



Lovett, M. (2019) 'Disruptive blockworks: blockchains and networks / acceleration and collision', in Ragnedda, M. and Destefanis, G., eds. *Blockchain and web 3.0: social, economic, and technological challenges*. Abingdon, Routledge, pp. 130-143.

This is an Accepted Manuscript of a book chapter published by Routledge in '*Blockchain and web 3.0: social, economic, and technological challenges*' on 23/07/2019 available online at:

<https://www.taylorfrancis.com/chapters/edit/10.4324/9780429029530-9/disruptive-blockworks-matthew-lovett>

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Disruptive Blockworks: blockchains and networks / acceleration and collision

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Abstract

This chapter examines the way in which two blockchain-based platforms - Mycelia's Creative Passport and Steemit - are emerging as examples of a particular paradigm of blockchain-based digital media commerce. Each demonstrates how such networks can generate revenue directly, through enhanced production and distribution systems, and indirectly, via an exponential series of connections.

Much has been said about how blockchain systems will increasingly do away with intermediaries - in other words banks, royalty collection agencies, even lawyers and other third parties etc - thereby rewarding content creators with higher earnings for their endeavours through frictionless payment systems and smart contracting. However, what is clearly emerging is another form of the 'Internet of Value' (Tapscott, 2016), one that does not simply create more revenue by merely simplifying exchange protocols. Steemit co-founder Ned Scott suggests that, 'It's as though all the [Steemit] users are playing a social media game, and they're earning points based on how well they participate'.

As network effects are increasingly leveraged as a means to create income, blockchain-based innovations, such as Creative Passport and Steemit, are emerging as an opportunity to rethink wealth distribution beyond the narrow frameworks that have hitherto dominated the internet.

Introduction

In the near quarter-century since the Federal Networking Council (NITRD, 1995) first defined the term 'the internet', our use and our understanding of this most quintessentially disruptive technology has evolved considerably. And now, as a further iteration of the internet is emerging and beginning to establish itself - a semantic web of integrated data - increasingly, blockchain technology is being pushed to the forefront of debates relating to what a future web might look like and how it could work. With decentralised, peer-to-peer communication as a core operating principle, along with a capacity to facilitate anonymous interaction across global networks, blockchain is enabling an economy, and a culture that is ever more concerned with privacy and authentication, to develop and grow.

What follows is an engagement with Steemit (Steemit, 2018) and Mycelia's Creative Passport project (Mycelia, 2018), two blockchain-based platforms, designed and built to harness aspects of blockchain's orientation towards authentication and payment systems. The emergence of blockchain technology has been concurrent with a period of development and change for the internet; where an early 21st century optimism about the capacity of digital networks to create new forms of non-hierarchical labour and association has been displaced by growing concerns over the widespread commercial domination within a supposedly open network. 'Acceleration and collision' signal two aspects of contemporary discourse surrounding our technomic environment: 'accelerationism' and 'disruptive technology', the former being a latter-day rewiring of the economist Joseph Schumpeter's theory of 'creative destruction', whilst the latter is a term that draws on the work of the philosopher Gilles Deleuze and the psychoanalyst Félix Guattari, and has found purchase in contemporary critical theory and debate.

Initially, the chapter establishes a context in which to discuss the emergence of Steemit and

Creative Passport in relation to two notable shifts in our conception and understanding of the internet during the past twenty years, the first being an initial wave of optimism surrounding digital networks' capacity to create new forms of non-hierarchical labour and association, and the second, a more recent cynicism brought on by widespread commercial domination, defined by Nick Srnicek as 'Platform Capitalism'. We then engage more fully with Steemit and Creative Passport in relation to Schumpeterian and Accelerationist ideas, to consider how economic theory is both implicitly and explicitly expressed in blockchain-driven technology, and what kind of disruption these technologies might bring.

