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The promises and pitfalls of cryptocurrencies and blockchain for marginalized communities

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ABSTRACT

Cryptocurrencies, and the blockchain technology that underlies them, have attracted much attention over the last decade from scholars, tech communities, financial institutions, states and more. The extreme volatility of the cryptocurrency market has made some people very rich and cost others almost everything. Importantly, there are many indications that marginalized communities are especially attracted to this new technology while being more vulnerable to issues such as fraud and exploitation in this field. This paper reviews academic research – predominantly social scientific – on cryptocurrencies and financial blockchain to determine the extent to which they engage with the experiences, agencies, and knowledges of marginalized communities. Overall, the findings show that, bar a few important exceptions that take seriously marginalized communities, academic research has largely focused on traditionally dominant actors such as crypto evangelists, fintech developers, states, and banks. Furthermore, the knowledges of marginalized communities are almost entirely absent while research privileges already dominant theories and research methodologies. Such trends in academic research on cryptocurrencies and blockchain technology reproduce existing knowledge hierarchies and lead to the further material marginalization of already vulnerable communities. In light of these findings, we conclude with some recommendations for further research that can challenge these problematic dynamics.

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Introduction

Cryptocurrencies, and the blockchain technologies that underlie them, have attracted much attention over the last decade from individuals, financial institutions, states and more. At a global level, cryptocurrencies provide alternatives to traditional remittance pathways, enabling both senders and recipients to circumvent extortionate fees, state surveillance, and discrimination. The extreme volatility of the cryptocurrency market has made some people very rich and cost others almost everything. However, these

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gains and losses are not evenly distributed within states, between communities, or at a global level. Market analysis suggests minoritized communities, such as African Americans, have a far more positive view of and are more likely to invest in the crypto market, providing opportunities for financial success outside mainstream avenues, but also leaving them far more exposed to sudden crashes than established elites (Ellis, 2022; Foster-Frau, 2021; Jackson, 2019; Mesidor, 2022). In the wake of major crypto crashes and governance scandals from 2022 onwards, scholarship has not thoroughly investigated how those same communities have fared or made sense of their experiences. Moreover, it is unclear how seriously scholarly cryptocurrency debates take the agencies and knowledges of such vulnerable communities.

This article therefore asks the following research question: *To what extent does the academic literature on cryptocurrencies and financial blockchain technology engage with the experiences, agencies, and knowledges of marginalized communities?* By marginalized communities, we refer to groups of people traditionally excluded from centers of power and from debates that lead to structural changes, and who traditionally experience more economic, physical, mental, and socio-political harms. These include ethnic and racial minorities, women, people with diverse mental and physical abilities, people in LGBTQI+ communities, Indigenous peoples, people in the Global South, and the poor. These groups often intersect and are not necessarily independent of each other.

We address the research question by analyzing academic scholarship on cryptocurrency narratives, blockchain-based financial technologies (fintech) more broadly, and bank and state approaches to cryptocurrency and financial blockchain. This structure is based on an inductive, iterative interaction with the literature, developing these categories first from initial identification of high-profile actors – namely, cryptocurrency ‘evangelists’, fintech companies, and state and central bank regulators – which we then refined repeatedly throughout the research process. These categories are not mutually exclusive, and where academic literature addresses multiple categories, we focus on its main contribution. To conduct the review, we worked with two paid student research assistants in a repeated three-step process: search academic databases for (predominantly social scientific) literature in these three categories, identify further literature based on the bibliographies of that literature, and then revisit and refine the categories.

