of the working class would grow.'[17]

The conflict between the worker and the capitalist, or between the rich and the poor, can not be sidestepped simply by giving people money, if capitalists are allowed to continue to monopolize the supply of goods. Such a notion ignores the political struggle between the workers to maintain (or extend) the 'basic income' and the capitalists to lower or eliminate it in order to strengthen their social position over the worker and to protect the power of 'the sack'.

Business leaders fight tooth and nail against any increase of social benefits for workers. Under their dominion, only one kind of UBI is possible: the one supported by Friedman and Murray, the Canadian Liberal Party, and all others who want to subject workers to bosses. The UBI will be under constant attack, and unlike established social programs with planned outcomes that are socially entrenched and difficult to eliminate, UBI is just a number, one that can be reduced, eliminated, or simply allowed to fall behind inflation.

14 Michael Kalecki, 'Political Aspects of Full Employment', *Political Quarterly* (October 1943): 322-330.
15 Ibid., p. 322.
16 Ibid., p. 322.
17 Ibid., p. 326.

UBI does not alleviate poverty and turns social necessities into products for profit. To truly address inequality we need adequate social provisioning. If we want to reduce means testing and dependency on capitalist employment, we can do so with capacity planning. Our political demands should mandate sufficient housing, healthcare, education, childcare and all basic human necessities for all. Rather than a basic income, we need to demand and fight for a basic outcome — for the right to life and justice, not just the right to spend.

References

Friedman, Milton. *Capitalism and Freedom,* Chicago: University of Chicago Press, 1962.

Hughes, Charles. 'Finland to Break New Ground with Basic Income Experiment', *CATO Institute*, 9 December 2015, https://www.cato.org/blog/finland-break-new-ground-basic-income-experiment?utm_content=buffer3f10a&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer.

Kalecki, Michael. 'Political Aspects of Full Employment', *Political Quarterly* (October 1943).

Minsky, Hyman P. 'The Macroeconomics of a Negative Income Tax', *Hyman O, Minsky Archive*, 16 May 1969, digitalcommons.bard.edu/cgi/viewcontent.cgi?article=1428&context=hm_archive.

Murray, Charles. 'Libertarian Charles Murray: The Welfare State has Denuded our Civic Culture', *PBS News Hour*, 10 April 2014, https://www.pbs.org/newshour/nation/libertarian-charles-murray-the-welfare-state-has-denuded-our-civic-culture.

'Poverty Reduction: Minimum Income', *Liberal Party of Canada*, https://winnipeg2016.liberal.ca/policy/poverty-reduction-minimum-income/.

PRECARITY IS THE PRESENT, UNIVERSAL BASIC INCOME THE FUTURE

PATRICE RIEMENS

PRECARITY IS THE PRESENT, UNIVERSAL BASIC INCOME THE FUTURE

PATRICE RIEMENS

Il n'y qu'à une population parfaitement sous contrôle
que l'on peut songer offrir un revenu universel.
—Comité Invisible, *Maintenant*

UBI — universal, unconditional basic income — is popular talk regarding both the economic future of the majority, and the 'labour market'. Amazingly, UBI's inevitability is taken for granted, but opinions on its format and modalities are so fiercely debated as to result in confusion about what UBI (should) represent(s). This essay attempts to outline common opposing viewpoints and propose a simple resolution to reach consensus on the matter.

Precarity is defined here as crippling uncertainty about one's economic and/or social future. If precarity is the problem then UBI is, to some extent, the answer.

The increasingly precarious conditions of an increasingly large number of people, in both the Global South and North, is the most urgent socioeconomic and political problem of the moment. Poverty and inequality are both its result and its most visible symptoms. This translates to hardships including want, homelessness, poor mental and physical health, hitting a substantial, and ever growing number of people. It is also seen in even more widespread long-term economic uncertainty and vulnerability. Furthermore, it affects negatively the overall well-being of society, making it 'meaner and leaner', less benevolent and unified. Last but not least: it ultimately hurts the economy, and in no small measure.

Precarity now affects the population at large, directly or indirectly. It evidently affects the under-privileged, but also hurts large swathes of the better-off. Middle class people live increasingly in fear of becoming victims of economic melt-down and social status downgrade. Their often highly educated offspring are confronted by a labor market where steady job openings are vanishing. There is great anxiety regarding a future that appears devoid of any prospect of a better life, even one as good as their parents had enjoyed.

The provision of a universal, unconditional income is the sole reasonable and realistic answer. Yet one should realize that, if ever, and properly, implemented, UBI will in no way resolve all at once society's many socioeconomic problems; pockets of poverty will remain, and inequality will decrease, but not disappear. Far more importantly, humanity still will have to resolutely address an unprecedented convergence of crises, foremost environmental. But the odds of this endeavor succeeding will surely be enhanced with UBI.

On the Shifting Nature, and Valuation, of Work, and its Consequences

A largely shared premise is that regular, secure, long term salaried employment as we know it will greatly disappear thanks to robots and algorithms. Observers of current trends talk of a major disruption, predicting that artificial intelligence of all kinds will destroy not only low-skilled work (e.g. cleaning), but also those more highly-skilled occupations (e.g. accounting), leaving only a minority of especially creative and innovative tasks for humans. This assumption, reasonable as it appears, is not totally warranted. It depends on the evolution of what Marxists call the 'social relations of production'. Under specific, unwelcome socio-political dispensations, large-scale automation could just as well result in a plethora of 'coolie labor', provided its costs are low enough. However, we can be sure about the disappearance of work-as-we-know it, something already experienced by the younger generations.

This scenario will obtain whether through outright job destruction, or rather large-scale job displacement. This is also the consequence of another, unfortunate development: the waging of essential work like 'care' as traditional community and household bonds dissolve. Yet such newly waged work is not translated into secure employment at a fair rate of pay, but instead into a variety of flexible, exploitative contractual or informal arrangements. This has in turn spawned the notion that all work should be viewed and remunerated in this way. Business and its right-wing advocates have demanding this for a long time, and they increasingly succeed in imposing this 'new normal' as the template for employment in general, transferring previously salaried work into unpredictable jobs without guarantees and rights and with lower remunerations, worsening working conditions and diminishing benefits.

Society, as it moves away from the 'abusive, historic, identification of work with salaried work' (Carlo Vercellone), appears to jettison salary instead of work. UBI, properly understood and implemented, should foster security of income entirely independent of work, whether waged or not.

The ongoing disappearance of salaried work has engendered the perverse belief, widely shared in libertarian and neoliberal circles, that traditional, collective work has no merit, and should be spurned. Merit (and value) should solely accrue to individual entrepreneurship, and the labor that underwrites it should ruthlessly be flexibilized for profitability. Labor, like all other 'factors of production', is deemed to carry a zero-base price, meaning that every increment should be viewed as a cost and pruned as much as possible.

The withering of a stable link between work and a secure wage has been well-theorized. 'Gig economy' and 'Uberization' typify economic relationships praised by the libertarian elite, but hardly by those forced by circumstances to engage in them. Where work is remunerated it is for the outcome of the actual work, at an often much lower rate. I will illustrate the point through the example of the 'intermittents du spectacle' in France (portrayed, a.o. by Bernard Stiegler). The 'intermittents' are people working during the cultural season, and hence only part of the year, in the technical side of cultural events and productions. Theirs is a condition of part-time employment (hence 'intermittent'), but of full-time work, spending the cultural season's 'slack time' (roughly 7-8 months) in quasi-permanent education and training, honing the skills they need to perform the array of tasks assigned during the summer's events. The later work is perceived as merely technical, routine-like, and paid accordingly, but the real work in the 'slack' times is not waged, while the waged job, in season, only consists in putting the outcomes of this work into practice — at devalued rates. Workers are paid, part of the year, low-skilled wages for their efforts at maintaining high-skilled competence, the time spent on which is only retributed in the form of unemployment benefit. Needless to add, this is itself under vociferous attack by employers, since the 'intermittents' do not perform visible, and hence quantifiable work during that time.

This pattern, which arose in the realm of 'cultural production', is now becoming the 'new normal' in more professions. That it took root in the traditionally underfunded and looked-down-on spheres of the arts and culture is not an unfortunate coincidence. It reverberates the increasingly 'dematerialized' quality of work in many sectors of the economy (e.g. 'services' instead of 'industrial production'), where erratic relationships between work and pay are easier to implement. This is why teachers with short-term and part-time contracts are no longer paid for the time they spend preparing lessons and refresh courses.

Thus all forms of work tend to be downgraded in monetary terms and security of employment, while working conditions go down almost faster than the pay. This follows from the deleterious economic discourse described above, which should be understood as profoundly ideological. Where only entrepreneurship is valued, 'ordinary' work and the human being performing it, becomes an inconvenience, a maximally compressible cost factor. No wonder this attitude often goes together with wet dreams about full automation, where illusions of zero labor costs are only outmatched by delusions about the direct and indirect costs of 'hiring' robots.

This is further fueled by widely adopted, pernicious algorithm-based management tools, appropriately dubbed 'weapons of math destruction' by Cathy O'Neil in her book of the same name. Make no mistake, such ideas about managing the corporate economy are not merely business-as-usual; they are also detrimental to sound and sustainable business in the long term. Since the effects of short-termism are perfectly well known, it simply comes down to lining one's pockets at the helm.

UBI disrupts the commonly held belief that earning money through work is essential for survival, something society apparently inherited from the Judeo-Christian tradition ('in the sweat of thy brows thou shall eat bread ...'). UBI, by providing the guarantee of an acceptable standard of living to all, prevents the foreseeable race to the bottom in terms of wages, working conditions, and security of income for the majority. It enables the 99% to invoke and enforce the power to say no. Conversely, in the absence of UBI, increasingly scarcely remunerated slots of the future global workplace will continue under increasingly abusive conditions. Society at large will revert to something close to a Hobbesian state: solitary, poor, nasty, brutish, and short. Such a scenario would hopefully be unpalatable even to the 1%. Therefore we may conclude that UBI is both necessary and unavoidable.

What UBI Should Be — or Not Be

Having looked at the material aspects which point to the implementation of UBI, it is also essential to look at the immaterial ones.

If UBI is conceived as not only a mere prop to personal incomes but also an essential building block towards a fairer society, it becomes impossible to implement if looked at only from a strictly individual security point of view. A purely economic approach to UBI risks becoming an argument about 'reforming' the welfare state, replacing not only individual, but also collective benefits. This is the hardly concealed design of the right, bent on abolishing welfare altogether, releasing huge savings on the state budget to immediately transform these in tax cuts for the rich.

It is therefore essential that UBI be not only a guaranteed income, but also an assurance regarding one's opportunities as a fully participating member of society. What the latter makes possible is freedom, both negatively — e.g. freedom of fear — but also positively, as the enhanced possibility to act at one's own liking. UBI is therefore the harbinger and the pre-condition to bring about a just and more convivial society.

We can also look at UBI as the rightful retribution for what one does for society, merely by virtue of one's existence — by simply being there. That may seem abstruse at first sight, but it is not different from the rights granted to any person on the constitutional level. It only extends such rights in the material sphere, which are already enshrined in most constitutions where it is the first and final duty of society to ensure the well-being of each of its members.

We can conclude that UBI should be and cannot be anything else but a contributory benefit, representing a universal and unconditional right to the material means of a decent life. It presents an all-inclusive opportunity to participate actively and fully in societal life. We understand by this the freedom to engage in activities which are both beneficial to the community and gratifying to the person performing them, something sorely lacking under present conditions. If UBI were to come about, there is no doubt that a different type of human society would slowly emerge, which would take up seriously, at the very least, the development of so-called 'green capitalism'. One may of course hope, campaign and militate for more, for a vast and genuine transformation of society towards the sustainable future we all crave.

We can now turn to a few practical questions which have bedeviled the debate about UBI.

On 3 Practical Questions Commonly Voiced About UBI

1. Can UBI be Financed?

The answer is an unqualified yes — the money is there. But only if there is the political will strong enough to take the necessary economic measures, specifically in the sphere of taxation. This requires a relatively easy (if politically daunting) realignment of the share of the fiscal burden between categories of contributors, and this means between households and firms. It would also require a substantial 'de-financialization' of the economy on a somewhat longer term, that is a near-reversion of the ratio between 'immaterial' (aka 'virtual') and 'material (aka 'real') money in society's fiduciary balances. Indeed, the amounts rolling over in the global financial sphere exceed the sum total of actual on the ground economic activities by a factor 10 — or higher. Once introduced, UBI may well accelerate this shift even further since, at present, the financial behemoth largely feeds on debt, a lot of which consists of consumptive credit.

Taxation-wise, after careful study of its consequences on the distribution of wealth and incomes, (specifically, on its impact on the incomes of the poorer parts of the population) one could think of fully streamlining taxation into one single measure: a tax on all monetary and financial transactions, that is, on all formal movements of money.

2. Will the Introduction of UBI Depress Work-Related Incomes, Wages and Other Remunerations?
Here the answer is a slightly more qualified no, as very much hinges on the modalities of UBI as implemented. However, a genuine UBI sets the floor of individual income at a level that secures all a person's basic needs. Obviously, the problem here lies with the definition of basic needs. The higher the standard is set, the more difficult it becomes to fund. But conversely, too low a standard would obliterate the very opportunities UBI is intended to provide. And on the marketplace of labor the most important one for a job seeker is the effective right to say 'no'. This is the trickiest issue regarding the implementation of a sustainable and effective UBI policy. Yet in any case, having to pay good money for work which by its nature cannot fall within the voluntary sphere, and for which there still is a demand, will remain a fact of life in the commercial sphere. Thus businesses will have to propose appropriate earnings if they wish to recruit motivated collaborators.

Therefore, once a reasonable standard of UBI is established, there is little reason to believe that 'the going rate for labor' would fall substantially below the currently prevailing one. Wages might even turn out to increase, since businesses will have to compete with the non-commercial, non-profit sector of the economy, opening up many rewarding activities in the 'commons' sphere, given the existence of UBI.

This is the also the principal argument to reject any declination of UBI implemented along lines proposed by some right-wing/ libertarian opinion leaders: slashing or abolishing outright social/public services as a quid pro quo for its introduction under the false pretense of budget neutrality. Such a fraudulent neo-liberal/ libertarian interpretation would not only keep the scourge of precarity going, but indeed quickly transform UBI into not a minimum but a maximum income for the '99%'.

