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Citation: Dallyn, Sam and Frenzel, Fabian (2021) The Challenge of Building a Scalable Postcapitalist Commons: The Limits of FairCoin as a Commons-Based Cryptocurrency. *Antipode*, 53 (3). pp. 859-883. ISSN 0066-4812

Published by: Wiley-Blackwell

URL: <https://doi.org/10.1111/anti.12705> <<https://doi.org/10.1111/anti.12705>>

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# The Challenge of Building a Scalable Postcapitalist Commons: The Limits of FairCoin as a Commons-Based Cryptocurrency

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**Abstract:** Postcapitalist commons are a growing area of interest in the efforts to generate alternatives to capitalism in the present. Commons are understood as self-organised collectives based around shared resources; yet postcapitalist commons have an additional element, in operating within while projecting an “after” capitalism. This can give rise to tensions since commons striving for postcapitalism also require a certain amount of capital to survive and function within capitalism. FairCoop is a radical postcapitalist commons that adopted the cryptocurrency FairCoin in 2014. FairCoop, through FairCoin, was able to generate some trans-local connections through its use of peer2peer technologies and was thus able to scale-up. Its design, however, was ultimately unsustainable due to insufficiently clear boundaries from capital. After highlighting the lack of commons boundaries around FairCoop, we identify some additional commons-capital boundary design principles which could contribute to the sustainability of future postcapitalist commons experiments that are seeking to scale.

**Keywords:** postcapitalism, commons, commons boundaries, cryptocurrencies, FairCoop, FairCoin

## Introduction

“We don’t believe in protesting, we are boycotting, we are creating something new outside the existing system”, explained Igor, “in which we take out the generation of profit and exploitation within existing capitalist processes of exchange”. Instead, he continued, “we value products through labour time and production according to principles of cooperation, solidarity and ecological sustainability”. This radical proposal to generate alternative conceptions of value outside of capitalism was presented in the Serbian countryside in Stražilovo, Stremski Karlovci, Serbia in 2018, in a large house packed full of around 30 activists, anarchists, squatters, philosophers, ecologists, and hackers (and often some combination of these). The participants originated largely, but not exclusively, from Southern European countries, such as Spain, Greece and Italy; but with a significant presence from Switzerland and Serbia.

Igor’s call to develop alternative relations of exchange was presented to a small cooperative in Belgrade who were using self-made machines to make lamp shades and other goods from recycled plastic. Igor introduced the distinctive and radical

cryptocurrency, FairCoin. FairCoin has been built largely by an international movement, FairCoop, that was gathered in Stražilovo for their annual Summer Camp. FairCoop was founded in 2014 as a movement seeking to expand and scale up the radical communal anarchist ideals and practices of the Catalan Integral Cooperative (CIC) in Catalonia—which after its creation in 2010 had some success (in its early years) in generating “a self-sufficient economy that is autonomous from the state and the capitalist market” (Dafermos 2017:s4). Autonomy here refers to some degree of self-control and relative independence from the state and capitalism (De Angelis 2017a:228). FairCoop aimed to spread this vision to different regions, based around peer2peer social organisation and free association, and hacker ethics of breaking into the financial system to generate collective alternatives (see Wark 2004). These principles were added to the ideals of Integral Revolution associated with the CIC. Integral Revolution works towards a radical transformation of economic and social life and “the abolition of all forms of domination” in favour of collective self-organisation and cooperation (see *IntegralRevolucio* 2020; see also FairCoop 2017a).

The cryptocurrency FairCoin is one of a number of different “altcoins” that have been created since Bitcoin and its innovative “blockchain” design was put forward in Nakamoto’s famous 2008 white paper. The blockchain is a clever piece of cryptography in which “groups of transactions are gathered together into ‘blocks’ as they occur, and as each block is turned out it is added to the ‘chain’ of all transactions” (Bridle 2019:xiii). This generates a means to process transactions via an alternative “electronic payment system” (Nakamoto 2008). One of the central appeals of Bitcoin for its followers and users is that the Bitcoin blockchain promises to cut “the middlemen” or third-party intermediaries (who also take a transaction fee) out of processing transactions. Through its alternative approach to “cryptographic authentication” (Maurer et al. 2013:265) the code serves to authenticate transactions, thus (at least in theory) sidestepping fallible “human sociality” (Maurer et al. 2013:263). Bitcoin has since attracted billions of dollars in speculative investment, accompanied by voluminous business and investor hype. While it has not succeeded as money in the sense of being widely used for day to day transactions, it has set “a staging ground for debate” about the “role of money in society” (Swartz 2018:623). Since their emergence in 2014, FairCoop and FairCoin have been highlighted as a distinctive and important experiment due to FairCoop being a radical commons alternative that has the potential to expand and *scale* through peer2peer technologies (see for example Allon 2018; Bauwens and Pazaitis 2019; Chatterton and Pusey 2020; Gerhardt 2020; Griziotti 2019; Scott 2016). FairCoop has sought to do this through utilising FairCoin’s cryptocurrency blockchain design to facilitate the expansion of a commons that (unlike Bitcoin) seeks to sidestep capitalist logics of private value extraction. That said, its status in existing accounts tends to be a brief reference point rather than assuming the position of detailed primary analysis, and this is what the following investigation provides.

Commons are “a plurality of people (a community) sharing resources and governing them” with “their own relations and (re)production processes” that are characterised by “commoning”, that is, social processes of cooperation and

communities coming together (De Angelis 2017a:10–11; Huron 2015). To the extent to which FairCoop through the governance of FairCoin reflects these features, it constitutes a commons. In addition, here we consider FairCoop as a *postcapitalist* commons that sought to scale through FairCoin (see Chatterton 2016; Chatterton and Pickerill 2010; Chatterton and Pusey 2020). FairCoop has explicitly situated itself as postcapitalist (FairCoop 2017b), in being both *in* and attempting to offer a transition to an oppositional *after* capitalism. Yet this postcapitalist position clearly gives rise to tensions, since postcapitalist commons both require some form of capital and need to be sufficiently bounded from capitalism to retain their status as commons (see De Angelis 2017a:334). In the case of FairCoin we will see that this problematic centred around questions of price and convertibility, and FairCoin's unusual two price model. FairCoin had two prices, one price was established through trading on external cryptocurrency exchanges in which FairCoin was exchanged for other cryptocurrencies, principally Bitcoin; and a second price that operated internally within FairCoop, established and decided by the FairCoop commons itself.

As the two valuations of FairCoin (the FairCoop valuation and the external cryptocurrency exchange price) diverged in 2018, FairCoop was faced with increasing pressures around the limited resource of capital, in the form of the Euro—the dominant government fiat currency in the regions where FairCoin was most widely used. The key concepts through which we analyse this problematic are the notion of commons boundaries (Ostrom 1990) and De Angelis' (2017a, 2017b) conception of a “filtering membrane”. We argue that postcapitalist commons need clear boundaries to be protected from the encroachment of the values and practices of capital, which are centred around state backed fiat currency (De Angelis 2017a:313) and private value extraction from the commons. Yet because some capital is necessary to sustain the commons, a “filtering membrane” (De Angelis 2017b:228–229) is required for the postcapitalist commons to be sustainable. The “filtering membrane” is a selective filter which is intended to secure capital for certain items that cannot be acquired internally within the commons (such as electricity and heating), but with certain boundaries to prevent the erosion or weakening of the shared (postcapitalist) values of the commons itself. While capitalism, as Gibson-Graham (2006:198) characterise it, is an “exploitative class process in which surplus labor is appropriated from the direct producers in value” by nonproducers, who in this process appropriate capital. Capital here is intimately connected with state backed fiat currency, since we have a system of privatised money creation in which commercial banks generate money by lending it at interest (Mellor 2010).