We make two arguments in this article. First, we argue that most scholarship focuses on traditionally dominant actors shaping blockchain technologies, and thereby normalizes, problematically, the way their interests drive the development of this technology as opposed to the interests of marginalized communities. Second, we argue that most scholarship on cryptocurrencies also utilizes the knowledges (ontologies, epistemologies, theories, concepts, research methodologies etc.) of already dominant communities, even when not limiting the analytical scope to these communities. This epistemic narrowing excludes knowledges developed by marginalized communities, reproducing marginalized communities as having no valid knowledges, and closing off opportunities to use those knowledges to make complete sense of cryptocurrencies. By pointing out such gaps, we aim to also highlight the limited number of works that buck these trends and encourage more such research. Ultimately, we believe this will help shape this burgeoning field into a pluralistic one that self-consciously avoids reproducing knowledge hierarchies and therefore colonial, racial, gendered, economic and other harms in the world of cryptocurrencies.

This article proceeds as follows. In the next section, we provide the theoretical and conceptual framing of this literature review. We then proceed with the review of academic research across the three categories above, before highlighting pioneering research with marginalized communities. We conclude with some recommendations for further research.

Academic scholarship, knowledge hierarchies, and technology

In this section we lay out the theoretical and conceptual foundations that motivate our analysis of research on cryptocurrencies and blockchain technology in relation to marginalized communities. Specifically, this section frames scholarly debates about cryptocurrencies – with some exceptions, to which we return – as operating within global knowledge hierarchies and therefore reproducing material harms to marginalized communities.

Several theoretical perspectives have pointed out that knowledge is not neutral and is developed from (inter)subjective and unavoidably political positions, thus fostering (in)justices. Radical forms of feminism have argued that scientific knowledge is shaped by patriarchy, with White masculine experiences privileged in the problem definitions and research programs (Haraway, 2007). This has led to myriad material injustices, including the exclusion, invisibilization, and/or marginalization of women (of color) in formal knowledge production such that women are disproportionately disadvantaged in career and other outcomes (Amsler & Motta, 2019; hooks, 1990; Makhulu, 2022).

Similarly, decolonial and postcolonial perspectives have traced colonialism's 500 years of cultural domination and exploitation of peoples worldwide. The simultaneous denigration and appropriation of the knowledges of the colonized has been a vital element of material colonial domination (Anghie, 2005; Escobar, 1995; Ngugi, 1986; Oyewumi, 1997). Powerful concepts that can help us explain this include coloniality, which refers to 'long-standing patterns of power that emerged as a result of colonialism, but that define culture, labor, intersubjective relations, and knowledge production well beyond the strict limits of colonial administrations' (Maldonado-Torres, 2007, p. 243; Quijano, 2000). Related concepts like epistemic violence (Spivak, 2010), epistemic injustice (Fricker, 2007), and epistemicide (Santos, 2014) highlight the systematic silencing, hierarchization, and eradication of the knowledges of marginalized communities. Wynter traces through history how knowledge hierarchies are rooted in the tectonic struggle of 'ethnoclass Man vs Human': that is, the knowledges of the Western bourgeois male, who asserts himself to be the exclusive representation of humanity ('Man'), are imposed upon all other human beings who are excluded from that category (Wynter, 2003, pp. 260–261).

Academia is one of the key sites through which dominant communities forge and reproduce knowledge hierarchies. While knowledge is not only generated in academic institutions, modern academic institutions are integral to the colonizing state and thus form one of the engines of patriarchy and racial-capitalism. Modern universities are 'privilege machines' that foster inequalities by universalizing colonial, Eurocentric, masculinized, capitalist knowledges and disseminating such knowledges to related narrow elites (Alatas, 2000; Connell, 2019, p. 101; Ndlovu-Gatsheni, 2019, 2021; Tamale, 2020, pp. 235–284). As well as many universities being founded on land stolen from Indigenous

peoples, universities are regularly key generators of ideas that materially foster and culturally legitimize (settler) colonial violence (Tuck & Yang, 2014; Tuhiwai Smith, 2021; Wind, 2024). Hence, in the name of ‘objective’ research, the racialized bodies and cultures of marginalized communities are exploited for scientific research, such as Henrietta Lacks (Deb Roy, 2018; Skloot, 2011).