3. What of the Place of Welfare (as We Know it) After UBI?
The answer is that it should largely stay in place — if thoroughly reformed. Neo-liberal/ libertarian economic doctrine, having, reluctantly, accepted the inevitability of UBI, demands it be traded against a massive reduction, or even total abolition, of welfare as we know it. Yet, cuts in social benefits and subsidies on public service provisions like housing, health or education, translates in immediate additional expenditures for recipients of UBI, nullifying all the advances it represents. Slashing subsidies and making public services more expensive would defeat UBI's other crucial purpose: buying social peace in economically unsettled times for the majority.

Hence, maintaining a welfare state — minus direct monetary transfers — that is consistent with providing access of essential services to all is not only a corollary condition, it is a sine qua non of an authentic UBI. In the end, UBI, the maintaining of such subsidies and the provision of public services at a budget neutral level will have to be funded by mobilizing existing resources in society, meaning an increase in taxation. Many economists have done the math already and concluded that the overall level of taxation would indeed rise after UBI, but far less than argued by detractors. Furthermore, shifts in the modalities of taxation, as already alluded to, will enhance the income position of the poorer households, and would make little or no difference to the average taxpayer (though wealthier classes will be hit harder than at present).

We may look now at some other important issues pertaining to, or impairing, the debate around UBI.

On the Political Outcomes and Consequences of UBI

A growing perception of economic and other forms of insecurity among an increasing part of the population — well-illustrated by the popularity of the precarity moniker — has made those individuals disgruntled with the existing political dispensation.

This has fostered, in the Global North, the appearance and stark expansion of extreme political movements, especially at the right side of the spectrum. These are threatening democracy, the rule of law, the arts and culture, and human rights and fundamental liberties in general. Unlike those of the political left, the right's arguments are, not so slowly and stealthily, being adopted by established (center-)right parties.

One should never forget the rise of European Fascisms in the 30s. However uncomfortable the fact, these were truly popular movements, and their rise was greatly helped by the previous powers being unable or unwilling to stem the general impoverishment caused by capitalism's crisis and the ensuing Great Depression. We are at the threshold of a crisis of the same, if not perhaps even greater, magnitude.

That lesson should be clear and UBI is evidently the sole alternative to this disaster happening repeatedly. Decision makers failing to confront this, be it by design or by default, can be sure to pay sooner rather than later for the price of their shortsightedness.

The Risk of a 'Pull Effect' of UBI on Immigration

This issue is indeed a big elephant in the room when discussing the likely outcomes of UBI. The opinion that granting UBI to everyone in a given territory would attract masses of (poor) outsiders and make the system unsustainable is widely shared in some circles, and is just as widely being suppressed among their opponents. Both extremes are unfortunate and prevent cool-headed reasoning.

The likelihood of a pull effect is real. But it should be seen in present and future contexts. Granting unrestricted UBI to immigrants delivers a different outcome compared with the settled population because immigrants wish, in general, to earn money not only for themselves, but also for their kin at home. They are thus resolute savers and remitters, and this practice undermines an unstated but not unimportant purpose of UBI: pushing local demand for goods and services.

There are several possible answers to this situation short of preventing immigration, which is as impractical as it insults basic morality.

To start with, the imbalances caused within society at large — specifically by excessive marketisation and financialization — should be addressed. Regarding UBI, part of it could be 'demonitized' by making a basket of social goods and public services available for free, e.g. health, and education, or at a very nominal cost, e.g. housing, utilities, transport. This would be to retain part of UBI in the economy that funds it. Formalizing and expanding the use of local currencies, possibly ones carrying a demurrage charge (cf Silvio Gesell), is another option. Making UBI partly payable on electronic instruments (e.g. chipcards) with a limited geographical validity is feasible, but goes with a contraction of a recipient's freely disposable income. Even non-fiat crypto-currencies have popped up in some UBI blueprints, but then, among other things, stark issues of general usability arise.

Finally, one could trade an initial UBI disqualification of immigrants, against allowing them free movement in and out of a particular UBI-allocating jurisdiction. Immigrants could then gradually gain access to UBI, say after several years, as is the case with naturalizations. This would also alleviate fears of an 'alien tsunami'.

'Legions of Couch Potatoes' as a Consequence of UBI
Morally (turbo-)charged opponents of UBI often allege that, among many other evils, UBI would effectively amount to a premium on laziness and lull its beneficiaries into a terminal coma of gawking in front of screens 24/7/365. Some corroboration to this might come from surveys in the U.S. among recipients of social benefits, especially MedicAid. They also point out the addictive effects of almost permanent 'social' media usage within our thoroughly fragmented and individualized society, especially among those with limited schooling and skills

This, however, appears to be an exaggerated scenario. One can expect UBI, once implemented, to trigger an at least partial reformation of society towards more voluntary work openings, more conviviality and more co-operative and relaxed lifestyles in general. This would provide both the opportunity and the drive to participate in 'the commons' in one way or another. There for sure will be a minority of people preferring to enjoy what others may see as totally empty idleness, but that will be a very tolerably small one (one recipient in 10? One in 8?). This is not a valid reason to ditch UBI.

Taxation and the 'Poverty Trap'
We have briefly discussed that, given reform in the current system of taxation, UBI is affordable, even if it would constitute a major component of public expenditure. But this is no way unworkable, or even unprecedented. The French social security system, for instance, swallows up 30% of current GDP (100% when it began after WWII!), and yet nobody seriously suggests abolishing it.

Some tricky issues will remain unresolved, however, and might derail UBI implementation unless carefully attended to:

1. Direct (Income) Taxation After UBI
Some have suggested income-taxing from the very first unit earned after and above UBI, preferably in conjunction with a (low) flat tax — the evergreen dream of the political right. This suggestion should be resisted; like the curtailing of social and public services, this would intolerably reduce recipients' actual disposable income, as well as reduce the total amount of tax leviable.

There should be a tax credit/rescission extending quite some way after UBI (my hunch is: up to the amount of another UBI) to offer maximum incentive to participate, in some way, in economic life. After that, income tax rate should not be flat but instead progressive, and steeply so, both to fund UBI, and also to decrease income inequality. Concurrently, punitive taxation should apply to (very) high incomes, to achieve a further reduction in (material) inequality. This would be merely a reversal to the situation prevailing for two or three decades after WWII in the Global North, where in some countries the highest marginal rate of tax was surprisingly close to 100% (as in the USA!).

2. Indirect Taxation and UBI
The idea of substantially funding UBI, and state expenditures in general, by way of steep levies on consumption, particularly sales and value added taxes (VAT), has proved invidiously popular, especially on the right. This only confirms what is economically acknowledged, and politically ignored: that indirect taxation is highly regressive and favors the wealthier segments of society. In fact, the tweaking of VAT upwards functions as a proxy for unrealizable flat tax on incomes, and should be rejected on the same grounds. Levies on consumption affect people with low incomes much more than they burden the rich, whose larger outlays in investments, savings etc. are taxed less if at all. High levels of indirect taxation hence inevitably cancel out some of the desired income effects of UBI, even though high demerit taxes on environmentally or otherwise socially objectionable elements of consumption should be admissible.

3. (Social) Benefits After UBI, and the Scourge of the 'Poverty Trap'
We have already argued that a curtailment of social benefits after UBI is a total no-go. However, maintaining them as they are administered in many jurisdictions is also a dead-end. Under the current dispensation, benefit recipients are gradually weaned off them as their income increase. Unfortunately, this 'decrement by increment' policy results in practice in a tax on the additional income approaching 100% — sometimes even exceeding it — something that would of course be utterly unacceptable if it hit wealthier citizens. This state of affairs now constitutes a potent disincentive to accept any form of work not very highly paid, and that would not change under a UBI regime. Hence, phasing out of income supporting subsidies, while acceptable in itself, should be done very gradually like slabs in a progressive income tax, and so not result in an unfair loss of incremental income.

It should be clear by now that UBI demands a new approach to taxation and all its income-related corollaries affecting households. But it should be equally clear that this approach requires caution, lest the appearance of perverse, negative effects. A pragmatic, if politically tricky, approach would simply be shifting away the main burden of taxation from the personal ('households') to the corporate ('firms'), as mentioned earlier. A more radical but preferable approach, in my view, would be to do away with the whole concept of taxation and move towards a single, universal levy on the movement of scriptural money — the money of the rich and the corporates — while leaving cash, and/or its (yet to be developed), electronic stand-ins off the hook. This is undoubtedly heady stuff, which clearly needs further research. But it might be our only way towards a better society in the long run.

The 'Problem' of Funding UBI

The absurdly simple — if difficult to comprehend in a politically productive manner — answer to any 'TINA'-styled objection to UBI merely lies in an elementary modification of the choice of two out of three options made by a government, options which, if taken together, are incompatible.

These options are: (i) maintaining/increasing the standards of living of the national population as a whole; (ii) allowing for the free movement of capital between unequally governed jurisdictions with regard to taxes, labor laws, etc. and (iii) stabilizing monetary values, i.e. the exchange rate of the national units of account against those of other countries.

Under transnational capitalism, fired by a neo-liberal, and now increasingly libertarian, ideology, this choice has systematically favored the last two elements. This at the detriment of the first, even though it embodies the vast majority of the people.

Undoing this choice is a primal condition, yet also an inescapable outcome of introducing UBI on a large scale. It will also have the positive effect of cutting deeply into the rent incomes of the 1%.

Basic or Minimum Income, Disposable Income, and UBI: Welcome to Obfuscation Central

Under our current dispensation the common attribute and trend of all lower incomes, indifferent to whether they are waged or obtained through social benefits, is an ever-diminishing proportion of freely disposable household income left after all necessary, incompressible expenses (e.g. rent, insurances, taxes, etc.) have been paid. This is even the case when the income obtained is itself not declining or even moderately increasing. This is the first thing that needs to be considered, and reverted, before and when implementing UBI. Therefore, a healthy margin of freely disposable income must be ensured for UBI recipients, because it forms a basic requirement to alleviate the feeling of precarity and encourage initiatives.

The question of at which amount UBI should be set is a vexed one. Here opinions vary greatly, and aside from real or perceived funding issues this is caused by confusing UBI with a minimum or 'basic' income. A better point of departure would be a living income (as in 'living wage' demanded by labor unions), ensuring one lives not on the edge of poverty but with dignity. That need not require an extravagant sum, but is surely something significantly above the absolute poverty line. Amounts of CHF 2550 or €1200 a month for a single person in Switzerland and the Netherlands respectively have been suggested, and appear realistic to ensure a decent, if sober, living standard. Conversely, any amount dished out to citizens (a.k.a. 'helicopter money') is welcome and will some way go towards fulfilling the purpose of UBI. But it should not be called UBI.

Finally, it is unavoidable to stress and repeat that UBI should be unconditionally universal. Ridiculing the prospect of zillionaires receiving UBI is damnably disingenuous, since progressive income tax will recoup those monies, and then some. Playing ball with unconditional universality is a blueprint for the kind of red tape and meddlesomeness that has disqualified for good 'nanny state' welfare.

Introducing UBI at a fair level of allowance will largely, if not entirely, eradicate precarity, precarity understood as economic uncertainty and/or vulnerability. After receiving UBI it will remain each individual's responsibility to deploy the necessary initiatives to move up the ladder of material achievement, if so wished.

Poverty, especially relative poverty, will be substantially lessened, although not totally obliterated. At the bottom tier of the social order, UBI payments will ensure a decent, if sober, living standard. At the top of the income and wealth pyramid, steeply progressive taxes should reduce incentives to demand and obtain unbecoming levels of remuneration. Furthermore, outlandish displays of wealth and luxury, which are all too common in our times, will carry, if not moral rejection, then a hefty tariff. Outlandish levels of conspicuous consumption are a powerful social destabilizer, and should be challenged.

Inequality, to conclude, will be partially tackled but certainly not overturned, with the introduction of UBI. One should dare to argue that its elimination does not, and should not, rank very high in the aims of UBI. Social engineering has limits which should be acknowledged and respected, and experience shows that inequality is not much resented if kept within reasonable bounds. Meanwhile, a general 'softening' of society, which one may expect from implementing UBI, should go a long way to flatten the distribution of what former Dutch PM Joop den Uyl famously, if problematically, described as the hallowed trinity of 'knowledge, power, and income'.

References

The ultimate resource on UBI is the BIEN site, for Basic Income Earth Network: http://basicincome.org/.

The Precariat, the social category the most talked about when it comes to UBI has it own singular store of expertise, clustered in one individual: Guy Standing. He is basically a one-man resource to next to everything that needs to known and said about UBI: http://www.guystanding.com/.

ON INTENSIVE SELF-ISSUANCE: ECONOMIC SPACE AGENCY AND THE *SPACE* PLATFORM

ECONOMIC SPACE AGENCY

ON INTENSIVE SELF-ISSUANCE: ECONOMIC SPACE AGENCY AND THE *SPACE* PLATFORM

ECONOMIC SPACE AGENCY

Preamble in the shape of an offering

The power of finance in our hands doesn't need to be just about raising funds or making money. It can be an invitation to risk and speculate together to open up new possibilities and modes of coming together.

For most of us, finance is a predatory and extractive practice that takes more than it gives. But what if at the heart of finance we found a logic of active offering? A ritual offering gesture — the creation of a time interval in the derivative form of a gift[1] — that both opens up and holds open new economic spaces?

Economic Space Agency is crafting a new platform, Space, to take up a unique economic, ethical, aesthetical and political challenge: reinventing finance as a collective practice of crafting futures and rethinking value at the end of the economy as we know it.

For we are always already at stake with each other, partnered all the way down. Inhabitants of the world, earthlings and earthbounds, creatures of all kinds, human and non-human, we are entangled in a series of interlaced trails and creative feedback loops, holding open life for one another. In the economic spaces to come — the world we want — everyone holds pieces of each other's life, socially and financially. We are entre-preneurs and entre-donneurs — inter-holders and inter-givers — networked together to collectively distribute the risks and opportunities of living.