Two principal research questions frame the following investigation: First, is FairCoop and FairCoin a viable postcapitalist commons and cryptocurrency that is sustainable? For De Angelis (2017a:122) sustainability means the establishment of a “series of stock-flow relations necessary to (*re*)produce” the commons (emphasis added), through a structure determining the extraction of limited resources (see De Angelis 2017a:167; Ostrom 1990:33). If limited resources are extracted excessively in a way that outpaces their inflow into the commons, the reproduction of the commons is endangered. Second, what can FairCoin and FairCoop tell us

about the potential to generate scalable postcapitalist commons? Being scalable means the extent to which the commons can spread beyond the specific site (Gerhardt 2020) potentially to multiple other sites and regions, and thus become trans-local in scale. As we will see the answer to the first question is negative for the reasons that emerge from the response to the second. FairCoop shows us that within postcapitalist commons, the boundaries between commons and capital need to be firmer in order to clearly limit the extraction of scarce resources (in this case state backed fiat currency). Thus, the principal contribution of this paper is to outline some additional commons boundary design principles that are necessary for postcapitalist commons to be scalable and sustainable. We develop a more extensive and radical conception of Ostrom's (1990:90) first design principle of commons boundaries—principally for Ostrom the rights to withdraw resources and the boundaries around a shared resource—by using the limits of the FairCoop case to think through a firmer basis for more sustainable and scalable *postcapitalist* commons.

We begin by outlining what is significant about the case and then situate our own positionality and methodology in the investigation that follows. The investigation then proceeds across four sections: First by drawing on some critical conceptions of money to highlight its fundamental social and political importance (see Ingham 2004), and connecting this to what is distinctive about *postcapitalist* commons (Chatterton 2016; Gerhardt 2020). Here the importance of commons boundaries is also highlighted, which serves to frame our investigation. We then situate FairCoin in the broader field of cryptocurrency commons experiments. Second, we outline how FairCoop generated significant trans-local commoning through FairCoin. Third, we focus on why this scaling was ultimately unsustainable due to FairCoop having insufficient boundaries from capital. In the fourth section, drawing from the lessons of the FairCoop case, we argue that the insufficient commons boundaries of FairCoop highlights how scalable *postcapitalist* commons require some additional commons boundary design principles (Ostrom 1990) to be viable and sustainable.

## A Note on the Case Study and Method

FairCoin is the most well-established cryptocurrency that is governed by a commons (Gerhardt 2020). While a number of commons based blockchain proposals have emerged in recent years (see for example Economic Space Agency 2020; Pazaitis et al. 2017), these designs are often at blueprint stage. At its height in 2017, FairCoin had a significant community of thousands of users, merchants and developers—with a particular concentration in Southern Europe. FairCoop and FairCoin are particularly significant in at least three principal respects, first in being the first explicitly *postcapitalist* cryptocurrency experiment. In its glossy 2017 leaflet, FairCoop is described as a “self-managed financial” collective for “a transition to a postcapitalist era” (FairCoop 2017b). Second, in seeking to be *trans*-local, inclusive and *scalable*, FairCoop was designed to be an open and expansive postcapitalist commons, which all those sympathetic to its values could link into, principally by facilitating self-organisation around FairCoin in different regions (Duran

2018), thereby addressing an often highlighted problematic of lack of scalability in commons experiments (see for example Gerhardt 2020; Griziotti 2019). Third, through its emergence from the CIC and its close association with Enric Duran—the key founder in 2014—FairCoin presents a rare example of a cryptocurrency with concrete links to self-organised, collectivist anarchist and squatter communities (O’Leary 2018). These distinctive features make FairCoop an important example of an ambitious “post-capitalist collaborative commons” experiment (Gerhardt 2020). Much can be learnt from the case to establish what the potential is for such experiments and what challenges they might face when seeking to expand. It should also be noted that FairCoop and FairCoin are currently best described as being in a state of stasis, many participants and communities have exited the project largely for reasons that we will go on to discuss; however, the FairCoin blockchain can still process transactions, and there are a small group of developers who continue to contribute to its development.

In terms of our own positionality, one of the authors has been both fascinated by and sympathetic to this attempt to realise a scalable postcapitalist commons in practice. In this respect our approach shares some methodological affinities with Gibson-Graham’s (2006:165) position in *A Postcapitalist Politics*, “the collectivities involved in constituting these economies include ourselves and other researchers who are engaged (often collaboratively with the participants) in theorizing and analyzing individual projects, thereby making them available and transportable as models or inspirations”. One of the authors has been a participant in FairCoop for over two years; has produced and proof-read various FairCoop blogposts; has been actively involved in hundreds of meetings both online and in person; has participated in two FairCoop summer camps in Novi Sad, Serbia, and Jura, Switzerland; as well as being involved in numerous online and in person conversations about FairCoin and FairCoop over these years. This position of activist and researcher (see Reedy and King 2019) was complimented by semi-structured interviews with eight activists heavily involved in FairCoin and FairCoop, including some of its founders. These interviews have been coded and re-coded into particular key themes and topics that emerged, while the first names and the involvement of some respondents is detailed, a couple requested anonymity which has been respected in the analysis that follows.

While one of the authors has been heavily involved in the FairCoop movement, the other author has not been active in the movement. We have thus deliberately adopted a strategy of co-authorship to enable at least some degree of critical distance in the analysis that follows (see Reedy and King 2019)—in seeking to combine both a more engaged and a more independent perspective. As writers and activists, we also have a responsibility to consider tensions, conflicts and challenges around building postcapitalist commons. First, because it would be misleading to do otherwise when challenges exist. Second, because processes of forging and sustaining “postcapitalist” alternatives in common necessarily entails risk (Chatterton 2016) and a need to constantly respond to fresh challenges through rethinking and experimentation. Before discussing our case, in the following section we set the investigation into the broader context of money and postcapitalist commons, then highlight the need for postcapitalist commons to

establish certain clear boundaries in relation to capital. Following this, we situate FairCoop and FairCoin in relation to the existing literature on cryptocurrencies and the commons.

## Money and the Postcapitalist Commons

Money is in essence a social relation (Dodd 2014:8–9) although the social aspects of money are often overlooked in conventional macro-economic models (Hutchinson et al. 2002; Ingham 2001:307). As Brunton (2019:14) notes, money serves a key function in the “production and reproduction of shared norms and social cohesion”. Furthermore, money in the form of government backed fiat currency is a fundamental social relation underpinning capitalism through the monetisation of debt via bank lending (Ingham 2004:194). In addition, money is an important *political* relation—in incarnating particular values that are contestable and contested—one that generates binding social ties (see Dodd 2014:372). As Hutchinson et al. (2002:13) argue, privatised money creation in which commercial banks generate money by lending at interest and charging fees, is ultimately the “bottom line” of capitalism (see also Ingham 2004:13). A bottom line that is “determined by an assumption that economic activity only takes place within a capitalized market system” which is both socially and ecologically destructive (Hutchinson et al. 2002:1). According to Hutchinson et al. (2002:41), “catastrophic environmental collapse” is the most likely scenario in a monetary system in “which every incentive leads to the destruction of natural resources” in order to extract capital.