Scholars of digital technologies have already discussed how knowledge hierarchies are reproduced in these fields. Gendered and racial differences in knowledge, status, and authority are prevalent in internet governance, cybersecurity, and open-source software communities, also reflecting long-standing colonial dynamics (Ali, 2018; Da Silva, 2023; Dunbar-Hester, 2020; Mumford, 2023; Noble, 2023). Exploitation and exclusion of minoritized groups in social media regulation and content moderation is longstanding (Kwet, 2019; Roberts, 2019; Salih, 2023). Recent hype over Artificial Intelligence (AI) has revealed how its computing power, training sets, and algorithmic weightings all privilege certain communities and knowledges over others (Buolamwini & Gebru, 2018; Couldry & Mejias, 2019; Noble, 2020).

These knowledge hierarchies can be traced to the politics of particular dominant (group) actors. These are usually White, masculine owners of the means of production (e.g., social networking platforms) and non-White, masculine elites in non-Western spaces who aspire to White masculinity and disproportionate capital accumulation. They are usually located in centers of power such as universities, government agencies, and corporations and together constitute a transnational techno-elite (Mumford & Shires, 2023; Noble & Roberts, 2019; Wark, 2006). Thus there are always some actors who have responsibility for, agency in, and benefit from the reproduction of structural harms against marginalized communities.¹

Undoing knowledge hierarchies in technology requires scholars to self-consciously and concertedlly identify the specific ways in which they are reproducing them. Scholars may then develop other, pluralistic knowledge practices that undo these knowledge hierarchies, avoiding reproducing their power by instead taking marginalized actors equally seriously. There already exist plenty of fruitful knowledges such as (decolonial/Black) feminist epistemologies, Queer theory, Indigenous and decolonizing research methodologies, etc., which privilege the experiences, agencies, and knowledges of marginalized communities and can therefore foster pluralistic study (Chilisa, 2012; Shaw & Sender, 2016). This process must take place both at the general level of knowledge on technology overall, and for specific bodies of knowledge tied to particular technologies. This paper thus has the narrow objective of reviewing the academic literature on cryptocurrencies to highlight the reproductions of knowledge hierarchies discussed above, with the aim that future work will undo them.

Trends and gaps in cryptocurrency and blockchain scholarship

We structure the literature review into three themes of cryptocurrency narratives, blockchain-based financial technologies, and bank and state approaches, in line with the actors we found to predominate in, and therefore be privileged by, scholarship. It is important to be clear about the limitations of this review. Its purpose is not to provide an analysis of why certain actors are dominant (this is not only out of scope, but ably done by many of the works included below). Rather, we problematize scholarship’s focus on these

traditionally powerful actors – even when critiquing their privileged position – as opposed to marginalized communities. In addition, cryptocurrency is a (significant) subfield of the wider field of blockchain-based technologies, but we only include broader blockchain developments where they relate to the financial sector.

Political narratives of crypto-evangelists

In this section, we review academic scholarship on political narratives around cryptocurrency, especially those espoused by what we term ‘crypto-evangelists’: people and organizations who seek to persuade others of the revolutionary potential and beneficial power of cryptocurrencies. Studying the narratives of these communities is important because it reveals the social worlds that they are constructing (Reijers & Coeckelbergh, 2018).

Given the monetary appearance of cryptocurrencies, the literature asks what *kind* of representations from previous monetary systems are related to blockchain-based currencies in the narratives. Swartz highlights the metaphor of ‘gold’ (and ‘mining’) that appears throughout the cryptocurrency discourse, arguing that ‘digital metallism’ underpins the original cryptocurrency, Bitcoin, in that it is limited in supply and increasingly difficult to produce (Faustino, 2019; Swartz, 2017). Metallism adds an illusory quality of stability, but Swartz also emphasizes what she calls ‘infrastructural mutualism’, dependence on a shared infrastructure maintained by many participants, which departs radically from previous metallist systems (Maurer et al., 2013; Swartz, 2017, p. 85).