From *Robin Hood Asset Management* to *Economic Space Agency*

Back in the day we were a group of hard core researchers of the coming forms of economy and organization. We knew that it would not be a picnic when we started using thinkers from the French post-structuralist tradition like Michel Foucault, Jacques Derrida, Gilles Deleuze, Felix Guattari, and the then Italian autonomist writers, Toni Negri, Christian Marazzi, Paolo Virno, Maurizio Lazzarato, Franco Berardi,

1 The Wealth of Societies project has developed a compelling reading of the derivative form as gift. Instead of rehearsing the usual critique about the extent to which markets are colonizing our lives and institutions, they instead wonder if derivative finance offers anything new to the old debate over what money can or can't buy. Their answer articulates as a multi-faceted inquiry about how the gift economy foreshadows contemporary derivative form: 'The gift and the derivative share the property that both take the volatilities and uncertainties of social life and transform them into manageable risks by equating things that are different. […] It is the play of the interval (unlike stocks, options have expiration dates) that produces the wealth that derivatives are capable of producing (what's known technically as "convexity"). Gift exchanges take different inherently risky "social flows" and commensurate them via ritualized performances. The interval of time between gift and countergift produces the "social convexity" that creates wealth in the form of new social claims and obligations.' Benjamin Lee and Randy Martin (eds), *Derivatives and the Wealth of Societies,* Chicago, IL: The University of Chicago Press, 2016, p.2.

and others to study and understand economy, finance and organization. But we knew that this was the way to do it if we were to really grasp how post-Fordist economy, semiocapitalism, immaterial and affective labor, and the financial technologies work and intertwine with our destiny.

With these thinkers, we were able to discern a couple of interesting things:

- how signs and meanings are part of real production and not only some kind of ideology or superstructure of production;
- how the dynamic of the production of value lies in the coming together of heterogeneous forces, and not only in the relationship between capital and labor;
- how information overflow and semiotic inflation lead to imitation;
- how finance can curb time, how it is essentially a technology to affect the future from the present;
- how economy is essentially about organization, not of action but its potentiality;
- how the meaning of autonomy is in internal displacements, shiftings, iterations, settlings and dissolutions that are the processes of the self-composition; autonomy means to be able to set the attractors of one's own behavior.

The paradoxes of immaterial production and precarious work, and the blurring of the boundaries between economy and politics, disrupt the approaches and distinctions of industrial economy and its institutions. We think that the common ground of art and politics is in the collapse of old forms of society, economy and subjectivity and in the creation of these new forms. This is where they meet, and this is where we find ourselves in work. We need to start creating new concepts and imagining new social and financial forms.

What can these new forms be today? How can they be created?

Our pilot in hacking finance to create new social and financial forms was Robin Hood Asset Management — a hedge fund with a twist. In fact, three twists. First, it is a cooperative. Individuals who buy shares become members and decide how the coop is run. One member, one vote. Second, part of the profit generated by the fund is invested into projects building the commons. Third, the money put into the fund is managed by an algorithm called 'the Parasite'. She logs into the brains of the bankers at Wall Street, deconstructs them into databanks, and uses big data analysis and structured finance to share their most important means of production to everyone.

The next step takes the logic further: not only stealing from the rich and giving to the poor (like Robin Hood did), but exploring, building new ecologies, new ecosystems, new universes, new possibilities, new worlds of value. For this purpose the Robin Hood hydra grew a new head: a start-up company called Economic Space Agency (ECSA). Here is what we propose to remake the DNA of the economy as we know it.

The *Space* Platform: Toward Programmable and Non-Linear Economic Spaces
This is a historic moment. Following the emergence of blockchain and decentralized digital technology, social, economic and financial forms are becoming for the first time integrally programmable.

The Space platform initiated by Economic Space Agency is an open, collaborative smart contract ecosystem based on the fourth generation (post)blockchain technology, Gravity.[2] The Space platform enables the creation of fully modular and interoperable *economic spaces*. Economic spaces are protocols of economic, financial and social interaction, of value and risk creation, of sharing and distribution of resources. They are self-governed, peer-to-peer programmable organizations that can operate together in an emergent network, formed dynamically through the relations they establish between each other. Rather than conceiving one totalizing economy, Space envisions the interoperation of a plurality of micro-economies, each with its own governance model, value creation logic and capacity for tokenized self-issuance. These micro-economies will be structurally interoperable to the extent they desire, and they will be able to utilize the structures created by others as a basis of their own operations.

The Space platform responds to the necessity of envisaging and concretizing emergent and non-linear ways of coming together. These new modes of event-based collective self-organization are better attuned to the value creation processes that are already happening in our midst and to which our current economic system is mostly blind. The limitedness of the current monetary and economic system does not provide an adequate metric to assess all other kinds of values that do not fit economic quantification and outcome-based evaluation models — such as psychological, social, aesthetic, and ecologic 'profitability', flattening the heterogeneity of collective initiatives and neutralizing their potential to generate and distribute values in our milieus.

Every digital platform, from goliaths like Facebook to the fringest of forums, creates a space of encounter and gathering generating values of different types. We use the term economic space to designate the immaterial and material system of coordinates and attractors that gives shape to how people create and interact with resources, assets, values and their different modes of expression and representation. We conceive of these economic spaces as non-Euclidean. The term may sound strange or even extravagant, but *non-Euclidean economic space* has a specific meaning. A Euclidean economic space is defined by the competition of economic agents over scarce resources. The individual agents are deemed to have clear and persistent boundaries, and relate to each other via linear transactions. In a Euclidean economic space, something pre-produced is divided. This is the space the politicians and economic experts talk about when they say there is no alternative to the current economic system and ask us to blindly abide to austere monetary policies.

In contrast, non-Euclidean economic spaces move beyond the imaginary of limitations, austerity, scarcity and powerlessness, foregrounding a continuous unfolding of possibilities, options, connections and creativity. When resources and affordances get shared on a distributed platform, they become *nomadic* and start to mutate. Non-Euclidean economic spaces call for a non-linear distribution where nothing pertains or belongs only to one person, but all persons are arrayed here and there in such a manner as to make possible a greater range of interactions. Nomadic economic spaces are the associated milieu of the networked tribes of the 21st century. They are the

2 For more detailed information about both Space and Gravity, check the respective White papers on our website: www.economicspace.agency.

spaces of continuous innovation and metamorphosis. Think of them as n-dimensional programmable and vibratory organizations that allow for the creation and circulation of new types of value. *Econauts* will navigate these financial and futurial borderspaces that are not hard and bounded — liminal spaces that allow you to fold yourself within and without.

The general purpose of the Space platform consists in *open sourcing finance*: to become an easily usable launch pad for rapid creation, deployment, sharing, customizing, copying and remixing of modular, interoperable and self-governing economic spaces. The platform enables communities and individuals to make their own offers, issue their own programmable tokens and set their own value systems. As such, the design of economic space becomes a means of collective self-expression; that is: an occasion to enunciate and manifest *financial values that escape the disfiguring market logic of generalized equivalence*. Through the platform's template approach, users have access to flexible tools to invent and construct new (or simply reproduce existing) modes of organization to leverage the unrealized value of socially networked production.

Currently, every process of value creation is forced to plug into an exploitative monoeconomy[3] core system that flattens out all other forms of value. The resulting financialization of the social has fostered spiraling indebtedness, the decreasing price of labor, and erosion of the welfare state. Yet, from households to cities, from software to trade, the work and very being of people are what back the underlying value of finance. Simultaneous to this unrecognized backing, we are tethered to the instruments of finance to access new value.

We are only seeing the beginning of an intensive and multi-faceted process of decentralization and redefinition of socio-financial relations towards greater multiplicity and autonomy. One way of critically engaging with this nomadic re-engineering of finance is to envisage it as an expressive medium. In essence, finance is not primarily about money: it is a mode of coordinating the future and its emerging possibilities through the collective design of attractors and the distribution of flows of desire. Finance thus appears as the opening of a shared temporal interval in which new things can happen by risking and speculating together.

Finance concerns the capacity to bring future potential into the present through monetization, enabling future investments in the present by making them liquid. The possibility for financial actors to manufacture financial instruments out of debt and equity, thereby impacting volatility and liquidity in markets, has become a political weapon to orient and organize the masses. In response, Economic Space Agency makes it possible to approach finance with a hacker attitude and a poetics of experimentation.

This is our wager: we want everyone to be able to harness the power of finance as a technology for coordinating and sharing the future in which we want to live.

---

3 We use 'monoeconomy' in analogy with the term monoculture (monocropping etc.), in which one species (out of a whole spectrum of possible species) dominates the ecosystem, and not in the precise technical sense the term monoeconomy is used in development economics. 'Monotheistic economy' might be another term, connoting the theistic elements discernible in current economic dogma.

Short Technical Overview

The Hyper Text Transfer Protocol (HTTP) that defines how information is transmitted over the web is 'stateless' and it needed a data layer on top of it for any application functionality. This data layer was provided by the winners of yesterday: Google/search, Facebook/social, eBay/commerce. It allowed them to capture the data and the value and drove the centralization of the web.

Bitcoin introduced blockchain technology and cryptocurrency to the world, creating a decentralized network of trust optimized for resiliency, verifiability and anonymity. Blockchain allows data to be maintained in a decentralized way, thus challenging value capture models based on centralized control. Ethereum then built upon the consensus-based decentralized architecture of Bitcoin, adding a Turing complete scripting language with which to build applications. P2P crypto-currencies, smart contracts and second-generation blockchain tokens are introducing new ways of coordinating vast networks, as well as new ownership models based on mutual stakeholding in the protocol layer.

While crowdfunding and P2P lending are the first steps toward the disintermediation and personalization of financial relations, the next phase in technological and financial development must involve the possibility for everyone to gain concrete access to the design of their own economic agency. As a truly distributed smart contract ecosystem that enables a new way of designing and powering event-based and other forms of programmable organizations, the Gravity + Space platforms are overcoming the limitations of logically centralized blockchains such as Bitcoin and Ethereum. Both of these models are fundamentally based on the same computing platform: a shared distributed ledger in case of Bitcoin, and a shared world computer in the case of Ethereum, run by every node on the network, processing every line of application code run by every application in the system. This replication has tremendous benefits in terms of transparency and fault tolerance. However, the World Computer architecture introduces redundancies and limitations that are inconvenient and inefficient for many applications. Smart contract-based applications have become varied enough so as to benefit from more flexibility than the World Computer architecture typically offers.

Instead of a World Computer implementation, Gravity offers a platform for building interoperating networks of decentralized computers — a World Computing Fabric architecture. A World Computing Fabric is a modular, object capability-oriented architecture for building resilient, verifiable networks of virtual machines. This enables a new approach for creating systems and protocols for the digital economy made of natively scalable, interoperable smart contract and smart organization networks. Gravity is smart contracts and smart organizations unchained.

Beyond Extractive Finance: Toward Mutual Stakeholding

While financial institutions and corporations are seeking to take advantage of blockchain affordances, they merely reproduce old familiar models and logics on these emerging technologies. But the new smart contract platforms have not yet been irretrievably colonized by existing financial interests. We have a small (and closing) temporal window to create something else. As the history of the Internet shows, the early adopters will play a profound role in shaping the sense and direction of the novel, emergent economic and organizational forms that might, one day, be as commonplace as social media today.

The current financial system is essentially based on relations of debt and equity — the former concentrated in the hands of the many and the latter controlled by the elite few. The increasing supply of government bonds (safe means for capital preservation) is possible only through deficit cuts and excluding all inflationary spending. Presently, expansion in the forms of indebtedness is the condition for capital accumulation, just like the growth of labor force participation was for expanding commodity production.

ECSA wants to change this state of affairs by promoting relations of equity between the different economic spaces. By doing so, ECSA conceives of the economic spaces built on top of its platform as partners, rather than subjecting them to the extractive relations that characterize the contemporary financial paradigm. Equity acts as the horizontalizing force through which all econauts have access to, share in, and harvest the derivative value made available through the interoperability of heterogeneous abstract metrics. By offering the possibility to participate (i.e. have actual stakes) in occasions for financialization through equity relations, ECSA enables the collective steering of financial dynamics and mechanisms for the purpose of collective redistribution and the overspilling of heterogeneous values. It does so by concretely giving econauts the ability to issue their own offers, organizations and tokens (and other kind of instruments) — that is, providing the capacity to index those values they want to share and sustain according to metrics they determine. This unprecedented move furnishes liquidity to the social and relational insensible production of value, and allows for the circulation/distribution of that liquidity in an ecosystem that collectively acknowledges those values — for the collective livelihood of that ecosystem.

By activating our mutual stakeholding with equity relations, we offer people production power, finance's future-wielding capacity, rather than merely empty consumption power. As a technology for the de-differentiation of risk and value flows, synthetic finance becomes a powerful instrument for the dynamical creation and distribution of common equity, as the lifeblood circulating through and interconnecting the ECSA ecosystem.

Following a crucial insight developed by Randy Martin and further extended by the Volatility Group, we think of the financial derivative as a technology to amplify the power of autonomous organizations, once it is used in the context of self-created economic space and made accessible through easy user interfaces and ready-made templates. These financial instruments organize — weave together, distribute, branch — economic flows, and thereby create new modes of relation — modes which were previously unavailable, impossible, or even nonexistent. By operating the instruments of synthetic finance, one gets to arrange the attractors of one's own behavior, to shape the rhythms and patterns of the economic spacetime where behaviour expresses itself. With the Space platform, it becomes possible to express 'the way we are social with each other', the mutual indebtedness and collective stakeholding that compose our common wealth.[4]

4 'Such would be the political promise of a politics for derivatives, namely that it treated the immanent mutual indebtedness of populations as a means for them to gather and enact what the social could mean and embody. [...] recognizing the world crafted through the operations of the derivatives leads toward the entangled constitution of mutual indebtedness, of the ways that we are social together, even if we never fuse as one.' Randy Martin, 'From the Critique of Political Economy to the Critique of Finance', in Benjamin Lee & Randy Martin (eds), *Derivatives and the Wealth of Societies*, p. 190.

ECSA wishes to provide a new array of financial tools to those of us who are not bankers, traders or state-actors, such that a new generation of non-exploitative financial arrangements may emerge. With the Space platform, you will be able to leverage the power of finance — the power of risking and speculating together — allowing participation in a multi-dimensional ecosystem of economic spaces relying on equity relations and all sorts of optionalities. The time has come for people to take finance back into their own hands so as to make a claim on the enormous amount of wealth surrounding us. In the end, ECSA is committed to supporting a collective shift from finance as a technology of capital, based in debt and primitive accumulation, to finance as a form of production of new kinds of equity relations and commonfare production.