Fundamental questions around our “privatized system of money creation” in which commercial banks effectively generate money through loans (Mellor 2010)—with all of its resulting imbalances, inequalities and fundamental unsustainability—have assumed a higher profile in public and academic debate since the financial crisis of 2008. Radical left and progressive alternative conceptions of money tend to take two forms: One moves towards a reimagining of the role of the state in actively overseeing the creation of money for social purposes (see Hutchinson et al. 2002; Mellor 2010; Positive Money 2015); although such approaches have been criticised for a lack of strategic sense of *how* citizens might collectively drive the state to democratise and fundamentally transform the money system (see for example North 2016). The other approach sees greater potential in the myriad of self-organised alternative currencies, and their capacity to generate partial but distinctive tokens of exchange (Dodd 2014; North 2007). Critics of alternative currencies point to their status as a partial subordinate unit of account to the dominant state backed fiat currency system (see Ingham 2004; Ould-Ahmed 2010). Despite these limitations, some have highlighted the potential role of radical alternative currencies, like FairCoin, to support a commons transition to post-capitalist futures (Chatterton and Pusey 2020; Gerhardt 2020). The interest in FairCoin in these recent accounts stems from it being an alternative cryptocurrency which is able to cover a much wider economic realm than is typically the case with alternative currencies—since communities and individuals anywhere are free to download a FairCoin wallet, sell goods in FairCoin online or in person, and

link up with the FairCoop commons. It is thus not confined to a specific site or region as often tends to be the case with commons organisations (see Gerhardt 2020). Furthermore, Bitcoin as the first and most recognised cryptocurrency—despite its clear limitations as a commons (O'Dwyer 2014, 2015)—has proven to be strikingly resilient, and is now in its twelfth year of existence. FairCoop, through FairCoin, presents a distinctive attempt to build an alternative cryptocurrency with explicitly political aims, based around developing a commons oriented, postcapitalist monetary system (see FairCoop 2017b; Gerhardt 2020).

### ***Commons Boundaries and Postcapitalism***

While there is now an expansive literature on the commons, there is a reoccurring ambiguity around the distinction between *non*-capitalist and *anti*-capitalist commons. Commons today have been positioned as a clear adversarial alternative to capitalism (De Angelis 2017b; Ruivenkamp and Hilton 2017:7); or, as essentially non-capitalist (Ostrom 1990). The term *postcapitalist* commons adds an important additional nuance to these conceptions since it denotes a commons which recognises its own hybridity, in being both *against* but simultaneously operating *within* capitalism, with all of the accompanying challenges this gives rise to. This postcapitalistic aspect of FairCoop was neatly reflected by Chris from Decentrale, Mont-Soleil, Jura, Switzerland. Decentrale is a space for diverse self-organised and cooperative projects in the region. Chris has been heavily involved in FairCoop since 2016 and he saw strong potential overlaps with FairCoop's efforts to generate transitional alternatives:

It offers an opportunity to create something that interacts with the capitalist system to some extent and interacts with a new reality that is postcapitalistic that can be created, and I see FairCoin as a bridge element between the two.

This “bridge element” in the transition from *within* capitalism to generate alternative futures *after* capitalism, is a strategic and practical one that can only be built through risk taking and experimentation (see Chatterton 2016) in postcapitalist commons. In Chatterton and Pusey's (2020:40) helpful outline of different streams in the postcapitalist literature, the work related to autonomous postcapitalist commons is characterised by analysis of “novel forms of community-based doing and common ownership of the economy that has the potential to scale beyond self-governing micro-local experiments”.

Yet it should be noted that capital in the form of state backed fiat currency is often required in some form due to “the vast array of useful products that commons do not have any other ways of procuring but through engaging in monetary payments” (De Angelis 2017a:334). This gives rise to the central problematic of postcapitalist commons that we investigate here: How can commons filter in enough capital to be resilient and sustainable, but at the same time be sufficiently bounded from capital to prevent the ideals and practices of the commons becoming endangered through the predominance of money in the form of state backed fiat currency (see De Angelis 2017a:317)? The shape and form of the “filtering membrane” (De Angelis 2017b:228–229) through which capital enters into—and



is extracted from—the commons must be decided and monitored by actors to ensure that capital does not endanger the commons, for example, through an unsustainable extraction of the dominant state sanctioned currency, in the case of FairCoop, Euros. There are a variety of different ways in which capital can be filtered into the commons in a manner that maintains some boundaries, including crowdfunding (although there are obvious limits to the extent to which this can be repeatedly used), membership contributions, the commons itself producing and selling particular goods and services for state backed fiat currency, or potentially through monthly instalments from participants who have a steady and sufficient income in state backed fiat currency (see Fairo 2019).

One interesting example of filtering capital into a postcapitalist commons is the case of the Low Impact Living Affordable Community (LILAC) housing cooperative in Leeds, UK (Chatterton 2016), in which all residents pay 35% of their net income in equity shares into a Mutual Home Ownership Society (MHOS) (Chatterton 2016:408). This presents an innovative way of filtering capital into the commons but keeping this bounded so that property speculation and private incentives around house price increases do not crowd out the shared values and practices of the commons. Since rather than contributing a certain amount of money in monthly instalments to paying off a private mortgage, residents are contributing a fixed proportion of their income to the shared commons resources of the MHOS. While LILAC presents an interesting, important and innovative case of a bounded postcapitalist commons, it is also a “single-place based experiment” (Chatterton 2016:410), and there are thus limits to its scalability (see Chatterton 2016:409; Gerhardt 2020).

The filtering membrane (De Angelis 2017b:228) through which capital is brought into the commons must be monitored to ensure that sufficient capital is entering for the commons to be sustainable. Furthermore, if there is a significant reduction of capital inflow, the scale and size of the postcapitalist commons will require adjustment and/or scaling back. Ostrom’s (1990) famous account of common pool resources (CPRs) provides further clarification. CPRs are natural resources that are self-governed by communities, in which the exclusion of beneficiaries is costly and in which the exploitation by one user reduces resource availability for others (Ostrom et al. 1999). By thinking through the experience of individuals in field settings, Ostrom is able to identify some design principles for CPRs to be self-governed in a manner which is viable and sustainable. It is the first of these principles that is most relevant to our investigation of postcapitalism and commons boundaries: “Individuals or households who have rights to withdraw resources units from the CPR must be clearly defined, as must the boundaries of the CPR itself” (Ostrom 1990:90).

There is an emphasis in Ostrom’s account on limiting extraction to ensure the sustainability of resources within the commons. The two key principles of CPR boundaries can be summarised as exclusion, in which some actors are unable to extract the shared resources from the CPR system; and subtraction in which the limited nature of the resource means excessive extraction by some will limit the availability of the resource for others (O’Mahony 2003). The crucial and scarce commons resource within FairCoop—as it sought to build and spread FairCoin as

an alternative currency to help generate a transition to postcapitalism—was money in the form of state backed fiat currency, predominantly Euros, as this was the dominant currency in the regions where FairCoin was most widely used, including Spain, Greece and Italy.