While mutualism is a usefully precise analytical concept, the cryptocurrency discourse usually refers to this characteristic as ‘decentralization’, a concept which is crucial to the overall political narrative of blockchain. Schneider points out that there is not only conceptual confusion over what exactly is meant by decentralization, but also that ambiguities over its definition benefit crypto advocates (Schneider, 2019). While the technological architecture of Bitcoin is in principle decentralized, the governance of Bitcoin is not so much decentralized as dependent on its foundational code – although, as other cryptocurrencies, show, crypto governance can also be highly ad-hoc, based on small, informal and influential networks (Hütten, 2019).

More generally, scholars have argued that cryptocurrency discourse marries neoliberal individualist, small-state libertarian thought of Friedrich Hayek with anarchic, anti-state and technologically deterministic cyberpunk influences (De Filippi & Loveluck, 2016; Zamani, 2022). In this combination, the losing party is far easier to identify than the beneficiary: it is the state, with its excessive and arbitrary powers of taxation, and the ‘establishment’ – especially financial institutions such as central banks and their increased post-2008 powers of quantitative easing (Dodd, 2018).

The beneficiaries, on the other hand, are by implication anyone who is not in this group: rich (or aspirationally rich) individuals for whom inflation is a major concern (Herian, 2018b). Cryptocurrencies benefit autonomous individuals who are smart enough to work out how to counter the system, whatever their identity, community, or background. In short, they are ‘user-blind’. Such apparent equality is enhanced by slick corporatism (Brody et al., 2023), described by others as ‘a form of utopian science fiction’ (Swartz, 2017). The required cognitive transposition into an already-existing (and extremely successful) future is made even more realistic by the trappings of venture capitalist discussions: whiteboards, huddles, slogans, elevator pitches, and so on (Faustino, 2019).

The literature traces cryptocurrencies from corporate characteristics to (quasi) religious doctrines, as cryptocurrency advocates are referred to as ‘true believers’, with gospels, commandments, churches, disciples, and other terms used only semi-ironically (Faustino et al., 2022; Humayun & Belk, 2017). The mythological status of Bitcoin’s ‘founder’, the persona of Satoshi Nakamoto, only enhances such cultish behaviors (Golumbia, 2016). Such narratives reproduce neoliberal understandings of ‘social good’ ‘linked to a meritocratic and tokenized vision of the world’ and far removed from ideas of social justice (Semenzin, 2023, p. 3). Cryptocurrency discourses are often an extreme form of neoliberal capitalism, with even new virtual nations and avowedly revolutionary state systems relying on market competition (Faria, 2019, 2022).

Overall, research on cryptocurrency narratives, whether critical or not, retain a strong focus on the narratives of developers and other originating communities, which constitute part of the transnational techno-elite. The literature rarely engages explicitly with marginalized communities and their use of these technologies to foster alternative worlds. This, despite the fact that marginalized communities, being some of the most disenfranchised politically and economically, also are more likely to be attracted to narratives of radical revolution.

Blockchain-based financial technologies

Another strand of literature focuses on cryptocurrencies as a financial technological innovation (fintech) and the ideologically diverse tech communities that develop them. According to the literature, fintech is ‘undertaken in the name of “disrupting” established financial market practices and players’ (Clarke & Tooker, 2018, p. 3), although, as one observer notes, ‘like any powerful technology, the social and political costs and benefits of nascent blockchain applications remain ambiguous’ (Howson, 2020, p. 1; Langenohl, 2023).