Responding to the financialization of the social, the inherent flaws of the sharing economy, the tendency toward the automation of work, and the limitations of current blockchain solutions, ECSA's mission is to provide an open yet safe platform for the interoperability of heterogeneous value and risk systems and the scalability of token-based economies to create new social, economic and financial relations. Just as the internet fundamentally changed communication by transforming the role of author, publisher, photographer, and media maker, ECSA will transform finance, potentially enabling hundreds of millions of people to author economic spaces and control their financial relations.

In sum, ECSA’s Gravity + Space platform offers:

1. an operating system for the crypto-economy based on World Computing Fabric;
2. modular, copy-able, interoperable tools for the design of new economic spaces;
3. a repository of smart programmable organization templates;
4. a unique occasion to unleash the power of collaborative finance.

We Don’t Know Yet What a Token Can Do: Notes on Intensive Self-Issuance

The Re-Engineering of Money

Money isn’t simply something that serves as an intermediary for exchanges: it informs the very way we come together as large-scale collectivities. The complexity of financial instruments (money-forms) has developed to hedge the risk of interdependence: gold, paper, systems of account, debt, credit, stocks, options, derivatives all indicate an advancing complexity in the functionality of quantitative metrics. Money is, for all practical purposes, the medium for social synthesis in capitalist commodified societies. It is the elementary technology for psycho-collective individuation in the techno-social and economic ensemble known as capitalism. Therefore, we need to conceive of money as a technical object of social design, that is, something that can and needs to be re-engineered to serve our collective aspirations.

The invention of Bitcoin urged us to rethink fundamental assumptions about the functional organization of the contemporary monetary architecture and its impact on the operative logic of finance. Bitcoin and subsequent alt-coins remind us that money is not a natural given, but an artificial medium — precisely, a technology. This doesn’t mean that money is simply ‘arbitrary’; it is rather a real abstraction that has developed in complexity with the increasing complexity of society. As such, we should start taking control of its constitution, design, and functioning for our own communities of exchange, instead of letting it be designed by and for the wealthy.

The excitement around blockchain is an excitement around a new means of encryption that takes one huge step towards the democratization of finance through techniques of decentralization. Hold a dollar and you have no idea of its history or of the history of its production. Beyond your immediate moment, you don't know who sweated for that dollar, or for that matter, who died for it. Money has always been a kind of encryption process, but the code and thus the controls have been hidden away — sequestered in the hands of the most powerful: central banks, financiers and their militaries and states. With the domination imposed by imperial finance ordinary people were incapable of engineering their own financial spaces or of proposing the rules of their own systems of valuation in the financial register.

Today's extractive logic of finance is intimately linked to monetization as the mechanism by which social, cultural, economic, ecologic values are rendered commensurable with each other, flattening heterogeneous values-in-formation onto the only unit of account we know of (so far) — fiat money — according to the principle of scarcity embedded in it. In contrast, the Space platform offers the opportunity to any individual or collective to issue fully programmable tokens and organizations. These crypto-based tokens and organizations allow anyone to design metrics of value that will function as attractors around which to orient the creation of their own economic spaces or economic constellation. Self-issuance signifies that any agent can issue value, proposing it to other agents — its valuation is therefore a general question for the society at large and a practical question for each individual agent, whenever they face an offer for it.

In current finance, value masquerades as objective, actively suppressing the highly protean emergence of value and the variegated forms it takes. But valuation, we argue, is ultimately a matter of collective expression. Instead of imposing a uniform system of value upon us, like fiat currencies enforce, ECSA's key goal is to create a platform for rendering the rich, heterogeneous multiverse of values socially and financially liquid. Ultimately, ECSA envisages self-issued tokens not just as currency or equity, but also as speculative prions that begin to propagate new forms of exchange and new decentralized organizational models.

Anarchiving Finance?
Let's venture one step further into what the collectively expressed multiverse of values could entail. One of the challenges we have been facing concerns the economic imperative of conservation-through-exchange, that is, the function of money as store of value. Schematically put, the problem with the traditional economic form of exchange is two-fold. On the objective end, the capitalist form of exchange obviously enables a deleterious logic of infinite accumulation. It conditions the flattening regime of generalized equivalence and the thoroughgoing quantification of our life-world. On the subjective end, it creates a practical solipsism that engenders the reciprocal exclusion of ownership. Social value is always intimated at some level, but it is muted by the store-value capacity of money which establishes and re-establishes the individual with every transaction. The economical subject of interest is essentially a conservative subject: it is a terminal at the end of the economy stuck within a proprietary subjective form.

The key question at the core of new economic space design relates to the *anarchiving* of the value stored in the traditional money-form. How do we anarchive the surplus-value of life in order to distribute it anew? From the processual perspective of the anarchive, something always escapes. The notion of the anarchive foregrounds the qualitative eventfulness that exceeds any computational and systemic capture. For example, an economic exchange is never only a binary relation between two pre-existing parties. It is always-also a generative event with its own forward-momentum, a singular space-time created by the encounter of heterogeneous forces at a given moment. What other measures of magnitudes could be used to modulate the dissipation of value throughout the network against the logic of capture and storage inherent in the traditional process of exchange? How do we distribute value so that it is virtually and immediately felt as free-flowing abundance instead of triggering patterns of restrictive accumulation? How do we design a token that does not simply store value but dissipates it throughout the ecosystems through which it circulates? This is fundamentally an ecological problem, one that requires assuming new monetary perspectives folding and unfolding of n-dimensional relationships that distribute value in impersonal, generative ways.

Think of the token as a propositional force, a sparkle of potentiality. It is a multi-dimensional docking port that can germinate new forms of relations and value sharing. The token here is an occurrence, a virtual time-crystal expecting its transductive associated milieu in which to catalyze new relational constellations. It is an instance of value capture, but only insofar as it acts, simultaneously, as, a fugitive relay collectively modulating and amplifying values. Conceiving of tokens as speculative pragmatic relays of anarchic shares is a way of entertaining them as generator of collective effervescence that escapes usual forms of capture and containment.

An intensive and eventful issuance of the kind we are envisioning here needs to interact with other self-issuances in order to express, sustain and appreciate its qualitative value difference in time. As anything truly social and valuable, the propositional force of each token is both joyful and precarious — in a word: *adventuresque*. Self-issuance is about exposure to an outside, but it doesn’t necessarily mean a full-fledged exposure to the ‘great outside’ of the market. Self-issuance can be modulated at will, following the affordances of a given ecosystem and in response to the inter-species web of entanglements in which it is embedded. Finance as an expressive medium commands a logic of implication. The anarchiving power of the self-designed crypto-token, in contrast with the traditional money-form, could look for that which overspills as the necessary condition for what has occurred and may yet occur, through forms of retrospective valuations. In any economic space in-formation, fields of relation are in operation, not just exchanges between individuals. The anarchive is the awareness of the inter-touch concurring with/in an environment spreading ecologically.[5]

To Value or Not to Value? Abstraction Without Extraction

Trotsky, somehow anticipating Hayek, believed that the transition to communism still required a metrics of value. One could not dispense with the notion of ‘abstract universal labor time’ or the money-form prematurely. The emergence of ever more supple forms of computation/communication seems to indicate that it may be possible to abstract and self-capture our (immaterial) production without submitting to exploitation.

5 For further considerations about the anarchiving power of self-issuance, see *Anarchiving finance: A Free Indirect Deck About the Ee-engineering of Money*, a document realized onsite during the SenseLab event ‘Distributing the Insensible: Performing the Anarchive’, Montreal, December 2016. https://www.youtube.com/watch?v=qeClrxHrg98.

Abstraction without extraction: we need to imagine new economic spaces that would preserve the qualitative dimension of our modes of relationality, but could also produce quantified and interoperable value-units; that is, potentially exchangeable with other emergent commons and micro-economies.

Our hope is that if we allow for the construction of economic spaces of open, at will participation that simultaneously produce horizontal wealth, these cooperative commons will interact not only among themselves but with one another, as to ultimately attract all who are exploited into a more nurturing economy — one where the price of entry is not selling your proverbial soul.

Postlude: Félix Guattari Foreseeing ECSA and the Space Platform

> It is less and less legitimate that only a profit-based market should regulate financial and prestige-based rewards for human social activities, for there is a range of other value systems that ought to be considered, including social and aesthetic 'profitability' and the values of desire. Until now, these non-capitalist domains of value have only been regulated by the State; hence, for example, the esteem in which national heritage is held. […] Beyond recognizing a universal basic income — as a right rather than as some kind of 'New Deal' – the question becomes one of how to encourage the organization of individual and collective ventures, and how to direct them towards an ecology of resingularization. […]
>
> What condemns the capitalist value system is that it is characterized by general equivalence, which flattens out all other forms of value, alienating them in its hegemony. On this basis we must if not oppose, at least superimpose instruments of valorization founded on existential productions that cannot be determined simply in terms of abstract labour-time or by an expected capitalist profit. The information and telematic revolutions are supporting new 'stock exchanges' of value and new collective debate, providing opportunities for the most individual, most singular and most dissensual enterprises. […]
>
> It must also be stressed that this promotion of existential values and the values of desire will not present itself as a fully-fledged global alternative. It will result from widespread shifts in current value systems and from the appearance of new poles of valorization.[6] (our emphasis)

References

Guattari, Félix. *The Three Ecologies*, trans. Ian Pindar and Paul Sutton, London: The Athlone Press, 2000 (1989).

Lee, Benjamin, and Randy Martin (Eds). *Derivatives and the Wealth of Societies,* Chicago: The University of Chicago Press, 2016.

Martin, Randy. 'From the Critique of Political Economy to the Critique of Finance', in Benjamin Lee and Randy Martin (Eds), *Derivatives and the Wealth of Societies*, Chicago: The Universty of Chicago Press, 2016.

6 Félix Guattari, *The Three Ecologies*, trans. Ian Pindar and Paul Sutton, London: The Athlone Press, 2000 [1989], pp. 64-66.

COMMONFARE OR THE WELFARE OF THE COMMONWEALTH

GENERAL INTELLECT

COMMONFARE OR THE WELFARE OF THE COMMONWEALTH

GENERAL INTELLECT

In contemporary capitalism, both labor and social policies are indissolubly linked. The separation between labor-time and lifetime disappears with the prevarication of labor. Bio-capitalism[1] abstracts the time of life into a relational commodity. Neoliberal governance ensures all value is drained from whatever potency lingers in the struggle of existence. Any residue of welfare, as has been handed down in Europe by hard fought political gains and for a time upheld by the state, is completely overwhelmed by technics of extraction. Now is the time to update the concept of welfare. It must be adequate to the current situation, respectful of gender, ethnic and educational differences, and it must guarantee the wellbeing of the community; the welfare of commonwealth[2] must replenish life with quality and a right to joy.

The compensative expansion that characterized Fordism, simultaneous growth of wages and profits, has now been exhausted. Today public welfare is perceived as a cost whose funding depends on the fiscal deduction of value produced by the capitalist market economy: a deduction that jeopardizes market competitiveness. In this logic, public welfare is no longer affordable.

With the spread of neoliberal policies, welfare institutions are increasingly 'capitalizing'. Above all, they become directly manageable by the private market hierarchy. Keynesian public welfare, no longer governable with the constraints imposed on the public budget, is gradually replaced by an exclusionary form of workfare. Workfare is a not a welfare system: it is guaranteed only to those who have the financial means to pay for it (such as private pension). It is a self-financed welfare system, as in most of today's European retirement system, comparable to the privatization policy of health and education. Therefore, workfare is complementary to the so-called 'principle of subsidiary' according to which a state may take action only if, and in so far as, the objectives cannot be satisfactorily achieved in a private way.

The concept of social re/production is paradigmatic of cognitive bio-capitalism. It includes the main novelties of the accumulation and valorization paradigm, by considering a wide range of activities, from care, health, education to knowledge and culture.

1 Bio-capitalism (or bio-cognitive capitalism) is defined as an accumulation and valorization process based on the exploitation of knowledge and the commodification of life. Learning and network processes are at the core of value creation, as well the different daily acts of life, more and more inserted in a productive cycle, often without being aware of that (e.g. education, consumption, leisure time, care, and so on).

2 The term commonwealth, as used in this text, refers to its original meaning of 'wealth of the common'. In its etymological origin, commonwealth means the wealth created more by the common (the human capacity to share relations, skills, experiences, attention, etc. inside a social cooperation) then by common goods (the governance of tangible and intangible goods which are the basis of human existence and survive).

With social re/production we mean the complex of interactions and exchanges that are generated, in life, within the social environment. The content and the form of social reproduction, more clearly than in the past, deals with the material body, processed by bio-capitalism, and is inextricably linked to the time and the needs of life.[3]

Welfare institutions today have become directly productive activities (as opposed to supportive reproductive activities). The share of capital understood as supportive of immaterial wealth (R&D, education, training and health) has exceeded the share of material capital as once accumulated in the traditional spaces such as factories and offices. This became visible in the beginning of the 80s in the US, and later in Europe.

Nowadays, financial capital has become the determining factor in growth and competitiveness. Material capital tends to turn into human capital (the stock of knowledge, habits, social and personality attributes, including creativity, embodied in the ability to perform labor so as to produce economic value). Thus, welfare, after it has been privatized and financialized, starts to serve inside the accumulation process as the primary productive factor. Market actors substitute states and public actors, resulting in a process of segmentation among the population. As a result, universality has become an empty word.

Traditionally, care work has been considered ancillary to the factory's production work. Now, in contemporary capitalism, it has become a direct source of value, partially waged and partially unpaid.