Steemit

Steemit is a micro blogging platform reminiscent of both Reddit and Twitter. On creating a Steemit account, users are able to engage with a range of familiar social media activities, including uploading text-based posts, photographs and links to off-site content, tagging other users and creating hashtags. According to the *Steem Whitepaper*, Steem, the blockchain database that drives Steemit, 'is the first cryptocurrency that attempts to accurately and transparently reward an unbounded number of individuals who make *subjective contributions* to its community' (Steem, 2017). Steemit offers to pay users for interacting with the Steem ecosystem, and users are rewarded in Steem tokens for posting, voting and curating on the Steemit platform. These tokens can be converted to Steem Dollars, which in themselves can be traded for Bitcoin, and thus - eventually - exchanged for fiat currency. According to the *Steem Bluepaper*, the Steem blockchain is based on delegated proof of stake, rather than a proof of work, and it mints Steem tokens at a rate of one block every three seconds. Steem sets itself aside from the likes of Bitcoin, stating that 'unlike the traditional PoW means of distribution, where miners are competing over raw computing power, the actors in the Steem network are incentivized to compete in ways that add value to the network' (Steem Bluepaper, 2018). As a result, one of Steem's most important innovations is to have tethered content creation to cryptocurrency production, meaning that the blockchain captures users' every interaction with Steemit and continuously distributes payment from the Steem 'rewards pool' (Steem, 2018) based on the quality of this interaction. Steemit is designed to be an entirely democratic platform that enables its users to decide on – or 'vote' – whether or not, and to what extent, user activity on Steemit (including their own) is worthy of reward. The voting process - known as 'upvoting' - is akin to 'liking' something on other social media platforms, with the addition that Steemit attaches a reward to the upvoting process itself: 'If you discover a post and upvote it before it becomes popular, you can earn a curation reward' (Steemit, 2017). Because one of Steemit's fundamental operating principles is to embrace the notion that success within social media environments is as much about interlinking as it is about posting, upvoting also becomes a strategic activity, enabling users to fully engage with the benefits of a connected web, where every point of contact with the web – every digitally recorded act of creative decision making - is a potentially monetisable signpost to every other point. Thus, via the production and validation of new connections, the reward system acknowledges these actions as creative activities in their own right. This is a notable departure from previous iterations of the world wide web, which as we shall see, has often allowed for an atmosphere of creativity for its own sake, and if it has been considered as part of the online environment, then commercial exploitation of content has increasingly been seen as the reserve of multinationals, rather than everyday users.

Steemit has been designed to work as an integrated ecosystem, one that encourages users to engage with the platform in a number of ways, reconfiguring the social media environment as a mixed economy of practices and behaviours, akin to 'a game system where users compete for attention and rewards by bringing content and adding value to the platform' (Steemit, 2018). Steemit is thus a wholesale rethinking of creating and sharing, something of a blueprint for an internet to come, where Steem's twin innovation of paying users for engaging with the platform

whilst simultaneously providing an overarching cloak of anonymity enables the network to proliferate and for users to prosper, whilst maintaining their privacy. In addition, because Steemit's game-like qualities enable it to democratise, and perhaps more importantly *incentivise* the social media environment, Steem presents a new vision of how to harness a user's desire to inhabit and contribute to a network. By enabling users to track the value of Steem, whilst simultaneously monitoring theirs and their peers' financial success, Steemit thereby fuses this desire with a newly-tooled appetite to engage with an internet of commerce and value.

Creative Passport

Creative Passport is one of a number of ventures developed by Mycelia, a project platform founded by the musician Imogen Heap, described on its homepage as 'a research and development hub for music makers' (Mycelia, 2018). On the introduction page, Heap explains that,

'The Creative Passport is the digital container for verified profile information, IDs, acknowledgements, works, business partners and payment mechanisms for each music maker. Its aim is to fill a huge gap for the industry by becoming a digital identity standard for music makers, collectively forming the Creative Passport Database and evolving into the essential connective hub for all music related services' (Heap, 2018: 3).

As with Steemit, Creative Passport has been designed as a corrective to a perceived flaw in the networked media environment. In the case of Creative Passport, it is a means to ensure that musicians' creative contributions to music-based content are registered and rewarded, and that these contributions are safeguarded in perpetuity by being stored on an immutable database. Heap goes on to discuss how earlier attempts to create an all-encompassing 'Global Repertoire Database' had been unsuccessful (Heap, 2018: 5), especially the original project to create a GRD. Launched by the EU, and involving Apple, Amazon, Google and a range of publishers and rights collection agencies (Music Business Worldwide, 2016), the project incurred costs of £8 million, and was eventually abandoned in 2014. In 2017, the US Congress proposed a bill to create a 'searchable digital database' (Digital Music News, 2017a), but this has also met with little success (Digital Music News, 2017b). In essence, Creative Passport is an attempt to capture and store information at scale, and given the sustained growth of the global music industry - with the IFPI's Global Music Report 2018 reporting that revenues for recorded music had increased by a further 8.1% during 2017 (IFPI, 2018) - this is clearly an issue that will continue to be a source of speculation and debate until a multilateral solution is found. Whilst there are clear technological and ideological differences between Steemit and Creative Passport – Steemit being a social media platform, designed to provide payment to users for a wide range of creative acts and interactions on the platform, whereas Creative Passport is an information storage facility for those offering commercial services within the music industry – there are also important similarities. Each expresses a vision of harnessing blockchain to create infrastructural improvements in digital music and media commerce, an aspect of blockchain that has all-too-easily been overlooked in the drive to see it as a curative for protracted and inefficient commercial transactions. Instead, what the designers of platforms such as Steemit and Creative Passport understand, is that blockchain has the potential to enable us to conceive of a new paradigm for online communication. Worth noting at this point, is that, whilst we must be careful to not over-estimate the scale of technological change that blockchain might bring about, its presence is undoubtedly contributing to a rapid evolution of both our understanding our expectations of how we interact with the internet.