Alternative currencies like FairCoin are non-exclusive since it is difficult to prevent someone acquiring an alternative currency; and they can also be non-subtractive since the rate of release and issuance of the currency can be determined by the commons itself. However, if the commons promises to exchange the alternative currency for state backed fiat currency (in this case Euros)—as FairCoop did—a *subtraction* of limited capital resources is enabled through the commons. This highlights how money in the form of state backed fiat currency presents a significant challenge in regard to commons boundaries. Postcapitalist commons must find a way to filter state backed fiat currency money into the commons, and limit its extraction, so that it sustains and does not weaken the cooperative and convivial aspects of the commons.

Ostrom focuses on non-capitalist CPRs and her work has little critical engagement with the role of money (Vercellone et al. 2015:22). Her approach has also been characterised as overly rationalist and methodologically individualist (O'Dwyer 2015; Ruivenkamp and Hilton 2017:3; Vercellone et al. 2015). Yet we argue here that these critiques do not invalidate the relevance of her work for thinking through the basis for more radical and sustainable postcapitalist commons. Ostrom's framework does not require individuals to be rationalist in any purely individualist sense but allows for more collectivist and convivial values such as mutual aid, shared love and solidarity to sustain commons (see De Angelis 2017a:158). The crucial element of Ostrom's account is identifying appropriate design principles. Postcapitalist commons which to some extent rely on capital (a subtractable resource) must have boundaries and design principles in place to guard against the self-interested extraction of capital by (a) given actor(s) who *may* conceivably enter and seek to extract capital from the commons *at some future point*. The search for additional design principles to better secure the sustainability of scalable postcapitalist commons will be at the core of the following analysis of FairCoop.

### ***Blockchain Cryptography and the Commons***

In De Angelis' (2017a:241) analytical framework for studying commons, "boundary commoning" refers to interconnections and scaling by forging links or bringing in other collectives from different sites, which is itself a process of reconfiguring boundaries. Blockchain and peer2peer technologies are relevant here as they are devices that may facilitate commons scaling (see for example Bollier 2015; Gerhardt 2020; O'Dwyer 2015). Since its creation in 2009, Bitcoin and its blockchain cryptography have served as an important staging post for debates around the role of money in society (Dodd 2018; Du Pont 2019; Swartz 2018). The often repeated celebratory narrative propounded by a certain species of economic libertarian (usually a white, male and heterosexual one) attracted to Bitcoin (Du Pont 2019) is that the blockchain removes the need for third party

intermediaries in systems of payment and can thus disintermediate transactions (Dodd 2018:50), thereby bypassing central authorities and banks. The blockchain can be described as a “shared ledger”, a shared record of transactions and essentially a “chain” of “blocks” (Swartz 2017:83). In Bitcoin cryptography these blocks are added to through an energy intensive process known as mining in which computers compete to discover a hash code. The growth of Bitcoin in the last 10 years has been accompanied by disappointment and extensive critique amongst those who stress the potential of open source blockchain technologies to develop scalable peer2peer commons alternatives (De Filippi 2015; Kostakis and Giotitsas 2014; O’Dwyer 2014, 2015). Bitcoin instead has become a plaything for libertarian investors and free market ideologues (see Golumbia 2016). As De Filippi and Loveluck (2016:5) note, Bitcoin’s design principles present a “profoundly market-driven approach to social coordination”—through the overarching focus on incentivisation through self-interest (O’Dwyer 2015), and the development of an elite “aristocracy” of powerful miners and a handful of developers who make the key decisions around how the blockchain develops (Kostakis and Giotitsas 2014).

In characterising different cryptocurrency and blockchain communities, Swartz (2017, 2018) makes a helpful distinction between “digital metallists” and “infrastructural mutualists”. Digital metallists stress the benefits of Bitcoin as an asset underpinned by “trustless” cryptography, in being both limited in supply in a similar fashion to gold and enabling “autonomous market relations” (Swartz 2017; see also Maurer et al. 2013). Radical infrastructural mutualists, meanwhile, believe in the potential of the blockchain as an autonomous and decentralised infrastructure that can enable the “collaborative creation and distribution of value” between peers (Swartz 2017:86). One distinct group that have emerged here can be described as commons based digital mutualists, who see blockchain technology and peer2peer as something that can help to facilitate commons based around sharing and open source cooperation (Bauwens et al. 2019; Bollier 2015; De Filippi 2015; Pazaitis et al. 2017). O’Dwyer (2015) for example points to the potential of the blockchain to generate new forms of “commons based peer production”, while Bollier (2015) argues that “blockchain technology could help us build some refreshing, effective and socially progressive types of commons”. One subspecies of radical commons digital mutualists are postcapitalist digital mutualists, who explicitly seek to realise *scalable alternatives to capitalism* through peer2peer blockchain technologies (see Bauwens and Pazaitis 2019; Economic Space Agency 2020; FairCoop 2017b; Gerhardt 2020).

In terms of its underlying cryptography, FairCoin was designed to help facilitate this transition to postcapitalist futures through an alternative, collectivist and sustainable blockchain design. The key innovation here is that of Cooperatively Validated Nodes (CVNs), in which rather than competing—as is the case with Bitcoin mining—a collection of between 10 and 20 computers take it in turns to validate transactions every three minutes which is then signed off by the other CVNs in a “consensus algorithm” (König et al. 2018), a process in which the total number of coins is fixed. This leads to dramatically less energy consumption than Bitcoin in validating transactions, and consequently participants often refer to it as an “ecological blockchain” design (König et al. 2018).

In addition, there is a meshing of the technical, social and political in the manner in which CVNs are approved by monthly online FairCoop general assemblies. Those seeking to run CVNs put themselves forward, explain why they would like to contribute and outline their credentials, which must be supported by two other participants and then approved by consensus. The CVN is described in the FairCoin white paper as “a socio-technical sculpture” which is authorised through a “social p2p consensus mechanism” (König et al. 2018:7). One interview respondent, Vale, who had been heavily involved in activism in Barcelona and is now based in the UK, explained her motivation for running a CVN as follows:

The main reason for joining the movement was the proof of cooperation blockchain because I thought that was really something ... I’m quite good with technology so I set up SiQuoBern, SiQuoBern is a node in the blockchain, I set myself up to run a node in the FairCoin blockchain but of course in order to run a node you need to demonstrate you’re a good person.

A key appeal of the FairCoin blockchain is the potential it offers as an alternative, radical currency that can scale to multiple regions through peer2peer technology, and this aspect was continually stressed by different interview respondents. Thus, before exploring FairCoop’s insufficient boundaries in relation to capital, we expand on the opportunities FairCoin offered for expansive, trans-local FairCoop boundary commoning.

## **The FairCoop Commons**

FairCoop was founded in 2014 by Enric Duran. Duran became famous within activist communities by creating multiple overdrafts in different banks across Spain in 2008 through fake solvency, and then using the roughly half a million Euros generated to support anti-capitalist movements in Catalonia and across Spain. As Enric Duran (2019) stressed, “I envisage FairCoop will be for the entire world what the CIC is to Catalonia: An open self-governed worldwide financial co-op independent of banks or states”. Duran has served as a figurehead in the early years of FairCoop in giving the movement a disobedient, communal anarchist ethos as it aims to be autonomous from both capitalism and the state. In Duran’s original vision, FairCoin would address the challenge of scale facing many commons (see Gerhardt 2020) through peer2peer technology.