Given the new phase of bio-capitalism, we propose to direct critical discourse in the following ways:

1. we need to become aware of the forms of direct exploitation of both the human body (organ transplants, surrogacy, …) and the earth, which increases the degree to which the biosphere can be commodified (in part, thanks to innovations in bio-technology);
2. we need to think about the consequences of 'emotional' care and affect as productive labor, an aspect crucial to many professions in the service sector (not only the teacher and the nurse but also the PR and the fashion/TV professional worker);
3. we need to reflect on how social life, induced by cooperative forms of social networks (Facebook, Twitter, YouTube), is also becoming productive labor;
4. we need to think about how water and health have become privatized. Social reproduction is at the same time a collective and individual activity, since it simultaneously deals with individual learning and social relations. Promoting oneself on LinkedIn, using Google and smartphone apps, participating in Duolingo as life-long learning, liking on Facebook... The issue of exploitation of re/production, and the becoming-invisible of domestic labor and care, is the

3. For more details, see Morini Cristina, 'Social Reproduction as a Paradigm of the Common. Reproduction Antagonism, Production Crisis', in O. Augustin, C. Ydesen (eds), *Post-Crisis Perspectives*, Peter Lang, Frankfurt-New York, 2013, pp. 83-98

> contemporary mechanisms of reproduction and production that have dramatically expanded within the horizons voluntary work under neo-liberalism. The expropriation of the value of social reproduction today represents the core of accumulation in a capitalist production context. The governance of social reproduction, outside and beyond the commodified logic of profit accumulation, is the core of what the commonfare project addresses.[4]

The transformation of the labor market over the past two decades in Europe has made increasingly urgent the need to redefine welfare policies. Therefore, it is necessary to introduce a new idea of welfare, what we call the commonfare (welfare of the commonwealth). Through the commonfare concept we will be able to deal with two elements that characterize the current phase of bio-cognitive capitalism, especially in so-called Western countries:

- precarity and the debt condition as dispositive of social control and dominance;
- the generation of wealth that arises from social reproduction, cooperation and general intellect.[5]

Labor is becoming more fragmented, not only from a legal point of view, but more commonly from the qualitative and subjective point of view. There is a growing multitude of atypical and precarious para-subordinate and autonomous workers. The primacy of individual over collective bargaining empties the capacity for trade unions to represent in the traditional way. Furthermore, in times of crisis, the pre-

4 The concept of commonfare originates from a debate in Italy during the struggle against precarious conditions. The first time the claim for commonfare appeared in a political document was in Mayday Network Milano, 'Charter of knowledge-workers rights', *European Institute for Progressive Cultural Policies*, May 2009, http://eipcp.net/n/124117049. From a theoretical point, as stated by Tiziana Terranova, Carlo Vercellone, and Andrea Fumagalli, see Tiziana Terranova, 'Red Stack Attack! Algorithms, Capital and the Automation of the Common', *Effimera,* 12 February 2014, http://effimera.org/red-stack-attack-algorithms-capital-and-the-automation-of-the-common-di-tiziana-terranova/; Andrea Fumagalli, 'Trasformazione del Lavoro e Trasformazioni del Welfare: Precarietà e Welfare del Comune (Commonfare) in Europa', in Paolo Leon, Riccardo Realfonso (eds), *L'Economia della precarietà*, Roma: Manifestolibri, 2008, pp. 159-174; Andrea Fumagalli, 'Commonfare: Per la Riappropriazione del Libero Accesso ai Beni Comuni', *Doppio Zero,* 14 January 2014, http://www.doppiozero.com/materiali/quinto-stato/commonfare; Carlo Vercellone, *Il comune come modo di produzione*, Ombre Corte: Verona, 2017.

5 General intellect is a term that originates from Karl Marx. In his *Grundrisse*, *General intellect* represents a crucial force of production, as a combination of technological expertise and social intellect, or general social knowledge: 'Nature builds no machines, no locomotives, railways, electric telegraphs, self-acting mules etc. These are products of human industry; natural material transformed into organs of the human will over nature, or of human participation in nature. They are organs of the human brain, created by the human hand; the power of knowledge, objectified. The development of fixed capital indicates to what degree general social knowledge has become a direct force of production, and to what degree, hence, the conditions of the process of social life itself have come under the control of the *general intellect* and been transformed in accordance with it; to what degree the powers of social production have been produced, not only in the form of knowledge, but also as immediate organs of social practice, of the real life process' (Karl Marx, *The Grundrisse: Notebook VII*, 1858, https://www.marxists.org/archive/marx/works/1857/grundrisse/ch14.htm). See also: Carlo Vercellone, 'From Formal Subsumption to General Intellect: Elements for a Marxist Reading of the Thesis of Cognitive Capitalism', *Historical Materialism,* 15.1 (2007): 13–36.

carious condition is strengthened by the increasing of the debt condition, in a vicious circle. The result is the 'precarity trap', which nowadays tends to substitute the 'poverty trap'.

As we stated before, the production of wealth is no longer based solely on material production. The existence of learning economies (which generate knowledge) and network economies (which allow its diffusion, at different levels) now represent the key variables that are at the origin of the increases in productivity: a productivity that comes from the exploitation of both common goods and the commonwealth, arising from the social cooperation of humans (such as in education, health, knowledge, space, social relations, etc).

A redefinition of welfare policy should be able to respond to the unstable trade-off inside the accumulation process of bio-cognitive capitalism: the negative relationship between precarity and social cooperation under platform capitalism (such as Peerby, Airbnb etc.). It is necessary to remunerate social cooperation, from one side, and favor forms of social production, from the other.

Our commonfare proposal is based on four pillars:

First Pillar: Unconditional Basic Income
Basic income should be available for everyone who lives in the territory, regardless of his/her professional and civil status, and should begin with the people under the relative poverty threshold. Basic income should be understood as a kind of monetary compensation (remuneration) of social productivity and of productive time which is not certified by the existing labor contracts. It occurs at the primary level of income distribution (it's a primary income), hence it cannot be considered merely as a welfare intervention, according both to workfare and Keynesian logic. This measure must be accompanied by the introduction of a minimum wage both for employees and freelancers, in order to avoid a substitution effect (dumping) between basic income and the same wages in favor of firms and to the detriment of the employees. Basic income together with minimum wage makes possible an expansion of the range of choices in the labor market, i.e. to refuse a 'bad' job and then modify the same labor conditions. The unconditional possibility of the refusal of labor opens up perspectives of liberation that go far beyond the simple distributive measure. Minimum wage for freelancers should be introduced. The group of people doing freelance work is increasing rapidly. For these people it is hard, if not impossible to join a union to fight for their rights. Individual bargaining leads often to too low wages for freelancers, which in their place will lead to reduced wages for employees.

Conversely, traditional welfare is based on the fact that people get back to work regardless of the uselessness of the task performed. 'Getting back on the horse' (of work) by doing obsolete or superfluous work seems more important than staying at home and maintaining the family. This is despite the fact that a well-cared for family reduces (future) costs of criminality, healthcare and poverty support, due to more space for education and upbringing, more so than the current costs of poverty support. The state of care has become a state of control. The fear of the state that people will stop working when receiving an unconditional basic income is partly well founded in the sense that people will stop doing unnecessary and meaningless jobs. Instead, many will get more education, before returning to do meaningful work. Others will spend (part of their) time doing social work or other highly underrated, often voluntary, work such as care for the elderly or needy.

Second Pillar: Managing Both Common Goods and Commonwealth

The idea of commonfare implies, as a prerequisite, the social re-appropriation of the gains arising from the exploitation of common goods that are the basis of accumulation today. This re-appropriation does not necessarily lead to the transition from private to public ownership. As far as basic services such as health care, education or mobility are concerned, the goal is to install public management of the use-value supply in order to protect it against any attempt of commodification and extraction.

But if we refer to the commonwealth, the framework is different, since the fruits of social cooperation and general intellect are neither private nor public goods. The only way to manage the commonwealth is through self-organization, by imagining a different régime of valorization.

Concerning common goods, the proposal of commonfare entails that:

- as far as the cognitive commonwealth (general intellect) is concerned, it is able to reduce intellectual property rights and patent laws in favor of greater freedom of the circulation of knowledge and the ability to acquire free information infrastructures; simultaneously, it should dismantle all social and monetary barriers to a free, autonomous and universal education (access to immaterial common goods);
- as far as social re-production is concerned, it is able to provide free basic conditions of health, housing, mobility, transport and sociality, by improving good practices to experiment in new forms of self-organized welfare from below (access to the self-organization of life);
- it is able to be free from the hierarchy imposed by economic oligarchy, commodities and utilities. Over the past 20 years, these have been subject to extensive privatization as a consequence of the Cardiff process[6] on the regulation of the market for goods and services (access to material common goods);
- it is able to provide institutions of the common, at the local level, regarding essential goods such as water, energy, housing stock, and environmental sustainability, through forms of 'municipalism' from below (democratic principle).

Third Pillar: Alternative Sharing Economy

We need to offer accessible alternatives against the negative externalities of the capitalist sharing economy, which include: (1) the generation of relations between users as the cornerstone of digital sharing platforms, and (2) the ownership of whatever physical asset is being shared. The second point even has scarier implications than the first if we start to imagine a full-fledged capitalist sharing economy. This

6 The Cardiff process is a reference to the 1996 European Treaty about the liberalization of public utilities inside the European Union in order to ease the constitution of Monetary European Union.

would be an economy in which 'everything is shared and nothing is owned'. This is already a nerd dream in which there is a hope for 'sharing power tools'. What a poor, nurtured dream! We can do better than that and instead really need to open our collective imaginaries.

Fourth Pillar: Commoncoin

Commonfare presupposes autonomy and independence, so it requires the activation of processes of self-organization or self-governance. The development and implementation of good practices requires a test-bed of experimentation and is therefore not always productive. To this end, it is essential to ensure full economic sustainability in order to avoid subsidence processes. From this point of view, commonfare presupposes its own self-capitalization in the direction of growing and widespread alternative productions, aimed at producing use-value instead of exchange-value. It follows that commonfare can be financially autonomous only if it is placed within a monetary circuit which is in turn independent from diktat and the imposition of dominant financial conventions.

Commoncoin is therefore the expression of commonfare and defines the framework of its implementation. Commonfare justifies Commoncoin when this currency is functional to an alternative production context based on the production of human beings for human beings. Commoncoin is designed to take care of the relation between bio-political value produced by the singularities composing the multitude and the social relations necessary to produce such value. At the economic and monetary levels, this self-reinforcing process needs then to be organized with the implementation of a set of monetary tools that can help answer the following question: how can the processes that define different redistributive models be automated with digital technologies, starting from a platform made to share bio-political value production by and for the multitude?

Capital is not keen to let the multitude enact the exodus from its yoke. Therefore, the underlying assumption for the creation of a complementary crypto-currency such as Commoncoin emerges from the need to enable the multitude to fight against monetary bio-power in the process of an exodus by weaponizing money itself. In reality, this may happen through bottom-up initiatives that apply critical thinking to crypto-currency design for the common good of the multitude. Hence, if implemented as crypto-currencies on distributed ledgers, the Commoncoin crypto-currency system could be operated at a fraction of the cost of both current public welfare provisions in that disintermediation and transaction costs near to zero would make them more attractive for the bottom-up institutionalization of commonfare. More concretely, Commoncoin is thought of more as a means of exchange to flow in alternative economic circuits than a store of value for ordinary crypto-currencies.

Commonfare, thanks to the growth of the service sector, could favor the spread of alternative forms of production, compatible with environmental constraints, respectful of human nature and above all aimed at valorizing the creative activity of *otium* (leisure) and *opus* (work) against today's dictatorship of labor: a dictatorship based on performance efficiency, productivity for capital, and with the result to destroy any social and natural ties.

Commonfare, therefore, is also adapted to the ecological constraints that emerged after more than 50 years of the Taylorist efficiency regime. This can be done according to two guidelines. The first concerns a 'common' management of environmental goods, subject to scarcity, from air to water, to nature in general (forests, animals, seas, and so forth), from one side, and of social reproduction and human relationships, from the other. The second derives from the implementation of an unconditional basic income which, in the name of the right of choice and self-determination of one's own life, can favor eco-compatible value-generation against production which damages environmental equilibrium.

Commonfare implies an ad hoc economic policy for a better governance of the present phase of what has been termed the 'capitalocene'. Since the dimension of life is the core of the processes of accumulation and exploitation and thus of valorization, welfare conditions are today the elements that condense these issues as a mode of production.

Commonfare intends to overcome the imperative of contemporary pessimism, connected with the current processes of impoverishment and proletarianization of the general intellect, by creating new imaginaries. Its aim is to develop concrete forms of micro-politics able to valorize presence and the capacity of different talents, the richness of human exchanges. It should also be able to adapt, at least partially, production to the needs and desires of the community. The metropolitan and social spaces, the relations between individuals and communities, the engines of valorization and the means of production are already directly in our hands, bodies and minds.

To get out of paralysis, we can already map out an infinity of realities that build 'commonwealth', social cooperation, self-production, inventions on the ground of social reproduction and inclusive exoduses. Such mapping is to begin to imagine the contours of a desirable society.

References

Fumagalli, Andrea. 'Trasformazione del Lavoro e Trasformazioni del Welfare: Precarietà e Welfare del Comune (Commonfare) in Europa', in Paolo Leon, Riccardo Realfonso (eds), *L'Economia della precarietà*, Roma: Manifestolibri, 2008.

_____, 'Commonfare: Per la Riappropriazione del Libero Accesso ai Beni Comuni', *Doppio Zero,* 14 January 2014, http://www.doppiozero.com/materiali/quinto-stato/commonfare.

Marx, Karl. *The Grundrisse: Notebook VII*, 1858, https://www.marxists.org/archive/marx/works/1857/grundrisse/ch14.htm.

Mayday Network Milano. 'Charter of knowledge-workers rights', *European Institute for Progressive Cultural Policies*, May 2009, http://eipcp.net/n/124117049.

Terranova, Tiziana. 'Red Stack Attack! Algorithms, Capital and the Automation of the Common', *Effimera,* 12 February 2014, http://effimera.org/red-stack-attack-algorithms-capital-and-the-automation-of-the-common-di-tiziana-terranova/.

Vercellone, Carlo. 'From Formal Subsumption to General Intellect: Elements for a Marxist Reading of the Thesis of Cognitive Capitalism', *Historical Materialism,* 15.1 (2007).