The Future Was Bright

In the early 2000s, a certain utopianism about how the internet could help establish a more creative and equitable economy was clearly in the ascendant. Yochai Benkler's book *Wealth of Networks: How Social Production Transforms Markets and Freedom* and Charles Leadbeater's *We-think: Mass innovation, not mass production*, are both notable examples of this wave of optimism surrounding a perceived capacity for the internet to create a step-change in both the social and industrial spheres. Indeed, Benkler's conviction was that an increasingly networked world, made possible by cheaper and more powerful computers would mean that 'nonmarket and radically decentralised [patterns of production would emerge] at the core, rather than at the periphery of most advanced economies (Benkler, 2006: 3). Whilst Benkler has certainly been proven right about the emergence of decentralised production in all its variances, the extent to which nonmarket forces are influencing contemporary digital economies is less certain. Nonetheless, Benkler was far from alone in thinking that the internet would catalyse widespread collaborative and non-commercial activity; indeed, in *Making Is Connecting*, David Gauntlett coined the phrase 'everyday creativity' (Gauntlett, 2011), to highlight the way that digital networks greatly enhanced a general capacity for non-market creative expression. In other words, a digitally enabled culture of *doing-for-the-sake-of-doing* was on the rise. Given its origins in the 1960s as the ARPANET, a packet switching network designed to facilitate non-commercial resource sharing and collaboration (Internet Society, 1997), it is quite understandable that the internet was seen to contain the seeds of a new kind of organisation of the creative and communications economy. In this regard, Gauntlett's interest in the wealth of amateurish making and invention, facilitated and disseminated by the reinvigorated Web 2.0, was matched by Leadbeater's extensive analysis of how the internet was facilitating new forms of digital collaboration, enabling users to come together to think and work in more creative ways, in new and flattened organisational structures. Such was the current of thought in the 2000s and early 2010s, where a shared optimism about the internet's potential to radically alter, not only our economic environment, but also our attitude towards commercial production was in the ascendant, along with a growing sense of ourselves as members of a distributed community of digitally-enabled makers and sharers.

More recently, in the book, *Who Owns the Future*, the media theorist, programmer and musician Jaron Lanier coined the term 'Siren Servers' (Lanier, 2014) to convey how, via the exploitation of 'information asymmetry', corporations such as Facebook, Google and Apple make huge financial gains from the very acts of everyday making and connecting that Gauntlett's work identified and described. Lanier's book provided an account for how corporate interest monetises commonplace use activity online, most obviously expressed via the selling of advertising space, but he also sought to develop a response to what he saw as a seemingly inexorable slide towards a 'winner takes all star system' (Lanier, 2014: 35), where an increasingly reduced number of corporations and individuals would see ever-higher profits in return for their growing domination of the internet. Lanier suggested that a more equitable online economy would be possible, at the expense of redesigning the internet to include 'two-way links' (Lanier, 2014: 218), which would put revenue and data capture within reach of every user, rather than simply in the hands of those who already hold the financial and information advantage.

Such widespread harvesting of users' daily and routine activities is a key component of what Nick Srnicek has described as 'Platform Capitalism'. Srnicek's work analyses the way in which commercial practices based on data gathering and analysis are now producing a new kind of economy:

'Platforms are a new type of firm; they are characterised by providing the infrastructure to intermediate between different user groups, by displaying monopoly tendencies driven by

network effects, by employing cross- subsidisation to draw in different user groups' (Srnicek, 2017: 48)

As such, Srnicek presents a comprehensive description of the way in which, in the age of the Siren Server, different companies have developed different methods to exploit the web's gold rush of digital information. Central to the question of how a blockchain-based platform such as Steemit operates, are Srnicek's use of the terms 'network effects' and 'monopoly tendencies', since both ideas find expression in the way that Steemit is emerging as a challenge to conventional ways of approaching the design and use of social media. For Srnicek, not only has the platform model established itself as a key component motor of the 21st century global economy, it is also altering the way in which we engage with online networks. In addition, 'by providing a digital space for others to interact in' (Srnicek, 2017: 48), at a more fundamental level, platforms are evolving the way in which we think about the production and distribution of music and music-related media, owing to the fact that so much of the contemporary music economy only exists within, and by virtue of, platform environments.