## **A Trans-Local Commons**

FairCoop is organised on the basis of local nodes, and over 50 local nodes have been created in different regions, principally in Southern Europe—although the vast majority of these are no longer active at the time of writing. These local nodes are self-organised and radically autonomous as long as they are aligned with FairCoop’s principles of peer2peer collaboration, Integral Revolution (IntegralRevolucio 2020), and hacker ethics (FairCoop 2017a). Hacker ethics is understood through some key collective principles that include free information and sharing, and open public data (Interview, Duran, 2019; see also FairCoop 2017a).

Local nodes are meant to build alternative economies and they make decisions through face-to-face assemblies. The nodes also operate Points of Exchange (POE) where people can exchange government backed fiat currency for FairCoin. The most active local nodes had FairSpots, sites which provide a POE, a place that goods can be bought and sold in FairCoin, and somewhere that political meetings could be held. The first FairSpot was created in central Athens, Exarcheia in 2017, which sold items in FairCoin including olive oil, coffee, herbs, pasta sauces and syrup. In Novi Sad, Serbia, the FairSpot also had a small garden, which meant that fresh, organically grown fruit and vegetables could be sold in FairCoin (see FairCoop 2018a). FairCoin can be used by downloading a wallet app, which allows the purchase of FairCoin using government fiat currency or other cryptocurrencies. The wallet also enables exchanges through a local node anywhere where FairCoin is active. Transactions can then be made either via laptops in which addresses can be copied and pasted, via FairPay cards, or via Android phones and the scanning of QR codes. In addition, there is also a Fair Market website (which continues to exist, although with a vastly reduced range of goods offered from when FairCoin and FairCoop was at its height in 2017) where items such as eggs, olive oil, lip balms, herbs, fruit and vegetables can be bought in FairCoin. Some cities, including London, also had temporary accommodation that was advertised on the Fair Market website and that can be paid for in FairCoin.

The governance of FairCoop and FairCoin operated on two levels. Local level FairCoop groups held regular in person local node meetings and, at a global level, collective discussions occurred—and continue to occur in more limited form—across a broad range of groups on Telegram and via FairChat—an open source software messaging application. These different groups focus on issues such as economic strategy; the development of open source applications; coordination between FairCoop local nodes; an independent bank, Bank of the Commons; and a welcome group. At a trans-local level, there are open online monthly meetings including the General Assembly, amongst others (FairCoop 2018b). Participants can make proposals which are discussed in the General Assembly or relevant groups with the aim of achieving a form of consensus, which does not aim for 100% agreement in each case. Individuals can passively disagree or actively block a proposal—and it is only when a participant blocks a proposal that it cannot be implemented. Individuals who block decisions must provide a substantive reason, and ideally offer an alternative. It must be noted that the most intractable issues that FairCoop has faced are related to the price and convertibility of FairCoin—that is, around what rate FairCoin can be exchanged back to Euros or whether this should be offered at all within FairCoop, and how FairCoin should be valued in relation to Euros when goods and services are priced. This will be the central focus of the following section, but it is worth noting that as a result of the impossibility of finding any consensus here, FairCoop adopted a more decentralised approach to questions around FairCoin price and convertibility, which is now left to local nodes in different regions to decide.

At an open FairCoop local node experience sharing session during the 2018 Summer Camp in Serbia, one of the participants described the activities of the FairCoop local node in Heraklion in Crete. Michaelis, an activist and a member of

the Integral Cooperative based there, described how they had been able to cooperate with a social currency in the region:

In every event of the Integral Cooperative we try to promote both coins, for example the autonomous market has helped us to extend a lot to other people. For example, we had a desk with a couple of computers and one guy was speaking about the social currency, I was speaking to people about FairCoin.

The quote above reflects a significant instance of boundary commoning. First, we can see from the quote that the ideals of the CIC have spread, and a similar model has been adopted in Heraklion through the generation of its own Integral Cooperative. Second, commoning occurs through the use of open street markets where producers and consumers use FairCoin and other social currencies. FairCoin was also working alongside an existing local social currency, thus presenting a significant instance of forging interconnections in a local context. A significant number of other instances of boundary commoning have been facilitated through FairCoin over the years, including the Iberian Routes project during 2018–2019 in which on a monthly basis food (including fruit, pasta, herbs, olive oil and beer) and cleaning products were transported to different regions across the Iberian Peninsula and exchanged for FairCoin, through a coordinated project which involved up to eight different local nodes in the region, including Galiza, Manresa and Tarragona (see FairCoop Forum 2018).

Returning to the experiences in Heraklion, as Michaelis went on to explain:

The rest of the city sees us as an alternative to the market, as an anti-capitalistic movement. As you know some of them like it, we try to welcome and incorporate anyone who is interested, and we try to present ourselves as a transition movement who needs the social interaction.

Michaelis' stress on openness and a desire to "incorporate anyone who is interested" is reflective of the openness of FairCoop's design model with very little stress on commons boundaries. We can also see here the extent to which the postcapitalism within FairCoop is seen by some participants and external observers as having an *anti-capitalist* flavour (Chatterton and Pickerill 2010). FairCoop however is rather a *postcapitalist* movement as it sought to generate a source of capital through FairCoin being openly tradable on different cryptocurrency exchanges. This led to the key problem of FairCoin's two prices and insufficient boundaries from capital, to which we now turn.

## **Hacking the Market? The Two Price Model**

FairCoin was characterised by an unusual dual price structure. FairCoop and the community of activists around it make decisions about governance, values, and the adoption and development of software applications. Crucially, FairCoop general assemblies also established a FairCoop exchange rate at which goods and services were priced in FairCoin, and at which the exchange from FairCoin to Euros was promised for FairCoop participants and merchants (FairCoop 2019). Yet FairCoin can also be purchased on external cryptocurrency exchanges outside

FairCoop. Crypto exchanges are a crucial feature of the cryptocurrency world since they are the principal means of acquiring cryptocurrencies in a competitive online bidding process. At different points FairCoin was listed on different cryptocurrency exchanges—the most high profile one being Bittrex, which it was delisted from in March 2018, after the community refused to name a CEO or fulfil certain regulatory requirements necessary to be classified as a security (FairCoin 2018).<sup>1</sup> Because the price of FairCoin on these external exchanges was highly volatile, the exchange rate that was established by the general assemblies was seen as a way of protecting merchants and users from the volatility of cryptocurrency exchanges. It was meant to ensure that the price of goods and the value of FairCoin remained relatively stable within the postcapitalist commons. In addition, there was a mechanism for channelling capital into the commons: a rising value of FairCoin on external cryptocurrency exchanges would enhance the commons by increasing the relative value of FairCoin held by participants in FairCoop. The general assemblies would respond to the increasing value of FairCoin on external cryptocurrency exchanges by raising the agreed FairCoin-to-Euro exchange rate within FairCoop—which would be decided through consensus decision-making.

