

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

LAURA LOTTI

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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 affordances⁷ 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 homeostatising 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

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- 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 money¹⁴ 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#z6jfo9>.

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 blockchain, 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.

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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 liquify 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

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32 Disclaimer: Laura Lotti is collaborating with the Economic Space Agency (ESA). ESA is 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/>.

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