The extent to which platforms such as Facebook, Google, Uber and Spotify have created processes to enable them to extract and exploit data from a range of sources is now widely recognised, and to an extent accepted, suggesting that our conception of the internet and the types of practice that it affords, is now at some remove from the non-market, participative cultures of the future that Leadbeater, Gauntlett and Benkler described. Latterly, Lanier's and Srnicek's analysis has been designed to show that whilst non-commerciality and sharing may be an experience that occurs at an inter-personal or local level, such transactions and exchanges are simply one aspect of a complex web of commodified information flows. Furthermore, although collaborative and non-commercial creativity once occupied an area of discourse that anticipated a future internet that was not wholly profit driven, Srnicek's analysis would suggest that the opposite may well be the case, and that platformisation is driving towards a hyper-monetisation of the online environment, where even the thought of a non-commercial web has become simply a quirk of history. In a latter-day digital landscape teeming with industrial information harvesters in the guise of commercial platforms, it is therefore little wonder that blockchain is often touted as the panacea that will finally cure the ills of our networked world, cutting out the 'middleman' of corporate exploitation and allowing us to keep hold of the 'digital crumbs' of our online identities (Tapscott, 2016).

Clearly, Steemit and Creative Passport have emerged at a time when perceptions of the internet are rapidly evolving. On one hand, the potential to integrate blockchain with a networked environment beyond its origins as an engine for cryptocurrency and anonymised exchange is considerable, whilst on the other, in the context of our current fixation with protecting privacy and provenance, blockchain presents as a technological solution to a range of both ethical and financial problems. In this context, Joseph Schumpeter's work is well-placed to help us consider how Steemit and Creative Passport, due to their disruptive tendencies, could drive transformation in the digital music and media economies. In addition, because each of them is a manifestation of an accelerating desire to interact with the internet in more autonomous and equitable ways, and because Schumpeter's work is concerned with economic modelling at a macro scale, we can also consider how Steemit and Creative Passport might open up perspectives around the ongoing evolution of the general socio-economic environment.

Destructive Transformation

In *Capitalism, Socialism and Democracy*, Schumpeter's wider project was the contention that capitalism is an inherently unstable and self-devouring phenomenon. Whereas Engels and Marx had concluded that the transition from capitalism to socialism would come about via a process of violent revolution (Engels and

Marx, 1848), Schumpeter looked through a different lens. He held that capitalism was inherently unstable, and liable to collapse because of the way in which it systematically undermines the structures that it relies on, and indeed the conditions that brought it into existence in the first place. Although Schumpeter's focus was at the macroeconomic scale, we can nevertheless use his ideas as a backdrop to consider how it is that we might understand Steemit and Creative Passport to be agents of collision and acceleration, and keep in mind the fact that, in its original formulation, creative destruction drew a parallel between changes at a market level, with an overall systemic transformation:

'The opening up of new markets, foreign or domestic, and the organisational development from the craft shop and factory to such concerns as U.S. Steel illustrate the same process of industrial mutation that incessantly revolutionises the economic structure from *within*, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in and what every capitalist concern has got to live in (Schumpeter, 2010: 73).

Later in the book, Schumpeter qualifies his vision of how creative destruction functions at the level of economic infrastructure, suggesting that,

'The same economic process that undermines the position of the bourgeoisie by decreasing the importance of the functions of entrepreneurs and capitalists, by breaking up protective strata and institutions, by creating an atmosphere of hostility, also decomposes the motor forces of capitalism from within' (Schumpeter, 2010: 144).