This brings us to the key problematic in our investigation of FairCoop and commons boundaries: How can capital be extracted and used for the good of the commons and its reproduction to the ends of “love, solidarity and conviviality” (De Angelis 2017a:339) in a manner that protects and supports the alternative that is being built? As Chris, based in Jura, noted to one of us, as a postcapitalist commons FairCoop sought to use FairCoin as a filter that:

... would ideally be a membrane that interacts both with the capitalist system and with the Fair economy that is postcapitalistic or going towards postcapitalistic ... That doesn't mean that it completely 100% prevents capitalistic value extraction it just means that it prevents value extraction of capitalistic behaviour so that its more that you get a value benefit into the Fair economy.

The nature of the filtering membrane is that some things can filter through and not others (De Angelis 2017b:229), so that capital can be filtered into the commons, while “capitalistic value extraction” needs to be prevented from seeping into the internal values and practices of the commons itself. Such a boundary is always an unstable one and, as Chris notes, cannot be absolute, because the postcapitalist commons is necessarily *in* capitalism, while simultaneously seeking to retain autonomy and boundaries from it. Yet this highlights a key problem that faced FairCoop and FairCoin: FairCoin trading is essentially open and unrestricted on external cryptocurrency exchanges. To the extent to which there were any commons boundaries these were established through FairCoop; yet FairCoop itself had no membership and was essentially open. The only recognised boundary was that a couple of FairCoop participants would need to vouch for people before they could become involved in governance and core tasks within the commons. So, in effect FairCoin had no boundaries around external trading and investment, while FairCoop had no membership and minimal commons boundaries in terms of who could participate.

Bauwens et al. (2019:7) describe the processes through which capital is filtered into the commons as one of “transvestment”. It should be noted that commons that are reliant on such strategies need to generate capital and returns to be sustainable. As a transvestment strategy, FairCoop sought, ultimately unsuccessfully, to use FairCoin’s cryptocurrency exchange market value as a means to extract capital. FairCoin could be purchased and exchanged for goods and services at a set internal community FairCoop rate, decided via consensus in online general assemblies; but external cryptocurrency exchanges also presented opportunities to trade FairCoin for different cryptocurrencies (primarily Bitcoin) where its value was far more volatile and subject to the decisions of cryptocurrency traders and investors.

The initial, overly optimistic, model was based on the premise that the appreciating cryptocurrency exchange market price could be hacked to sustain and further the postcapitalist commons, by selling or buying FairCoin on cryptocurrency exchanges. As one anonymous interview respondent explained, it:

... was about creating a commons ... so that value shifts from private property to the commons, this was also connected to the *hack of the markets* so that money from the capitalistic market can flow into something like FairCoin and can be extracted for the common good.

This has some resonances with Wark’s (2004:§034) conception of hacking in which there is the generation of “new abstractions” through breaking into “the abstraction of property” and overcoming its limitations (Wark 2004:§036). But as Wark (2004:§081) also notes, the hacker class “has a tactical interest in the representation of the hack as property, as something from which a source of income may be derived”, in this case FairCoin as property. Such hacking is often limited to specific public interventions, or momentarily breaking into a given private configuration of information, assets, or property, as was the case with Duran’s actions against the banks in 2008. It is not clear how it can forge a durable strategy to sustain the needs of a postcapitalist commons indefinitely; since capital is likely to change its approach to guard against future hacks.

The appreciation of FairCoin’s exchange value on external cryptocurrency exchanges in 2016–2017 coincided with the expansion of the movement through the creation of different FairCoop local nodes. However, this external market valuation ultimately mirrored Bitcoin’s volatile price on different cryptocurrency exchanges, which entered a boom phase in the late months of 2017, only to fall from around \$19,000 per Bitcoin at its height in December 2017 to below \$4000 in October 2018 (Ouimet 2019). FairCoop’s internal community exchange value rose up to 1.2 Euros to reflect its rising value on cryptocurrency exchanges in January 2018. But, like Bitcoin, its value on cryptocurrency exchanges dropped dramatically in the ensuing months and (unlike Bitcoin) did not subsequently recover. Due to the need for consensus within general assemblies and a series of internal disagreements, the community price was not subsequently lowered with the drastic cryptocurrency exchange market price drop.

The divergence between the two FairCoin prices led to increasing bifurcation and division within the FairCoop community. Guy, based in Spain, was involved



in the Peer2Peer Social Organization group—a group of researchers reporting on peer2peer and open source alternatives. Guy worked on developing the original WordPress FairCoop site when visiting Enric Duran in hiding in 2014, and has subsequently collaborated with FairCoop on and off, while also being constructively critical of the dynamics that have unfolded. As he noted:

There's really two types of people who are interested in FairCoop and FairCoin. It's the people who basically bought a load to speculate that's their primary focus and they want it to be fair as well ... [and] there's the other people who don't care at all about the speculation they want it to be just the official price and they just want to buy and sell at the official price ... So, then it's kind of stuck because you need a consensus.

Some communities within FairCoop felt that the commons should hold firm and ignore the drop in cryptocurrency exchange market price, on the basis that the FairCoop commons itself could guarantee the fixed higher exchange rate of 1.2 Euros by continuing to offer goods and services internally (Duran 2018). But commitments had been made by FairCoop to exchange FairCoin back to Euros at this rate (FairCoop 2019). For FairCoop, which has no official membership, there was no clear way to prevent people from taking advantage of price differences via arbitrage. The problem of arbitrage is less pressing for exchanges at smaller scale, such as a daily supply of fruit and vegetables purchased in FairCoin from a committed FairCoop merchant. But arbitrage generated a clear loss for FairCoop if someone bought cheap FairCoin from cryptocurrency exchanges and then bought goods with these FairCoin, and the merchant then asked FairCoop for their FairCoin to be exchanged back to Euros at the higher, official FairCoop exchange rate. This problem of arbitrage was extenuated by the selling of certain high-end technological products in FairCoin, particularly electric bikes. These bikes were priced in FairCoin at the higher rate of 1.2 Euros-a-FairCoin. The merchants selling these bikes then asked FairCoop to exchange these FairCoin into Euros at the 1.2 Euro rate, as promised (FairCoop 2019). But these FairCoin could easily have been acquired by consumers from external cryptocurrency exchanges at a fraction of the cost, such as 0.11 Euros-a-FairCoin, which was FairCoin's cryptocurrency exchange market price on 19 March 2020 (FairPlayGround Statistics 2020). The expectation that FairCoop could continue to exchange FairCoin for Euros at the 1.2 Euros-a-FairCoin rate was clearly unsustainable, and this problem of arbitrage gives rise to the broader issue of convertibility.

### ***Convertibility***

Due to the commons itself not having any clear formal boundaries, for example through a membership structure, two increasingly divergent ways of valuing FairCoin existed in the same commons. For some participants in FairCoop the external cryptocurrency exchange market price had greater importance than FairCoop's official community price. The divergence between the two prices became a problem because of the commitments in place at that time for FairCoop to meet the exchange of FairCoin to Euros for up to 1000 Euros per month

for active FairCoop participants—which was subsequently reduced in 2019 (FairCoop 2019). This reflects FairCoop and FairCoin's ambiguous status as a postcapitalist commons and a tradeable cryptocurrency, which while seeking to build an alternative economy based on shared values, also sought to offer a guaranteed rate of exchange in Euros. FairCoop itself aimed to hack cryptocurrency exchanges to generate Euros but was not clearly bound from them. In the sense that FairCoop participants, actors leaving the FairCoop commons, or people unaffiliated with FairCoop, were free to sell or buy large quantities of FairCoin for Bitcoin on external cryptocurrency exchanges.