The popularity of cryptocurrencies and blockchain as fintech is partly driven by the promise of ‘decentralised’ governance, as suggested above (Davidson et al., 2016, p. 1; Zwitter & Boisse-Despiaux, 2018). In blockchain-based fintech, peer-to-peer is the built-in principle and mechanism, with centralized authority eschewed if not made outright obsolete (Grossman, 2019, pp. 311–315). Nevertheless, Swartz postulates that blockchain, which has the potential to be privatized as opposed to being decentered, will likely benefit the global financial system rather than undermine it (Swartz, 2018, p. 643). Similarly, Faria highlights how blockchain has become ‘appropriated’ by standard market actors such as the state and banks in the Netherlands (Faria, 2021, pp. 45–49; see also Herian, 2018a; Jutel, 2021). Importantly, a permissive environment for blockchain technology is not guaranteed – by challenging centralization, for all intents and purposes a political act, authorities may devise decidedly political responses that hamper the technology in order to survive (Davidson et al., 2016, p. 4).

Studies also point to the failure of anticapitalist fintech experiments, which tended to break down swiftly after launch because of unforeseen exploits and divergences amongst community members (Dallyn & Frenzel, 2021; DuPont, 2017). In one case, FairCoin, a rare example of a currency linked to ‘self-organised, collectivist anarchist, and squatter communities’ (Balaguer Rasillo, 2021; Dallyn & Frenzel, 2021, p. 863; Rasillo, 2023),

the attempt to build a postcapitalist commons was foiled by its inability to keep capitalist elements from entering at the level of values and practices (Dallyn & Frenzel, 2021). It is important to recognize (although the studies do not investigate this) that such anticapitalist activist groups, which choose to operate in alternative spaces within the global economy, may not necessarily be traditionally marginalized as defined at the start of this paper. Generally, experiments to form alternative economies, e.g., degrowth projects, face trade-offs more than straightforwardly radical financial mechanisms (Howson, 2021).

There are optimistic accounts of the impact of blockchain fintech on marginalized groups, especially in terms of how such fintech can alleviate poverty in the Global South (Kshetri, 2017a, 2017b; Mavilia & Pisani, 2020). Mazambani and Mutambara point out the low adoption of fintech in South Africa, identifying a fear that the success of this technology would render South Africa – and by association, many other African communities – marginal and left behind (Mazambani & Mutambara, 2020).

Descriptive studies have noted significant gender divides, which continue, rather than mark a break from, inequalities recorded in the non-digital world (Henshaw, 2023a, pp. 125–146, 2023b). Women in general are shown to have less knowledge about Bitcoin compared to men, with the gender gap a statistically significant 7.1% (Bannier et al., 2019, p. 134; Vejačka & Paľová, 2019). A study of the clients of an online trading platform found it was predominantly used by ‘men and individuals between 35 and 44 years of age’, with 89% users being male, while ‘female traders behave in a less speculative manner and consequently realize higher returns’ (Hasso et al., 2019, p. 65). Thylin and Duarte find that even in contexts where development agencies such as UN Women explicitly aim a transformation of gender dynamics in the Global South using blockchain, the results are mixed as opposed to straightforwardly improving gender equality (Thylin & Duarte, 2019).

Furthermore, while investment in cryptocurrencies has dramatically increased, there is much less evidence of widespread adoption of cryptocurrencies as a means of exchange, i.e., as a currency (Baur et al., 2018). Empirically the supposed anti-inflationary properties of cryptocurrencies such as Bitcoin also do not seem to have been borne out in recent years, making it seemingly an unreliable store of value (Amato & Fantacci, 2021). Thus, while cryptocurrencies technologically decenter social relations, they do not necessarily negate the concentration of financial access and gains in the hands of already dominant communities (see Rodima-Taylor & Campbell-Verduyn, 2023).

Overall, as decentralized fintech, cryptocurrencies have not been able to overcome standard exclusions or challenge the concentration of power in the usual hands. The important work done so far on cryptocurrencies and blockchain as fintech has predominantly explored important developer communities. Some studies consider general conditions that may affect marginalized communities, but these are mainly descriptive. Others privilege the agency of dominant actors like states and international institutions, thus treating marginalized societal communities as passive objects. Importantly, none of the work found here explores blockchain fintech using the knowledges (epistemologies, theories, conceptualizations, etc.) emerging from marginalized communities. Such works continue to treat marginalized communities as objects of study rather than creators of crypto knowledges and crypto worlds.