Thus we see the full reach of Schumpeter's conceptual framework, encompassing both market dynamics within the framework of capitalism, along with the overarching instabilities of capitalism itself. As I have explored elsewhere,¹ we inhabit a world marked by the ubiquitous presence of disruptive technology, where the word 'disruption' - the dominant contemporary reading of the notion of creative destruction - now refers to the way in which new technologies, after some initial discomfort, ultimately alter markets and systems for the better (Lovett, 2019). Indeed, with headlines such as 'The future of all industry is disruption – and that's a good thing', we are told that 'disruption is not something to be feared. Emerging technologies and innovative ideas give businesses the opportunity to grow their core services and products, and expand into new markets' (Accenture, 2018). The original formulation for 'disruption' in its current sense contended that disruption is a process that occurs at a holistic level, where not only are products disrupted, but entire infrastructures, including supply chain chains, distribution networks, production processes and so on (Bower and Christensen, 1995). The influence of Bower and Christensen's article, which was more a mapping of technological change and challenge to incumbent companies, rather than a consideration of the more underlying precepts of a capitalist exchange system, is clearly visible in the Accenture statement. The commitment to embracing disruption as 'a good thing' is emblematic of an increasingly widespread aspect of the discourse surrounding disruption, where the positive and corrective benefits of technological disruption, are a clear step away from Schumpeter's holistic and system-level analysis of capitalism. However, whilst the Accenture statement may well be correct to suggest that disruption at the level of a product or a service may well be of benefit for consumers, the prospect of having our entire economic macrostructure disrupted might not be so welcome.

For Schumpeter, it was a common misconception in 'social criticism', that the 'decline of competition' was the cause of the 'decline of capitalism' (Schumpeter, 2010: 125), and he goes on to suggest that this was -

¹ In the chapter 'Disruption as Contingency: Music, Blockchain, Wtf?', via an account of the history of the term 'disruptive technologies', I examine the way in which 'disruption' connects with contemporary philosophical notions of 'contingency', as expressed in the work of Quentin Meillassoux; concluding that a more accurate term might be 'contingency technologies' (Lovett, 2019).

and it may well be the case that it remains - the reason why industrial monopolisation is seen as a 'vice' (Schumpeter, 2010: 125). His approach is a manifestly practical one, and his account for the benefits of monopolies, simply states that 'there are superior methods available to the monopolist which either are not available at all to a crowd of competitors or are not available to them so readily' (Schumpeter, 2010: 87). Schumpeter's view was that markets do not function according to a perfect competition between different producers battling with each other over the 'price variable' (Schumpeter, 2010: 85). Instead, competition, properly understood, occurs between an established and incumbent monopoly, and the emergent forces and organisations which are seeking to enter the market. Although creative destruction might have evolved into a vision of technological disruption that frames the replacement of incumbents by more advanced and efficient innovators as necessary and corrective, Schumpeter's original intention was clearly to articulate a radical reformulation of market dynamics. For Schumpeter, the idea of permanent threat and the displacement caused by 'the new commodity, the new technology, the new source of supply, the new type of organisation' (Schumpeter, 2010: 72) was intended to oust traditional notions of competition. In this regard, it is also sobering to briefly reflect on Schumpeter's conviction that the pervasive nature of this type of competition which 'disciplines before it attacks' (Schumpeter, 2010: 72) was not simply a mechanism wherein one monopoly replaces another, but in fact should be seen as the very foundations of a market economy.

In the book *Zero to One*, Peter Thiel, like Bower and Christensen, takes certain aspects of Schumpeter's work in order to put forward his own economic treatise for the present day. Thiel's approach is to not only to provide a rationale as to why the monopoly model is better than perfect competition, but to provide concrete examples of technological disruption. Thiel's basic formulation is almost textbook Schumpeter:

'In the real world outside economic theory, every business is successful exactly to the extent that it does something others cannot. Monopoly is therefore not a pathology or an exception. *Monopoly is the condition of every successful business* [all happy companies earn] a monopoly by solving a unique problem. All failed companies are the same: they failed to escape competition' (Thiel, 2014: 34).

Not only does the model fit, but his use of the word 'pathology' is strongly reminiscent of Schumpeter's awareness of the way that monopolies had been linked with 'vice'. What is more, Thiel's suggestion that 'the history of progress is a history of better monopoly businesses replacing incumbents' (Thiel, 2014: 32), is an almost exact description of the way in which technologies such as Steemit and Creative Passport are designed to disrupt their respective environments. As with Thiel's description of Apple's iOS ousting Microsoft, the intention is not to make Steemit and Creative Passport compete with existing models and business, and neither are they supposed to do things in a more efficient, or cheaper way. Instead, they are both designed to completely transform their respective sectors, ushering in wholesale transformations both in our understanding of the relationship between creating content and being rewarded on social media platforms, and in our expectations around direct and indirect rewards for creating and contributing to commercial content. Schumpeter again:

'[monopolies] not only arise in the process of creative destruction and function in a way entirely different from the basic schema, but in many cases of decisive importance they provide the necessary form for the achievement. They largely create what they exploit' (Schumpeter, 2010: 87).