This also highlights a wider question of convertibility and the relation to Euros, despite the efforts to generate an alternative to state backed fiat currency. Pilikum—an activist based in Coruña, a region of Spain that had considerable success in encouraging merchants of different kinds to use FairCoin, including a hairdresser, a pub, an organic food shop and a range of other producers—reflected on these experiences:

If we are going to a shop, this is a familiar shop they are trying to survive, a couple and two children and they are just like fighting to earn some money. And I told them you can spend your FairCoin in this shop that sells ecological food but this is so expensive, when FairCoin was going up in value it was easy to say that, now it's not the same, so for them it's easier to change to Euros and buy cheaper food.

The Euro has often assumed the position of an inescapable backdrop in FairCoop discussions, debates and practices. In alternative currencies the quantitative operation of equivalence in the dominant state backed fiat currency is not one that is ever really transcended (see Maurer 2003; Ould-Ahmed 2010). Maurer (2003:334) argues that alternative currencies function like a mouse trap in that they artificially restage the social relation, not in terms of ever doing away with government backed fiat currency; but in *staging the fiction differently*. The restaging of social relations of exchange involves generating different sites in which an alternative currency is exchanged, and state backed fiat currency is not used. For example, an individual may buy a beer from the bar of a social centre in Milan, or Jura, or Athens, and make the purchase in FairCoin. The person at the bar accepts the FairCoin on the basis of shared political values centred on the ideals and values of FairCoop as a postcapitalist commons. In this exchange the fiction that state backed fiat currency is necessarily the true equivalent of value—a fiction that conceals the social relations of production and (re)production that generate the exchange (Maurer 2003:332–333)—is restaged through a different token of exchange which reflects different values. The similarity with the mousetrap for Maurer (2003:334) is that in laying the mouse trap you artificially restage the scene of the crime in which the mouse captures the piece of food. The key analogy is not in the catching of the mouse but in the laying of the trap, in setting up the social relation of exchange; but on this occasion an alternative currency will be exchanged. FairCoop had an additional (more ambitious element) which meant that FairCoin was intended to function more like a cat, the idea was to capture and utilise the capital inflow from external cryptocurrency exchange trading of FairCoin, to generate capital from external markets to support FairCoop as

an expanding commons. In other words, it assumed an increasing inflow of capital into the commons from a rising cryptocurrency exchange market value of FairCoin, to sustain FairCoop's expansion. The functioning of the commons itself became dependent on an increasingly favourable valuation of FairCoin by capital, a problem that—as we will see—was compounded by insufficient commons boundaries.

## **Boundaries in Postcapitalist Commons**

The argument here is not that postcapitalist commons cannot seek to extract capital from external markets, but that sustainable postcapitalist commons need to be far more resilient to unfavourable dynamics in relation to capital, and that this resilience could be better secured through more clearly rule bound and delimited capital filtering. Returning to Ostrom's (1990) principle of commons boundaries, a key component of which is delimiting how resources are extracted, one of the key resources here is capital, in the form of Euros. Ostrom's efforts to deduce from empirical cases some design principles for sustainable CPRs is an approach that helps us to think differently about how self-organised postcapitalist commons can be made sustainable and we thus propose some additional postcapitalist design principles in light of the clear limits of the FairCoop case.

The first additional design principle of postcapitalist commons boundaries is that there must be a more resilient relation to capital, one which is not ultimately dependent on increasing capital returns. Alternative economic proposals have emerged for discussion within FairCoop in light of the problems of the two-price model. As FairCoin continues to receive little investment on cryptocurrency exchanges, proposals have been developed to try to take FairCoin off exchanges entirely and develop it into a fully-fledged mutual credit system known as FairCredit (Monteiro and James 2018). Here the GetFairCoin website and local node POE would provide the means to exchange from government backed fiat currency to FairCoin, and users would then be able to transfer their FairCoin into a negative value in FairCredits, which could then be exchanged for goods and services with other participants. One counter argument against moving to a fully-fledged mutual credit system that has been raised within the community is that it would be impossible to remove FairCoin from cryptocurrency exchanges entirely and some trading would inevitably continue. To have any hope of addressing this aspect the FairCredit system would have to have tighter relations of reciprocal obligation and exchange based on clear commons boundaries, probably with a membership structure of some description; but it remains to be seen how this would operate in practice. In another relatively popular but rather complex proposal known as the Fairo, FairCoin would fluctuate in a logarithmic rate around 35% above cryptocurrency exchange market price, and goods and services would be priced in Fairo (Fairo 2019). The Fairo could be a thousandth of the basic cost of living in a given region agreed upon by consensus in different local nodes. Thus, it would be a three-way process of pricing: Price good or service in Fairo; convert Fairo to FairCoin (with FairCoin priced 35% above the current external cryptocurrency exchange rate); exchange in

FairCoin to complete transaction. This would better address the challenges around diverging and unsustainable price differences that emerged within the two-price model, since FairCoin's value within FairCoop would hover 35% above its external cryptocurrency exchange market value, while FairCoop merchants would price and exchange in Fairo, which would give them some protection from the volatility of FairCoin trading on external cryptocurrency exchanges. While the Fairo proposal is clearly complex, one key aspect of Ostrom's (1990) CPR self-governance cases is that the models necessary to ensure a sustainable commons are often complex. Both these economic models seek to address a broader design principle, which is that the sustainability of postcapitalist commons cannot be dependent on an increasingly favourable valuation by capital; such commons should have the potential to accommodate and adjust to a less favourable valuation by capital.

Due to its reliance on increasing returns via hacking the cryptocurrency markets, FairCoop was also insufficiently bounded in terms of value framing. The FairCoop principles were effective in attracting participants to the movement and these were based around Integral Revolution, P2P Collaboration and hacker ethics (FairCoop 2017a). But as the movement was essentially open and without formal membership (Duran 2018), there was no clear means of establishing how these values and ideals were incarnated into practices. FairCoop's values were not made explicit and binding enough to deliver the aims of the project, which was to offer an alternative to capitalism. As Chris noted in respect of FairCoop "wanting to manifest a different reality separate from the capitalist system":

The expectation should be that we truly create the path in that direction that we truly manifest that new reality and not just at the end we're still part of the capitalist system. I think it's important that the expectation is that we make a great leap with what we are doing because if we are not expecting that from ourselves, we will not go far enough with it.

As FairCoop expanded in scale it became increasingly dependent on a favourable valuation of FairCoin on external cryptocurrency exchanges to meet its exchange commitments, thus diluting the principles of love, conviviality and solidarity (De Angelis 2017a:339) that give life to the commons (Interview, Chris, 2019; Interview, Pilikum, 2019). As a result, the social ties that bound the commons became increasingly cracked. As Maro—a FairCoop activist in Madrid who has been heavily involved in building FairCoop from 2015 onwards—described, "look at what happened to us, now we are fighting each other because of the fucking Euros".

As Maro went on to explain, at times merchants were brought into FairCoop on the promise of FairCoin generating ever increasing returns in Euros on cryptocurrency exchanges. She added that the FairCoop promise to meet exchange commitments by converting FairCoin to Euros at a set rate led to a lack of appreciation of the risky and disobedient aspects of the project:

Most of all in terms of disobedience ... in the sense of, we are creating an alternative and we need to make some sacrifices. It means to have a cryptocurrency that you don't know how much it's going to be valued.