_____. *Il comune come modo di produzione*, Ombre Corte: Verona, 2017.

APPENDICES

10 BITCOIN MYTHS

EDUARD DE JONG, GEERT LOVINK
AND PATRICE RIEMENS

Amsterdam, November 2015

Pigs will fly, but not in the next 100 million years.
—Johan Sjerpstra

1. 'Bitcoin is a Peer-to-Peer System.'
In order to transfer value from one Bitcoin account to another, the owner of bitcoins uses the services of a collective of operators known as 'miners' who validate the transaction on the Bitcoin distributed database also known as 'the ledger.' The relationship between these operators and an individual user, i.e. owner of bitcoins, is hence one between merchants and customer and not one of equals. Only miners are, and then only operationally speaking, peers, since they all perform the same software program. However, they are also, and mostly, in competition which each other because they need revenue to pay for the equipment they operate. Also, any time an update to the database is made, only a single miner is actually adding the transaction records with Bitcoin value transfers to the ledger, and gets the financial rewards for doing this. In this way, the incentive for miners to support each other is limited, and one cannot speak of a peer-to-peer relationship in the traditional sense.

Over the time Bitcoin has been operational the inherent hierarchical relation between miners and users has become more pronounced by an ever rising technical and financial barrier to becoming a miner. Investments and operating costs of the necessary equipment rise in tandem with the continuously increasing difficulty of adding a new record to the database that is built into the Bitcoin protocol.

Conclusion: Bitcoin is not a peer-to-peer system, but an online merchant-customer transaction market place.

2. 'Bitcoin does Away with Intermediaries and Fees.'
To make a payment using bitcoins a Bitcoin user needs a 'Bitcoin exchange' and these exchanges charge a fee. The sole exception is if the user is a data base operator (a.k.a miner), having aggregated some bitcoins by mining and exclusively pays other users who have decided to accept and keep bitcoins.

There is an other intermediary in Bitcoin, the operators of the distributed data base, the Bitcoin miners. A miner also needs to charge for its labor and expenses. For the time being, a miner is rewarded with newly created bitcoins, that is why updating the database is called 'mining'. By design, the available amount of bitcoins that can be mined is restricted, and it is expected to be exhausted somewhere around 2040. After exhausting the lode miners can only earn money by explicitly charging a fee.

Conclusion: De-facto, Bitcoin users need to engage services of intermediaries and do pay fees for their transactions.

3. 'Bitcoin is an Alternative Currency.'
An alternative currency, by definition, is designed to _entirely_ displace and replace existing currencies. Complementary currencies intend to _partially_ displace and replace existing currencies, usually in a local setting.

By design, Bitcoin is an alternative currency. Real world observation however, shows that most transactions in bitcoins translate, either at the point of purchase, or at the point of sale, in transactions in existing currencies. Only miners can create bitcoins, non-miners need to acquire them, usually by way of purchase.

In practices Bitcoin transactions are often intended to avoid high transfer fees or bypass local restrictions in making international payments. In such cases, bitcoins are purchased, swiftly change hands, and are just as fast converted again in another currency. In this 'cash-in cash-out' scheme Bitcoin operates then as a facilitator in the circulation of existing currencies and not as a replacement of these. Cash-in cash-out has been shown the most common mode of operation in bitcoins. A Bitcoin transaction can also be speculative in purpose, to hoard bitcoins expecting a raise in their value. In this case Bitcoin can be considered an alternative to other currencies, comparable to a speculative investment in dollars or in commodities, like iron ore, gold or grain.

Conclusion: Bitcoin does not actually operate as an alternative currency.

4. 'Bitcoin is Not a Fiat Currency.'
In practice, acceptance of Bitcoin payments takes place before the (irrevocable) recording of the transaction in the distributed database. That is, without formal confirmation of its validity. Apparently, the parties involved in payments in bitcoins _believe_ in their eventual recording. The payee therefore trusts the _eventual_ availability of received funds.

This looks distinctly similar to the way traditional instruments of payments, such as coins, banknotes and bank transfers, operate. The users trust, based on experience and social convention, the correct operation of the system such that received funds are available for further spending. This 'systemic trust' in traditional, fiat, currency is underpinned by a mix of technical features such as hard to copy bank notes, fraud detection software in financial institutions and government imposed and enforced regulations.

Conclusion: Where in practice the 'systemic trust' in Bitcoin is no different from that of traditional currencies, Bitcoin operates _de facto_ as a fiat currency.

5. 'Bitcoin is Anonymous.'
The central database with transactions in bitcoins is publicly accessible. This is an essential Bitcoin design property to, at least in theory, allow any party to participate as processing node (miner) in order to get involved in updating the distributed database. The parties in a transaction are identified by unique numbers, and a payment transaction is linked through this number to the transaction wherein the spend value was received.

But as most Bitcoin transactions effectively constitute a payment in traditional currency at one end or the other, or both, they involve well known parties that exchange bitcoins for and against these currencies, the Bitcoin exchanges. Hence, payments in bitcoins can be traced as the value flows between these exchanges. Identification to the humans involved in a payment, e.g. by law enforcement, are therefore _potentially_ possible.

Conclusion: Bitcoin is not an electronic form of cash and does not protect privacy.

6. 'Bitcoin is Secure and Cannot Be Hacked.'

Security for electronic payments has several parts: first to make sure that only the rightful owner can make a payment, secondly to make sure that the intended recipient actually receives the moneys paid and finally that only money can be paid that is actually owned by the payer and hence can not be spend twice.

In the Bitcoin sphere a payer uses a password to initiate a payment from her computer. The password unlocks a private cryptographic key stored on the computer to send cryptographically protected messages to be recorded in the Bitcoin database to make the payment. Yet, computers can be hacked, and a hacker can gain control of the private key and hence initiate a fraudulent payment. A loss of the private key, for instance by a crashed hard disk, does not just lose access to the money, it actually loses all the moneys controlled. Indeed one of the design features of Bitcoin is that payments, once made, cannot be reversed or recalled.

For the ordinary user, this represents a much higher level of risk than in traditional banking, where losing the bank card or PIN does usually not result in losing the whole balance held in the bank account.

On the functional side, the operators of the processing nodes in the distributed implementation of the shared Bitcoin database use a protocol to agree on the next version of the database. This is required to correctly incorporate the payment transactions made since the last update. The software in each of the processing nodes must verify the correctness of the transactions by inspecting previous transactions where the payer has received the value to be spend. Yet, servers can be hacked (e.g. with a virus) and the continued operations can therefore not be guaranteed.

By design, the blockchain protocol does not guarantee that all past transactions remain stored for ever or can be available to each of the processing nodes (miners) for inspection in a fail-safe way. The protocol does also not guarantee that a processing node actually verifies the transactions it records. The blockchain protocol cannot prevent that fraudulent transactions get recorded, and does not provide a way to remove or correct fraudulent transactions.

Conclusion: using Bitcoin is more risky than the traditional payment infrastructure.

7. 'Bitcoin Operates Without Trust.'

Bitcoin literature is adamant that the Bitcoin set-up successfully substitutes 'objective' 'algorithmic' trust for less reliable, because human error and trickery-prone, 'subjective' institutional or political trust.

As described previously, the blockchain protocol used to synchronize updates to the Bitcoin central database (or ledger) does not guarantee the correctness of the updates made. Most processing nodes that update the database, use the same open source implementation, the Bitcoin 'miner' program. This program includes verification of transactions, but transaction verification by the miner program might be compromised either accidentally, by a software bug, or maliciously, e.g. by a virus, or by a miner intent on undue gains. Users engaging in Bitcoin transactions implicitly trust that the miner programs continues to operate correctly, that the equipment is protected against virus attacks and that the miners will not subvert it.

Also, protection of the stored value at the level of the individual owner is not very strong in the Bitcoin set-up. As a consequence, Bitcoin service providers have emerged offering enhanced payment security, in the form of managing their clients' wallets. This service can be provided both online and with physical tokens like smart cards. Making use of 'wallet providers' evidently entails trust in the continued correct and honest operations of the online service or of the physical device.

Conclusion: Bitcoin substitutes one form of 'subjective' trust in traditional institutions for another in new organizational forms.

8. 'Bitcoin is Politically Neutral.'

British prime minister Margaret Thatcher, in a famous 'last words' speech against the Euro, affirmed that decisions about money and currency are all essentially political in nature. In this context politics must be understood as more than what politicians do, essential politics is about the citizens and the state they live in. The decision that is embodied in Bitcoin's design to limit the issuable volume of bitcoins to 21 million units can only be seen as political.

Other characteristic Bitcoin features, such as it rewards for early adopters and big operators, its essentially deflationary and hoarding-inducing nature (also due to the designed scarcity of bitcoins), its rejection of regulatory oversight and consumer protection and of state intervention generally, all resonate with political beliefs of 'techno-libertarians'. Conversely, it is difficult to imagine how Bitcoin could effectively function in a capitalism-unfriendly political dispensation.

Conclusion: like any other monetary system, Bitcoin, in its technical design reflects explicit or implicit political choices.

9. 'Bitcoin is a Sustainable System.'

The whole Bitcoin set-up is, and especially the functioning of the distributed implementation of its central database with the compute-intensive blockchain protocol, is dependent on increasingly sophisticated and trouble-free network infrastructure resulting in an ever increasing consumption of resources. This clearly is at variance with the ever more forceful, and inescapable calls for less consumption, foremost in the energy sector.

Conclusion: Bitcoin does not fit well in the required transition to sustainability. This contrasts with traditional financial institutions that can reduce energy consumption a pace with improvements in IT technology.

10. ‘Bitcoin Can Scale to World Size.’

Both the limited number of possible units of bitcoins and inherently severe technical limits to the operational speed of the blockchain protocol pose such insurmountable obstacles to a global economy that would run exclusively with bitcoins. In the absence of governance of Bitcoin, even a technical modification to increase transaction capacity are very hard to implement.

For consumer payment transactions, for instance, it is hard to conceive how the blockchain protocol in Bitcoin can be made to operate effectively at the same speed and volume as systems maintained by, e.g., VISA, Mastercard, AmEx, JCB and such.

As shown in Argentina or Greece Bitcoin can be useful in some specific situations. In these cases it has been a mediator between traditional monetary systems. For Bitcoin to ‘scale up’ to a true global scale, while maintaining (a semblance of) stability and security would for quite some time to come require such large amount of resources as to defeat any short or medium term perspective of attainability.

Conclusion: As Yanis Varoufakis, the economist and former finance minister in Greece, formulated it: ‘Bitcoin is not capable of “powering” an advanced, industrial society.’

—

The authors thank Boudewijn de Kerf for a quick review, while keeping full responsibility for the substance of the argument.


PLATFORM
CO-OPs
We connect cooperatives with the digital economy

We need alternative economic models because the economy powering the Internet is not working

Inequality In 2015, the 62 richest people in the world controlled $1.76 trillion: the cumulative worth of 3.5 billion people. Women and people of color are disproportionally affected by this trend.

Concentration
Network effects lead to top-down control of platforms, weakening competition and the potential for consumer alternatives.

Workplace Democracy

While political democracy has spread in many countries, workplace democracy has not.

Invasion of Privacy

In the EU alone, the market for personal data will reach $1 trillion by 2020, encouraging commercial surveillance and privacy breaches.

The Smokescreen of Counterculture

Terms like “sharing” and “community” are used to sell commercial services and lend out assets. Labor companies pass themselves off as tech companies.

Stalled Worker Rights
Independent contractors lose rights guaranteed under the Fair Labor Standards Act. They are not covered by unemployment insurance.

Shift Away from Direct Employment
1 in 3 Americans is a freelancer. 40% of the US workforce is expected to be freelancers by 2020.

Stagnating Wages
Over the past 40 years, wages for most American workers have not risen, when adjusted for inflation.

Crowd Fleecing
Online labor brokerages enable wage theft, discrimination, and exploitation.

We can build on a powerful business model that works—it's hidden around us in plain sight

- 1 in 3 Americans is a co-op member.
- In the U.S., co-ops created close to 1 million jobs with $25 billion in wages and benefits.
- The total co-op revenue in the U.S. is $500 billion.
- Cooperative enterprises worldwide employ 250 million people and generate $2.2 trillion in revenue.

Imagine a digital economy that would follow the 7 co-operative principles

1. Voluntary and Open Membership
2. Democratic Member Control
3. Member Economic Participation
4. Autonomy and Independence
5. Education, Training, and Information
6. Cooperation among Cooperatives
7. Concern for Community

Benefits of the platform co-op model

PLATFORM CO-OPS RESPOND TO THE MARKET FAILURES OF THE ONLINE ECONOMY

- ✓ Lower transaction and retention costs
- ✓ Surplus revenues of co-ops are transferred to the members
- ✓ 80% of co-ops survive their first five years compared with 41% of other business ownership models
- ✓ Money flows within local communities
- ✓ Protection from exploitation through ownership, transparency, control
- ✓ Higher commitment of users disincentivizes short-termism
- ✓ Prospect of data democracy