Before concluding, and to provide a further perspective on notions of disruption and creative destruction, I shall briefly turn to the development in European and American critical perspectives known as Accelerationism. In what is now often regarded as the 'Urtext' of Accelerationist thought, the passage entitled '*The Civilised Capitalist Machine*' in *Anti-Oedipus*, Deleuze and Guattari lays out the fundamental axiom that has gone on to inform a set of Accelerationist trajectories that continue to be played out in both academic and online debate, most notably found within the context of the differentiation of the left, right

and 'unconditional' strains of accelerationism.² Deleuze and Guattari's aim in *Anti-Oedipus* was to produce a new critique of capitalism, one that was outside of traditional post-Marxist frameworks, and which began to formulate a way of seeing beyond capitalism by establishing a connection with desire. In thinking about what kind of 'revolutionary path' could lead out of the impasses they saw in capitalism, Deleuze and Guattari suggested that we should not 'withdraw from the process [of capitalism] but to go further, to "accelerate the process"' (Deleuze and Guattari, 1972: 162), which, in Schumpeterian terms would suggest that we should help capitalism to reach its self-driven collapse more rapidly, and thus find ourselves in a more acceptable socio-economic environment (which, for Schumpeter, would be socialism).

The theorist Mark Fisher updated Deleuze and Guattari's ideas in the conference presentation *Terminator vs Avatar*, claiming that 'accelerationism can function as an anti-capitalist strategy'. Fisher:

'[Capitalism], dominated by quasi-monopolies such as Microsoft and Way-Mart, is an anti-market. Bill Gates promises business at the speed of thought, but what capitalism delivers is thought at the speed of business. A simulation of innovation and newness that cloaks inertia and stasis (Fisher, 2012: 345).

There is a clear tension between Fisher's appraisal of advanced capitalism and Schumpeter's - and latterly Thiel's - rationalisation for the way in which monopolies are not only the most financially lucrative commercial model, but are also the best way of sustaining innovation and development. Indeed, for Thiel, 'to the economist, every monopoly looks the same', whereas in his view, a monopoly is 'the kind of company that's so good at what it does that no other firm can offer a close substitute' (Thiel, 2014: 24-5). Whilst the likes of Thiel and the accelerationist left clearly inhabit different ends of an economic and ideological spectrum, to a degree, Steemit and Creative Passport capture aspects of both positions. Each is an expression of the idea that systemic innovations are required in order to make online music markets more equitable, and at the same time they are both acknowledgements that non-market networks are now the history, rather than the future of the web.

Conclusion

Although it might be tempting to lament the passing of an internet which was thought to carry within its operating parameters the seeds of a new economy where nonmarket practices would reconfigure our approach to creativity, trade and sharing, we need only to turn back to Schumpeter to see that the future form of internet was clear from the outset:

Unlike the class of feudal lords, the commercial and industrial bourgeoisie rose by business success. Bourgeois society has been cast in a purely economic mould: its foundations, beams and beacons are all made of economic material (Schumpeter, 2010: 64)

In the case of Steemit and Creative Passport, their operating models are manifestly different from what precedes them; both have radicalised the way that value can be attached to digital content, and Steem's minting function almost entirely encapsulates Schumpeter's notion of creating that which it exploits. Thus, Steemit's pay-per-post function, and Mycelia's ambition to simultaneously make Creative Passport a new kind of global database and promotional platform for creative practitioners 'threaten' (in Schumpeterian terms) a complete displacement of the dominant approach to hosting music and media content online, and

² In the blog essay 'Unconditional Acceleration and the Question of Praxis: Some Preliminary Thoughts', the writer and blogger Edmund Berger parses the three variances of accelerationist thought, establishing the lineage of the concept, and presenting a set of contemporary viewpoints (Berger, 2017).

a set of behaviours and assumptions about how we interact with online media, that has existed since the beginnings of the commercial web in the 1990s. The extent to which the Steemit platform embodies this drive towards macro-scale disruption comes through in the way that the *Steem Whitepaper*, not unlike Lanier, critiques our current reliance on revenue from advertising as a means of underwriting payments for content. The whitepaper informs us that,

With ads, a creator can make money most easily. Without ads, monetization is difficult but the content is richer. Creators posting to social media outlets that are connected to Steem may monetize merely by having their work recognized (or “liked”) by the Steem community. Blockchain-based payouts are completely digital and have no middle-man. Therefore monetization by blockchain-based content rewards should be faster and much lower barrier to use than monetization by advertisements (Steem Whitepaper, 2018).