Bank and state approaches

Blockchain technologies can be attractive for banks and states because they remove the need for institutional intermediaries, increasing the efficiency of exchange by avoiding intermediary costs (Frizzo-Barker et al., 2020, pp. 9–10). Similarly, cryptocurrency can protect against inflation or expropriation by central banks and states, and thereby replace gold as a reliable store of value and/or the dollar as a medium of exchange (Faria, 2023; Nguyen & Oh, 2018; Swartz & Westermeier, 2023). Teresiené (2018) explores a range of central bank approaches to responding to virtual currencies, including monitoring, regulation, and issuance of central bank digital currencies (see also Jia & Zhang, 2017; Nabilou, 2019). Cryptocurrency can allow increased diversification of the portfolio of banks' international reserves, leading to higher returns, and a reduced reliance on foreign exchange (Moore & Stephen, 2016). Othman et al. (2020) therefore argue for banks in the Gulf region to consider cryptocurrencies as an alternative investment asset to diversify their existing portfolios.

The post-2008 trend for banks and other financial institutions to engage in 'de-risking' has led banks based in the Global North to withdraw financial services from many emerging economies, undermining financial inclusion and development efforts (Rodima-Taylor & Grimes, 2019a). Some scholars that blockchain technologies could enable important services and credit to be supplied to countries impacted by de-risking by enabling foreign lenders to 'monitor transactions and justify their financial decisions to regulators' (Campbell-Verduyn et al., 2021, p. 457). More specifically, the use of blockchain technologies for remittances has catalyzed the development of what Rodima-Taylor & Grimes call 'virtual diasporas' (Rodima-Taylor & Grimes, 2019b). However, Campbell-Verduyn et al. (2021) also suggest that blockchain technologies can exclude certain (economically disadvantaged) groups or publics. The notorious case of El Salvador exemplifies this concern, with scholars describing El Salvador's 2021 adoption of Bitcoin as legal tender as reducing Salvadorean citizens to 'guinea pigs, not protagonists' (Vázquez, 2022, p. 600) and blaming its failure on their lack of education (Vázquez, 2022, p. 606).

Another priority policy area for banks and states is anonymous transactions. On one hand, cryptocurrencies may support groups at risk from having funds expropriated by facilitating greater anonymity (England & Fratrik, 2018, p. 9). On the other hand, to the extent that crypto transactions are actually anonymous (rather than pseudo-anonymous) they are also useful tools for criminal activities, fraud, and tax evasion (Slattery, 2014). In addition to anonymity, banks and states are concerned with related risks: market manipulation, financial crime, undermining consumer protections, and facilitating tax evasion (Nabilou & Prum, 2019, p. 3). Atilés (2022b) also finds in a study of the US' and Puerto Rico's policy incentives to attract cryptocurrency investors that financial blockchain technologies have facilitated tax evasion and fraud.

At a more systemic level, scholarship on bank and state approaches investigates the assertion that a monetary system based on cryptocurrencies rather than the dollar may address perceived defects of the existing monetary order (Fantacci & Gobbi, 2020; Nguyen & Oh, 2018).² Other studies focus on cryptocurrency as a more specific response to US sanctions: Venezuela, a highly-sanctioned country, has created a state cryptocurrency backed by its oil reserves called the Petro, as well as a government department, the National Superintendency of Crypto Assets (Bull & Rosales, 2020; Rosales, 2019, 2021).