Part of the value framing of postcapitalist commons that was lacking—or at least insufficiently explicit—is the necessity that commons values must come before private incentives, which may entail unanticipated sacrifices in terms of capital.

In conjunction with clearer value framing, it also becomes necessary for the commons to ensure that these values are reflected and reinforced through alternative practices and technologies, which indicates a further principle of scalable and sustainable postcapitalist commons boundaries missing from the FairCoop example: Clear means of reputational feedback. Ostrom (1990) focuses on membership and sanction as design principles in CPR systems; but this is arguably counter to some of the more communal, inclusive and anti-authoritarian anarchist values in autonomous postcapitalist commons. That said, when making exchanges and when converting to a scarce resource like Euros, some criterion of access has to be established for the commons to remain sustainable. FairCoop itself made unsustainable commitments to exchange FairCoin back to Euros for all “FairCoop participants” (FairCoop 2019). We believe some means of peer2peer assessment and feedback could be deployed to evaluate relative contribution to the commons, which could form the basis of a collectively agreed system of resource allocation, based on human need and assessment of contribution. For example, if a developer had worked many hours and made a positive contribution—such as by significantly enhancing FairCoop’s online map software, which enables people to easily identify retail outlets that accept FairCoin in different cities—if this work was positively evaluated by the community they would then move higher in the list of people who would have the opportunity to exchange their FairCoin back to Euros. These exchanges back to Euros would have to work in a manner that is sustainable and affordable rather than on the basis of an unsustainable promise or guarantee. Within the FairCoop proposal this would be at 35% above cryptocurrency exchange market rate and it would be funded at least partly through monthly payments to FairCoop from participants who receive a steady and sufficient income in state backed fiat currency to cover basic needs (see FairCoop 2019). New peer2peer reputational feedback mechanisms—which would include scoring a participants’ contribution to the commons—can be one means to determine access to limited commons resources (see FairCoop 2019; Pazaitis et al. 2017:111). This would potentially help to make scalable postcapitalist commons more sustainable through positive feedback incentives that could support the boundaries underpinning the commons, because it would be a transparent means of determining how limited resources can be extracted.

Another key design principle of securing sustainable and scalable postcapitalist commons boundaries and collectively establishing an appropriate “filtering membrane” (De Angelis 2017b:228–229) for capital is transparency. FairCoop’s original design had no shared or collectively transparent accounting system in which active participants in different regions were aware of the limits to commons resources. One element limiting this was a mystique that accompanied the principal founder of FairCoop, Enric Duran—who had personally risked a great deal to generate alternative postcapitalist commons experiments, particularly through his action against the banks in 2008. Yet this was also accompanied by a lack of

collective understanding of the accounting processes, and what reserves FairCoop actually had. As Guy noted:

Everybody believed in Enric 100% and everyone was just like, if there was a conflict we'd just say: what do you think Enric? And just do what he said basically, you know, which is probably not the best way to do a decentralised project, but he definitely had the best kind of economic understanding of anybody at the time.

We would argue that a key principle for the sustainability of scalable postcapitalist commons is that of collective participation or at the very least awareness of the accounting process, principally through a collective understanding of risks and the level of limited resources, in this case Euros. Accounting transparency is a crucial factor in determining how capital can best be selectively filtered into and extracted from the commons, whilst retaining the sustainability of the commons itself.

## Conclusions

In reflecting on the FairCoop and FairCoin case, the movement could be described as a failure in that the initial model of hacking the cryptocurrency markets to build and sustain a postcapitalist commons clearly did not work as planned. That said, as Chatterton (2016) argues, postcapitalist commons are often characterised by risk taking and experimentation, and a key feature of experimentation is that particular projects may not work out as intended; experimentation in short is also about the freedom to fail, provided of course that things can be learnt from what did not work. Furthermore, as Khasnabish and Haiven (2015:24) note, it is a mistake to evaluate social movements only by their stated objectives, since this ignores the ways in which they generate and sustain progressive and radical platforms of “social relationality and reproduction”, which can generate future, improved commons experiments. Furthermore, from the lack of sustainability that was evident in the FairCoop case we can take some important lessons in terms of future efforts to generate scalable postcapitalist commons through peer2peer technologies.

This paper has highlighted a tension between postcapitalist commons expansion and boundaries. If a postcapitalist commons expands too quickly without sufficient boundaries from capital, its relation to capital is likely to become unsustainable. While there are clearly limitations to deducing design principles in terms of postcapitalist commons boundaries from a close investigation of a single case, we nevertheless think this is worth attempting because of the importance and distinctiveness of FairCoop in making a rare attempt through FairCoin to generate a postcapitalist commons alternative that is scalable (Chatterton and Pusey 2020; Gerhardt 2020; Grziotti 2019). Having said this, and subject to further research into future postcapitalist commons experiments attempting to scale, we think that from this case it is possible to outline some additional design principles in regard to postcapitalist commons boundaries:

- An economic model that is as resilient as possible to a divergent evaluation by capital and decreasing capital returns.

- A clear *value framing* in which the values around the maintenance of the commons are placed above private interests in securing capital, and this must be true for new participants as much as existing ones.
- Means to ensure that these commons principles are reflected in practices, we have suggested peer2peer reputational feedback as a potential way of doing this.
- There must be transparency and clarity around the accounting process in which all participants are aware of how limited capital resources are and potential risks arising from this.

Gerhardt (2020:696) argues that overcoming “the apparatus involved in the monopolisation of monetary value” is a key task in building postcapitalist commons, but clearly our investigation into the FairCoop case has shown the considerable challenges of doing this. What the case also highlights is the partiality of postcapitalist alternative currencies, in restaging the fiction of the dominant monetary system (Maurer 2003) without transcending it. This is arguably a feature of *postcapitalist* projects in general, in operating *within*, while trying to work towards an *after*, capitalism. That said, the postcapitalist peer2peer alternative currency space is an experimental and generative one with continuing different lines of flight (see for example Economic Space Agency 2020; Fairo 2019; Holo 2018) that potentially take us beyond the confines of site-specific commons alternatives (Gerhardt 2020). In suggesting some further design principles for greater boundaries from capital in postcapitalist commons, which we argue are necessary to be both sustainable and scalable, we hope to have made a contribution to rethinking and advancing this vibrant field of activist experimentation.

## Acknowledgements

We would like to thank the five reviewers for their thoughtful, constructive and detailed engagement with our paper. We also give a warm thank you to the interview respondents and participants in FairCoop for sharing their insights, honesty, and commitment in building alternatives with us.

## Endnote

<sup>1</sup> The case of the delisting from Bittrex as a result of refusing to meet particular regulatory requirements gives rise to some important issues surrounding the relation between FairCoop as a postcapitalist commons and the state. Given its collectivist anarchist ethos and the history of Enric Duran, thus far FairCoop has opted not to comply (where legally possible) with state regulation. That said, if FairCoin was ever to become more widely used the questions around its boundedness and autonomy from the state would doubtless arise with increasing force. How a postcapitalist commons determines its relation to the state clearly depends on the particular, context-specific challenges to autonomy the state may pose (see De Angelis 2017a:230), the collective decision-making within the commons itself, as well as the potential opportunities the state may present for the commons in given instances.

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