What is at stake here is that the minting and apportioning of Steem tokens represents an entirely different payment system to one based on leveraging advertising for payments, or increasing advertising revenue by exploiting platform users’ data. Whilst the Whitepaper is telling us that Steemit, by removing third parties such as advertisers, is a platform that is able to pay users in a more efficient way, the underlying message here is that Steemit is a new way of thinking about how an economy can work. This is to say that, although the Whitepaper talks in a language that foregrounds Schumpeter’s ‘price variable’ – in other words, success in the marketplace based on cost and revenue – at a more fundamental level, it is concerned with mapping out a radical vision for market forces as such. In the age of the Siren Server, we have seen a digital economy based on advertising revenue, grow exponentially. The Whitepaper, however, speaks of an economy based on engineered scarcity, wherein a range of internet-era behaviours, such as posting, liking, commenting and reposting, have become a new form of labour. As such, Steemit is an experiment in determining whether or not it is possible to circumvent established models for online commerce.

Steemit and Creative Passport also draw on the proposition that as a network increases in activity and size, so does its value. In the case of Creative Passport, not only does the passport as ‘container’ seek to ensure that payment is made where payment is due, but also, because of the anticipated increase in network connections that would result from the fact that the work of one creative acts as a signpost for another (and vice versa) - in effect turning everyone in the Creative Passport environment into an advertisement for everyone else - the potential for financial reward increases as more users join the network. Herein lies the most obvious difference between Steemit and Creative Passport, in that the latter is designed to use blockchain digital watermarking capabilities to both ensure and propagate payments within a conventional model of commerce (albeit one that has as yet not materialised online), whereas the former is a model that could sustain comparison with quantitative easing or the idea of a Universal Basic Income. In this context, given that Steem minting is happening whether or not users contribute to the Steemit platform, to a degree, interacting with Steemit is simply an opportunity to draw down the benefits of that currency creation process. The *Steem Bluepaper* refers to this specifically as one of Steem’s primary innovations, claiming that ‘the unique properties of STEEM make it both “smart” and “social” compared to others, such as bitcoin and ether’ (Steem, 2017: 1). It attributes this innovation to the way tokens are rewarded via the rewards pool and the voting process, and states that ‘when combined [these two unique properties] are referred to as Proof-of-Brain, which is an entendre based on Proof-of-Work, meant to emphasise the human work required to distribute tokens to community participant’ (Steem, 2017: 1). Thus, Steem’s lasting innovation, maybe the way in which it articulates and puts forward solutions to much a wider issue over how the nature of markets and benefits might manifest on the internet.

Steemit and Creative Passport are projects that have been designed to operate in, exploit and make equitable an economic environment that is neither in need of being accelerated out of in stasis, and nor is it in danger of burning itself out. At the macro scale, Schumpeter speculates about whether capitalism is a fully self-contained and unique socio-economic form, or if it is simply ‘the last stage

of the decomposition of what we have called feudalism (Schumpeter, 2010: 124), and thus his ideas may yet have further prescience. Not only, as Fisher suggested, is advanced capitalism equipped with its own feudal lords - Gates, Bezos, Zuckerberg et al - but it is also less complete, less resolved than we may think. Whereas Fisher claimed that capitalism was in crisis because of the stasis and stagnation caused by monopolies, it may be the very fact that because it *is* a monopoly, one that is susceptible to disruption and forever in a state of becoming more than it was, but remaining less than what it could be, that Schumpeter will have the last word: 'destruction may not be the right word after all ... perhaps I should have spoken of transformation' (Schumpeter, 2010: 145). If Steemit and Creative Passport are agents of destructive transformation, then they are agents with no teleological imperative of an anticipated socialism, and without the accelerationist's enthusiasm for weaponising the disruptive process in order to achieve the downfall of capitalism. Catching the current wave of blockchain-powered disruption, is therefore an acknowledgement that technologies, economies and socio-economic systems will only exist as long as they are the best solutions to the issues they have evolved to address. But even that will not save them, for they cannot help but be transformed by the very forces that brought them into being in the first place, which is to say, themselves.