4 examples of platform co-ops

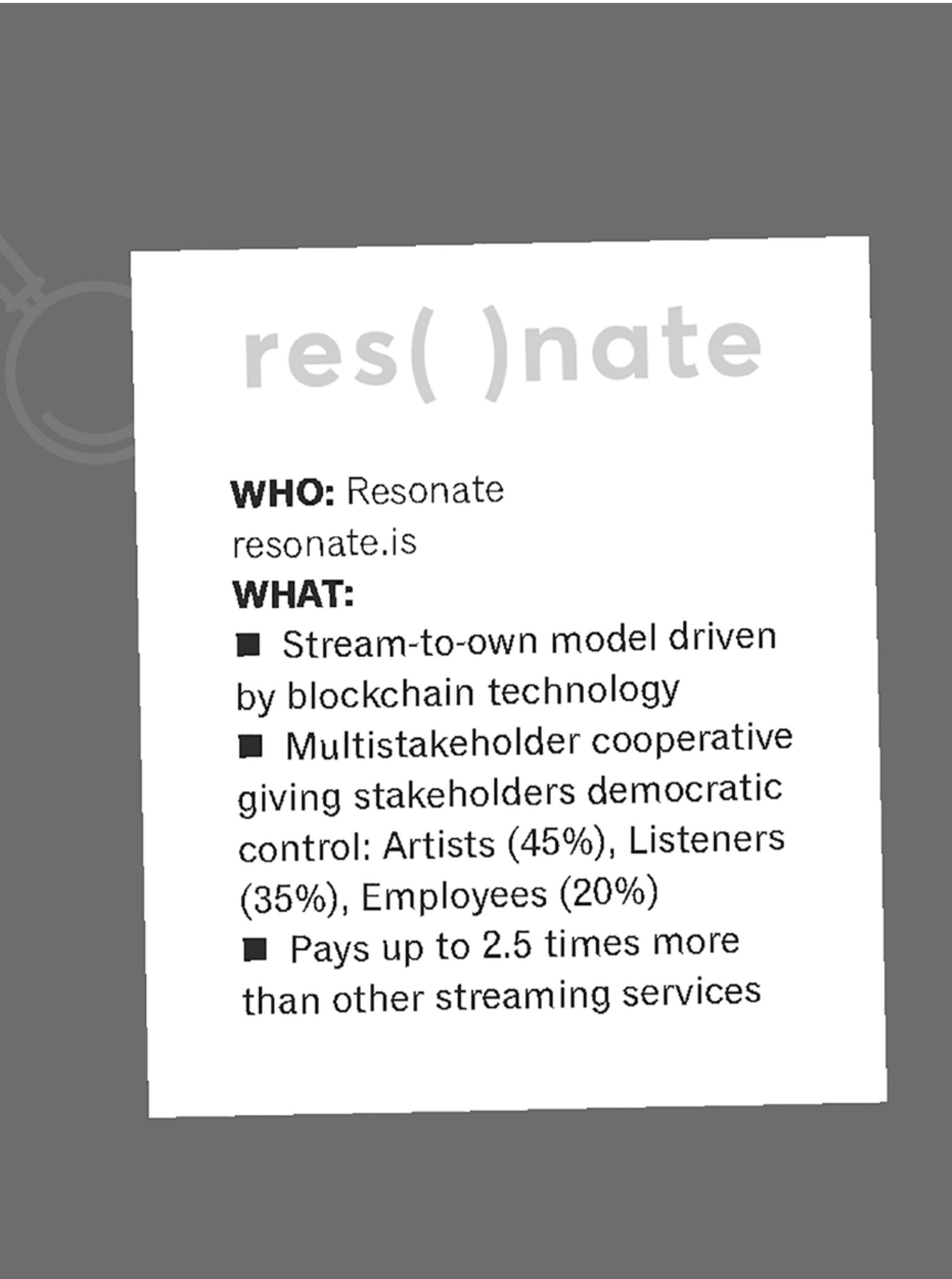
SUSTAINABLE STOCK Stocksy CO UNITED OP Photography

WHO: Stocksy United stocksy.com
WHERE: Victoria, BC, Canada
WHEN: launched 2013
WHAT: high-quality, curated stock photography and video footage, raising the bar—and the industry's expectations—of stock photography and cinematography, 960 photographers in 63 countries
2015: ■ $7.9m in sales, $200,000 in dividends to workers ■ Skills training for photographers to increase value of product ■ Uses 5% of revenue to operate the platform ■ Have serviced 124 of Fortune 500 companies
2016: ■ $10.7m in sales, $300,000 in dividends

GREEN TAXI CO OP

WHO: Green Taxi Co-op
greentaxicooperative.com
WHERE: Denver, Colorado Metro Area
WHEN: launched in 2015
WHAT:

- Mobile app ride-hailing
800 members, immigrants from 37 countries
- $2,000 from each driver for startup costs
- Communication Workers of America Local 7777 helped clear regulatory hurdles (and leased a basement office to Green Taxi Cooperative)
- Captured over ⅓ of the Denver market



WHO: Resonate
resonate.is
WHAT:
- Stream-to-own model driven by blockchain technology
- Multistakeholder cooperative giving stakeholders democratic control: Artists (45%), Listeners (35%), Employees (20%)
- Pays up to 2.5 times more than other streaming services

MIDATA

WHO: MIDATA
MiData.coop
WHERE: Zurich, Switzerland
WHAT: Health data cooperative

- Members upload their medical records, mobile-health data, and personal genome and can then decide to securely share with: physicians, family, researchers
- Apps-economy allows patients to make use of their data
- Profits are generated from voluntary sale of data to researchers
- Aims for an international federation of cooperatives with the goal of creating a cooperative data commons

... and there is so much more in the platform co-op ecosystem

TRANSPORTATION

green Taxi cooperative

YELLOW

CO-OP TAXI LINE

ridygo

PARTAGO

tapazz

COTABO IL PRIMO TAXI DI BOLOGNA

modo.

JOURNALISM

banyan project

il manifesto

Newscoop SOURCEFABRIC

WOZ

Morning Star

Positive News

taz.

LaJornada en línea

SHORT-TERM RENTAL

H2H

fairbnb community powered tourism

INCUBATORS & SUPPORTING INSTITUTIONS

bHive

FairCoop

Enspiral

FreedomCoop

Seed.coop

CooperativeNetworks

DATA CO-OPS

DarkPeak

GISC

MIDATA

ourdata coop

Data Commons Cooperative

CONSULTING

FOOD

joinus2eat

OPEN FOOD NETWORK

High Plains Food Coop

HOME SERVICES

LOCONOMICS AT YOUR SERVICE

UP&GO

MARKETPLACE

FRANCE BARTER Réseau d'échanges BtoB

fairmondo

FairMarket

ORIGIN CLUB

MUSIC

res( )nate

CONSULTING

GILDEDSPLINTERS

SMart

FINANCE

FairShares

ECONOMIC SPACE AGENCY

anyshare

GOVERNANCE

LOOMIO

DivvyDAO

WEB SERVICES

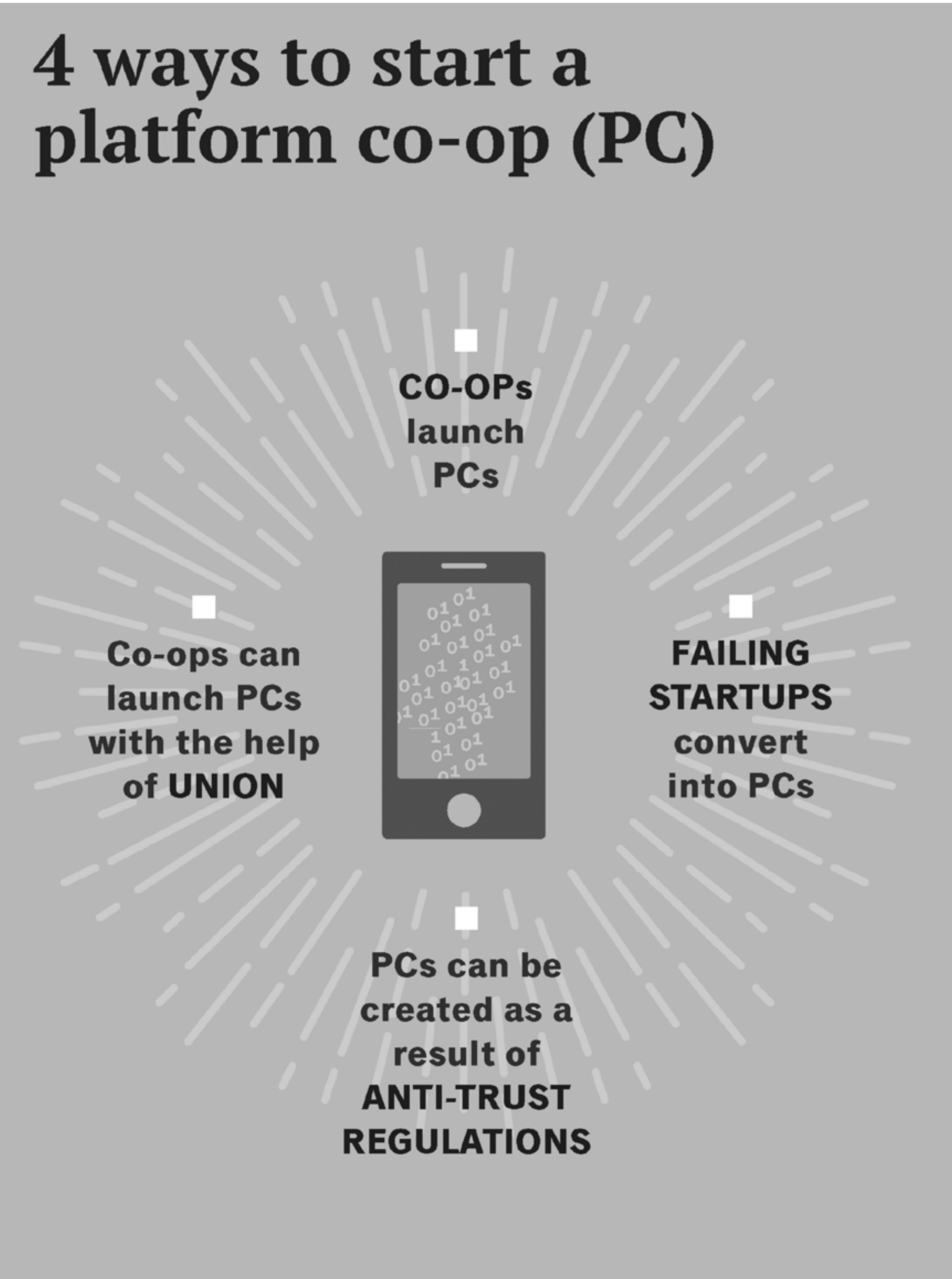
digicoop

DRUTOPIA

COVIVI

WebHosting.coop

HCoop


4 ways to start a platform co-op (PC)
CO-OPs launch PCs
Co-ops can launch PCs with the help of UNION
FAILING STARTUPS convert into PCs
PCs can be created as a result of ANTI-TRUST REGULATIONS

In order to build a fairer digital economy, we are working to overcome a series of challenges

- Financing
- Value Proposition
- Network Effects
- Regulation
- Education
- Leadership
- Member Involvement

Making good

Platform cooperativism is a growing international movement that builds a fairer future of work. Rooted in democratic ownership, co-op members, freelancers, technologists, and unionists create a concrete near-future alternative to the extractive sharing economy.

Building on the early promise of the Web to decentralize the power of apps, protocols, and websites, platform co-ops allow modest-income households to benefit from the shift of labor markets to the Internet. Steering clear of the belief in one-click fixes of social problems, the model is poised to vitalize people-centered innovation by joining the rich heritage and values of co-ops with emerging Internet technologies.

LEARN MORE.
GET INVOLVED.

Visit: http://platform.coop

Request information: info@platform.coop

PUBLISHED BY:

Platform Cooperativism Consortium

SOURCES:

"Missing Markets and the Cooperative Firm" by Brent Hueth (2014)
http://www.tse-fr.eu/sites/default/files/medias/doc/conf/workshop_po/communications/brent_huet.pdf

"Cooperative Identity, Values & Principles" by the International Co-operative Alliance
http://ica.coop/en/whats-co-op/co-operative-identity-values-principles

"Facts and Figures" by the International Co-operative Alliance http://ica.coop/en/facts-and-figures

"Annual Report" by The National Cooperative Business Association (2014)
http://www.ncba.coop/images/annualreports/NCBACLUSA_2014_Annreport.pdf

"An Economy for the 1%" by Oxfam (2016)
https://www.oxfamamerica.org/static/media/files/bp210-economy-one-percent-tax-havens-180116-en_0.pdf

"What Do We Really Know About Worker Cooperatives?" by Virginie Pérotin (2016)
https://www.uk.coop/resources/what-do-we-really-know-about-worker-co-operatives

Ours to Hack and to Own: The Rise of Platform Cooperativism, A New Vision for the Future of Work and a Fairer Internet edited by Trebor Scholz and Nathan Schneider (2016) http://www.orbooks.com/catalog/ours-to-hack-and-to-own/

"Research on the Economic Impact of Cooperatives" by the University of Wisconsin Center for Cooperatives (2009)
http://reic.uwcc.wisc.edu/summary/

"Freelancing in America" by Upwork and the Freelancers Union (2016) https://www.upwork.com/i/freelancing-in-america/2016/

Thank you to the Internet of Ownership for their support and continued work in the platform co-op space.

DESIGN: idrc.ocadu.ca

SOME IMAGES ARE ADAPTED FROM THENOUNPROJECT.COM

MONEYLAB CONFERENCE #2: ECONOMIES OF DISSENT

3–4 December 2015 — Pakhuis de Zwijger, Amsterdam

THURSDAY, 3 December 2015

Session 1: Blockchain: Revolution or Business as Usual
Moderator: Eduard de Jong
Speakers: Primavera De Filippi, David Golumbia, Bruce Pon

Session 2: Free Money Movement and the Commons
Workshop by: Jim Costanzo

Session 3: Avenging Money
Workshop by: Max Haiven

Session 4: Negotiating Trust on Crowdfunding Platforms
Workshop by: Robert van Boeschoten

Session 5: Artistic Interventions in Finance
Moderator: Max Haiven
Speakers: Núria Güell, Levi Orta, Silvio Lorusso, Stephanie Rothenberg, Scott Kildall, DullTech™

FRIDAY, 4 December 2015

Session 6: Bringin the Dark Side of Money to Light
Moderator: Cecile Landman
Speakers: Paul Radu, Femke Herregraven, Paulo Cirio

Session 7: Building an Ownership Layer for the Internet
Workshop by: Ascribe

Session 8: Peerhood Gaming
Workshop by: Pekko Koskinen

Session 9: Commoneasy P2P Insurance
Workshop by: Jip & Florian de Ridder

Session 10: Tactics for Economic Dissent
Moderator: Brett Scott
Speakers: Enric Duran, Rachel O'Dwyer, Robin Hood Minor Asset Management

Exhibition: Trading Floor
Artists: Gordana Nikolić, Šefik Tatlić, Scott Kildall, Rob Myers, Aline Baggio

MONEYLAB CONFERENCE #3: FAILING BETTER

1–2 December 2016 — Pakhuis de Zwijger, Amsterdam

THURSDAY, 1 December 2016

Session 1: Global Finance: Failing Better?
Moderator: Geert Lovink
Speakers: Alex Foti, Menno Grootveld, Renzo Martens, Cassie Thornton

Session 2: When Art Mirrors Marx
Moderator: Stephanie Rothenberg
Speakers: Steyn Bergs, Dan Mihaltianu, Tori Abernathy, Jeroen van Loon, Anne Breure