Bibliography

Accenture. 2018. *The future of all industry is disruption – and that’s a good thing*. Available at <https://www.wired.co.uk/article/the-future-of-all-industry-is-disruption-and-thats-a-good-thing> (accessed August 2018)

Benkler, Y. 2006. *Wealth of Networks: How Social Production Transforms Markets and Freedom*. New Haven and London: Yale University Press

Berger, E. 2017. *Unconditional Acceleration and the Question of Praxis: Some Preliminary Thoughts*. Available at <https://detrterritorialinvestigations.wordpress.com/2017/03/29/unconditional-acceleration-and-the-question-of-praxis-some-preliminary-thoughts/> (accessed 2018)

Bower, J and Christensen, C. 1995. *Disruptive Technologies: Catching the Wave*. Available at <https://hbr.org/1995/01/disruptive-technologies-catching-the-wave> (accessed 2018)

Deleuze, G and Guattari, F. 1972. 'The Civilised Capitalist Machine', in Mackay, R and Avanesian, A (eds). 2014. *#Accelerate: The Accelerationist Reader*. Falmouth: Urbanomic.

Digital Music News . 2017a. *Imagine a Single, Unified Licensing Database for Every Song In the World*. Available at <https://www.digitalmusicnews.com/2017/07/21/congress-public-music-licensing/> (accessed 2018)

Digital Music News. 2017b. *War Erupts Over Whose Global Music Rights Database Is Better*. Available at <https://www.digitalmusicnews.com/2017/08/04/riaa-ascap-bmi-congress-shared-music-database/> (accessed 2018)

Fisher, M. 2012. 'Terminator vs Avatar', in Mackay, R and Avanesian, A (eds). 2014. *#Accelerate: The Accelerationist Reader*. Urbanomic: Falmouth.

Gauntlett, D. 2011. *Making is Connecting: The social meaning of creativity, from DIY and knitting to YouTube and Web 2.0*. Cambridge: Polity Press

Heap, I. 2018. *Mycelia Creative Passport*. Available at <http://myceliaformusic.org/wp-content/uploads/2017/12/CREATIVE-PASSPORT-vPDF-INSIDE-V3.pdf> (accessed 2018).

IFPI. 2018. *IFPI Global Music Report 2018*. Available at www.ifpi.org/news/IFPI-GLOBAL-MUSIC-REPORT-2018 (accessed 2018)

Internet Society. 1997. *Brief History of the Internet: Introduction*. Available at <https://www.internetsociety.org/internet/history-internet/brief-history-internet/#f5> (accessed 2018)

Leadbeater, C. 2008 *We-think: Mass innovation, not mass production*. London: Profile Books

Lovett, M. 2019. 'Disruption as Contingency: Music, Blockchain, Wtf?', in Hepworth-Sawyer, R, Hodgson, J, Paterson, J and Toulson, R. *Innovation In Music: performance, production, technology and business*. Routledge.

Engels, F and Marx, K. 1848. *Manifesto of the Communist Party*. Available at <https://www.marxists.org/archive/marx/works/1848/communist-manifesto/index.htm> (accessed 2018)

2018)

Music Business Worldwide. 2016. *Who will build the music industry's Global Rights Database?* Available at <https://www.musicbusinessworldwide.com/who-will-build-the-music-industrys-global-rights-database/> (accessed 2018)

Mycelia. 2018. *Mycelia Creative Passport*. <http://myceliaformusic.org/wp-content/uploads/2017/12/CP-vPDF-INSIDE-V3.pdf> (accessed 2018)

The Networking and Information Technology Research and Development (NITRD) Program. 1995. *FNC Resolution: Definition of "Internet" 10/24/95*. Available at https://www.nitrd.gov/fnc/internet_res.pdf (accessed 2018).

Schumpeter, J. 2010. *Capitalism, Socialism and Democracy*. London and New York: Routledge.

Srnicek, Nick, (2017). *Platform Capitalism*. Cambridge: Polity Press

Steem. 2018. *Steem Blueprint*. <https://steem.io/steem-bluepaper.pdf> (accessed 2018)

Steem. 2017. *Steem Whitepaper*. Available at <https://steem.io/SteemWhitePaper.pdf> (accessed 2018)

Steemit. 2018. *Steemit FAQ*. Available at <https://steemit.com/faq.html> (accessed 2018)

Tapscott, D. 2016. *How the blockchain is changing money and business*. Available at <https://www.youtube.com/watch?v=PI8OIkWpRc&t=49s> (accessed 2018)

Wu. T. 2003. "Network Neutrality, Broadband Discrimination". *Journal of Telecommunications and High Technology Law*, Vol. 2, pp. 141-175. Available at http://www.jthtl.org/content/articles/V2i1/JTHTLv2i1_Wu.PDF (accessed 2018)