Session 3: How Can Accountants Save the World?
Workshop by: Frank de Graaf, Nick McGuigan, Thomas Kern, Herman Gels

Session 4: Politics of the Cyphersphere: After the Blockchain Revolution
Workshop by: Matthias Tarasiewicz, FIBER

Session 5: Prevailing over Money
Workshop by: Dmytri Kleiner, Baruch Gottlieb

Session 6: Save the Last Dance?
Moderator: Max Dovey
Speakers: Henry Warwick, Koos Zwaan, Bindu de Knock

Evening Program: Fiscal Drag Live
Performers: Max Haiven, Cassie Thornton, Fine Art Financ€ Lab, Tori Abernathy

FRIDAY, 2 December 2016

Session 7: Cooperatives and the Commons
Moderation: Sabine Niederer
Speakers, Trebor Scholz, Arthur Röing Baer, Michel Vogler

Session 8: Big Pocket is Watching You!
Moderation: Patricia de Vries
Speakers: Brett Scott, Nathalie Maréchal, Emily Rosamond, Austin Houldsworth

Session 9: Governance in the Age of Blockchains and Digital Currencies
Workshop by: Richard Khol

Session 10: Flexonomix District Currency Game
Workshop by: Jens Martignoni, Panayotis Antoniadis, Ileana Apostol

Session 11: Role Play Your Way to Budgetary Blockchain Bliss
Workshop by: Ruth Catlow, Ben Vickers

Session 12: Universal Basic Income: For One and for All
Moderator: Tori Abernathy
Speakers: Johannes Ponader, Baruch Gottlieb, Patrice Riemens

Exhibition: No Hidden Costs
Artists: Steve Rowell, Fine Art Financ€ Lab, Arthur Röing Baer, Javier Lloret, Oliver Barstow, Luca Claessens, Nicoleta Pana, Pete Gomes, Ruth Catlow, Max Dovey

MONEYLAB LONDON: ART, CULTURE AND FINANCIAL ACTIVISM

20 January 2018 — Somerset House Studios, London

SATURDAY, 20 January 2018

Session 1: Offshore Investigation Vehicle
Workshop by: The Demystification Committee

Session 2: Patternist
Workshop by: Kei Kreutler

Session 3: Playing to Lose: Exploring Strategy, Simulation and Scenario Gameplay in Art and Finance
Moderator: Brett Scott
Speakers: The Demystification Committee, Kei Keutler, Stephanie Polsky

Session 4: FairCoop - Earth's Cooperative for Economic Fairness
Workshop by: FairCoop

Session 5: Data Workers Union
Workshop by: Institute of Human Obsolescence

Session 6: Art and Equity? Tokenizing Culture with the Blockchain
Moderator: Ruth Catlow
Speakers: Jérôme Croisier, Rachel O'Dwyer, Sarah Friend, Marija Bozinovska Jones

Session 7: The INC presents MoneyLab Reader 2: Overcoming the Hype
Moderator: Inte Gloerich
Speakers: Geert Lovink, Emily Rosamond, Nathaniel Tkacz

AUTHOR BIOGRAPHIES

Jaya Klara Brekke is a writer, researcher and creative producer currently focusing on the political economy of blockchain, consensus protocols and issues of governance, agency, ethics and power in distributed systems. She is based in London and is writing a PhD at the Geography Department of Durham University.

Tripta Chandola is an urban ethnographer based in Delhi. In her research experience, spanning more than fifteen years, she has explored the different facets of the everyday of the lives of those living on the margins through different tropes and lens of engagement. She received her PhD from Queensland University of Technology, Australia. She has published several journal articles, contributed to book chapters and co-produced a BBC radio documentary titled 'Govindpuri Sounds' based on her doctoral research. Her book, *A Sense of the Others,* will be published in 2018 with INC, Amsterdam. Presently she is Post-Doctoral Fellow at Indian Institute for Human Development, Delhi, India.

Economic Space Agency is a team of finance theorists, political scientists, software architects, game designers, artists, lawyers, peer production experts, philosophers, decentralized application engineers working together to reimagine and operationalize what economic spaces can be.

Max Dovey can be described as 28.3% man, 14.1% artist and 8.4% successful. He is also an artist, researcher and lecturer specialising in the politics of data and algorithmic governance. His works explore the political narratives that emerge from technology and digital culture and manifest into situated projects – bars, game-shows, banks and other participatory scenarios. He is an affiliated researcher at the Institute of Network Cultures and writes for Open Democracy, Imperica & Furtherfield. His work has been performed at Ars Electronica Festival, Art Rotterdam & many UK based music festivals.

General Intellect is an ephemeral collective that exists today and no longer tomorrow. It deals with issues related to new processes of valorisation, social reproduction, welfare, income distribution (unconditional basic income) and alternative monetary forms, mainly composed by activists and co-researchers.

Inte Gloerich is a researcher and project coordinator for MoneyLab at the Institute of Network Cultures, Amsterdam. She has a background in media studies, holds an MA in New Media and Digital Culture from the University of Amsterdam, and has participated in various research projects on the politics of digital technology, digital economy, and online identity.

Max Haiven is Canada Research Chair in Culture, Media and Social Justice at Lakehead University in Northwest Ontario and director of the ReImagining Value Action Lab (RiVAL). He writes articles for both academic and general audiences and is the author of the books *Crises of Imagination, Crises of Power: Capitalism, Creativity and the Commons, The Radical Imagination: Social Movement Research in the Age of Austerity* (with Alex Khasnabish), and *Cultures of Financialization: Ficticious Capital in Popular Culture and Everyday Life.* He is currently working on a book titled *Art after Money, Money after Art: Radical Creative Strategies Against Financialization*.

Robert Herian is a lecturer in law at The Open University, United Kingdom. His teaching and research interests focus on the laws of equity, trusts, property and fiduciaries and how those laws both shape and are shaped by sociocultural, political, economic, psychological and technological ideas and practices.

David Hollanders is a historian and econometrist. He has a PhD in economics from Tilburg University, in which he focussed on pension fund governance. He currently teaches political economy for European Studies at the University of Amsterdam.

Dmytri Kleiner is the author of *The Telekommunist Manifesto* and a contributing artist to *Miscommunication Technologies,* a continuing series of artworks in collaboration with the Telekommunisten Network. *Miscommunication Technologies* addresses the social relations embedded in communications technologies by creating platforms that don't quite work as expected, or work in unexpected ways.

Silvio Lorusso is a Rotterdam-based artist, designer and writer. His writing has appeared in several magazine and publications, including Not, Immaterial Labour Union Zine, Prismo, Modes of Criticism, Printed Web 3, Metropolis M, Progetto Grafico, Digicult, Diid, and Doppiozero. He is an affiliated researcher at the Institute of Network Cultures of Amsterdam and works as a mentor at the Amsterdam University of Applied Sciences' PublishingLab.

Laura Lotti is an independent researcher and practitioner investigating blockchain cultures. With a background in economics, media studies and philosophy, Laura completed her PhD at UNSW, Sydney, in 2016, exploring the technological, economic, social and political affordances introduced by blockchain protocols and smart contracts. She is now furthering her research through her collaboration with the Economic Space Agency, a start-up based in Oakland and around the world building a truly peer-to-peer smart contracts ecosystem to power socially networked production.

Geert Lovink is a Dutch media theorist, internet critic and author of Uncanny Networks (2002), Dark Fiber (2002), My First Recession (2003), Zero Comments (2007), Networks Without a Cause (2012) and Social Media Abyss (2016). In 2004 he founded the Institute of Network Cultures at the Amsterdam University of Applied Sciences.

Nathalie Maréchal is a scholar-activist working at the intersection of internet policy and human rights and a PhD candidate in Communication at the University of Southern California. Her work focuses on corporate accountability for human rights online, social justice and inequality in the digital age, and the geopolitics of information. Nathalie's forthcoming dissertation traces the political history and bureaucratic politics of Internet Freedom funding while critically assessing U.S. foreign policy and its relationship with the transnational social movement dedicated to digital rights.

Rachel O'Dwyer is a Research Fellow in CONNECT, Trinity College Dublin. Her research focuses on emerging markets at the intersection of data, mobile networks and payments. She is the leader of the Dublin Art and Technology Association (DATA) and the curator of the festival and conference Openhere.

Nina Power received her PhD in Philosophy from Middlesex University on the topic of Humanism and Anti-Humanism in Post-War French Philosophy, and also has an MA and BA in Philosophy from Warwick. She has taught at Middlesex, Orpington College, London College of Communication, Morley College and The University of Roehampton, where she is also currently a Senior Lecturer in Philosophy. She is a fellow of the RSA and a member of the British Philosophical Association. She is the author of *One-Dimensional Woman* (Zer0, 2009) and *Das kollektive politische Subjekt – Aufsätze zur kritischen Philosophie* (Laika, 2015), a collection of her philosophical writings (translated into German).

Patricia Reed is an artist, writer and designer based in Berlin. As an artist, selected exhibitions include those at The Museum of Capitalism, Oakland; Homeworks 7, Beirut; Witte de With, Rotterdam; HKW, Berlin; and Württembergischer Kunstverein, Stuttgart. Recent writings have been published in *e-flux Architecture*; *_AH Journal*; *Cold War Cold World* (Urbanomic); *Reinventing Horizons* (Tranzitdisplay); and The Neurotic Turn (Repeater Books). Reed is part of the Laboria Cuboniks (techno-material feminism), and Office for Applied Complexity working groups.

Patrice Riemens: geographer, culture and internet activist, advocate of Free and/or Open Source Software, and member of the Dutch hackers club Hippies from Hell.

Emily Rosamond is a Canadian artist, writer and educator. She completed her PhD in 2016, as a Commonwealth Scholar in Art at Goldsmiths, University of London. She is Lecturer in Visual Cultures at Goldsmiths, and Joint Programme Leader on the BA Fine Art & History of Art. She exhibits individually and with the collective School of The Event Horizon.

Trebor Scholz is a scholar-activist and Associate Professor of Culture & Media at The New School in New York City. He frequently presents on the future of work and alternative economic models to policymakers, cooperators, scholars, lawyers, activists, designers, union leaders, and technologists worldwide. His book *Uberworked and Underpaid* (Polity, 2016) starts with a critical analysis of the extractive platform economy to then introduce the intellectual framework of "platform cooperativism." Scholz also co-edited the *Ours to Hack and to Own* (OR Books, 2016). He is the founding director of the Platform Cooperativism Consortium. Learn more at http://platform.coop.

Brett Scott is a journalist, campaigner and the author of *The Heretic's Guide to Global Finance: Hacking the Future of Money* (2013). He works on financial reform, alternative finance and economic activism with a wide variety of NGOs, artists, students and start-ups, and writes for publications such as *The Guardian, New Scientist, Wired Magazine* and *CNN.com*. He is a Senior Fellow of the Finance Innovation Lab, an Associate at the Institute of Social Banking and an advisory group member of the Brixton Pound. He tweets as @suitpossum.

Nathaniel Tkacz is Reader in Digital Media at the Centre for Interdisciplinary Methodologies at the University of Warwick. His work investigates the political, economic and organizational dimensions of digital media. He is author or editor of a number of books, including Wikipedia and the Politics of Openness (University of Chicago Press, 2015) and The Moneylab Reader (2015) with Geert Lovink and Patricia de Vries.

Pablo R. Velasco is an Early Career Researcher at the Institute of Advanced Study and a PhD Candidate at the Centre for Interdisciplinary Methodologies, University of Warwick. His research critically explores digital culture through its technical infrastructures, in particular the rationale behind blockchain design and the interwoven relations between authority, space, politics, and cryptocurrencies' distribution of power. His work can be found at *pablov dot me.*

Patricia de Vries works as a PhD researcher at Erasmus University Rotterdam and as a lecturer and researcher at the Institute of Network Cultures in Amsterdam. She reads and writes about algorithmic anxiety in the arts. More about her can be found at networkcultures.org/contesting-capture-technology.

Martin Zeilinger is a London-based new media researcher, curator, and practitioner. He is Senior Lecturer in Media at Anglia Ruskin University (Cambridge), co-organiser of the 2018 London MoneyLab, co-curator of the Toronto-based Vector New Media Arts Festival, and co-convener of the Digital Art Research Group at Cambridge University. His research focuses on links between digital art and financial technologies, and extends to practice-based work in creative coding and physical computing.

MONEYLAB

READER 2

OVERCOMING THE HYPE

EDITED BY **INTE GLOERICH, GEERT LOVINK, PATRICIA DE VRIES**
INC READER #11

MoneyLab is a network of artists, activists, and geeks experimenting with forms of financial democratization. Entering the 10th year of the global financial crisis, it still remains a difficult yet crucial task to distinguish old wine from its fancy new bottles. The MoneyLab network questions persistent beliefs, from Calvinist austerity, growth, and up-scaling, to trustless, automated decision making and (anarcho-)capitalist dreams of cybercurrencies and blockchained solutionism.

We consider experiments with digital coops, internet-based payment and network-based revenue models as spaces of political imagination, with an equally important aesthetic program. In this second MoneyLab Reader the network delves into topics like the financialization of art; love as a binary proposition on the blockchain; the crowdfunding of livelihood; the cashless society; financial surveillance of the poor; universal basic income as the real McCoy or a real sham; the cooperative answer to Airbnb and Uber; the history of your financial dashboard; and, Hollywood's narration of the financial crisis. Fintech rushes through our veins, causing a whirlwind of critical concepts, ideas and imaginaries. Welcome to the eye of the storm.

Contributors
Jaya Klara Brekke, Tripta Chandola, Max Dovey, Economic Space Agency, General Intellect, Max Haiven, Robert Herian, David Hollanders, Dmytri Kleiner, Silvio Lorusso, Laura Lotti, Nathalie Maréchal, Rachel O'Dwyer, Nina Power, Patricia Reed, Patrice Riemens, Emily Rosamond, Trebor Scholz, Brett Scott, Nathaniel Tkacz, Pablo R. Velasco, Martin Zeilinger.

Institute of Network Cultures,
Amsterdam 2018
ISBN 978-94-92302-19-9

www.networkcultures.org/publications

institute of network cultures
Amsterdam University of Applied Sciences
Co-funded by the Creative Europe Programme of the European Union