Finally, blockchain technology as a – completely non-disruptive – accounting tool has particular appeal to traditional financial institutions by ‘[r]educing error, improving efficiency, and eliminating transactional risk’ (Frizzo-Barker et al., 2020; Maurer, 2016, p. 88). In other words, blockchain helps ‘build more resilient digital architectures that can help governments exert more control’ (Semenzin et al., 2022, p. 397). While proponents of blockchain technology initially envisioned it as a universal public ledger, it is equally possible to create a ledger for only a predetermined group of financial institutions, meaning it is vulnerable to cartelization (Maurer, 2016, p. 87; Westermeier, 2020).

Overall, the literature on bank and state issues challenges claims that cryptocurrencies and blockchain will create a more equitable financial system by challenging dominant financial institutions worldwide, and especially that cryptocurrency services can replace functions previously performed by banks in developing states. These works emphasize that cryptocurrency may serve to increase inequality and reinforce the political capture of existing institutions by already dominant financial interests. Some of these works address issues affecting marginalized communities but treat the latter as victims of banks’ and states’ power rather than as empowered agents. Finally, the risks of criminal activity identified for marginalized communities in this section, removed from the protections afforded by the state, and lacking support services, take dominant conceptions of criminality for granted, rather than opening space for alternatives to narrow concepts of economic crime.

Pioneering crypto research *with* marginalized communities

In this section we review works that investigate cryptocurrencies and blockchain technology from the perspective of marginalized communities as defined at the start of this paper and/or utilize the knowledges (epistemologies, theories, conceptualizations etc.) associated with those communities. Works in this field move beyond standard critique of dominant actors using masculinized, cis-heteronormative, Eurocentric theories and instead center the experiences of the marginalized and/or take them seriously as creators of relevant knowledges with which to make sense of this new technology. We characterize this kind of research as being conducted *with* marginalized communities instead of simply *on* them. While some authors appear in both this section and the previous one, this is due to the shifting focus of their different works, highlighting the multiple individual research directions (and author coalitions) in this space.

Frizzo-Barker has done extensive work on the gendered dynamics of cryptocurrencies and blockchain, exploring and theorizing how women navigate the blockchain space through participant observation and discursive analyses (Adams et al., 2019; Frizzo-Barker, 2023). Ostern also analyses women in blockchain, carrying out 38 interviews to understand what factors enable or constrain their participation in the blockchain industry (Ostern, 2020). Through such studies, we learn not just about women’s experiences, but how precisely blockchain is structured by various gendered discursive frames. Although other gender analyses exist (see previous sections), those cited here take most seriously women’s and other gendered communities’ experiences as the starting point and explicitly theorize from their knowledges.

Other works use postcolonial and decolonial theories and concepts to make sense of cryptocurrencies and blockchain. Some specifically use the language of ‘crypto-

colonialism’ to analyze how crypto-economies and regulation enable dominant actors to continue colonial extraction using these new technologies (Atilas, 2022a; Jutel, 2023). For example, Howson argues that blockchain technology is implicated in a new ‘crypto-colonialism’: it has perpetuated the appropriation of resources from communities in the Global South by enterprises engaged in green investments and exploitation of the data of Global South communities (Crandall & Vázquez, 2022; Howson, 2020). Similarly, Campbell-Verduyn and Giumelli evaluate attempts by African developer communities to build decolonial, African blockchain and similarly find that ‘Experimentation with blockchain technologies ... risks being enrolled in socio-technical relations that, as we have shown, are persistently exclusionary’ (Campbell-Verduyn & Giumelli, 2022, p. 536).

Race is a specific theme that has received minimal attention in this field, though there are some explorative discussions and tentative calls for such works. Frazier (2022) discusses the need for Black Studies to engage with blockchain, while Pantin adopts an Afro-futurist approach to understanding how Black communities in the US interact with cryptocurrencies and blockchain technologies (Pantin, 2023). McKenzie (2022) uses historically Black understandings of slavery and abolitionism to understand how blockchain technology reproduces racial inequalities in terms of freedom. However, these studies are limited to Black communities in North America, meaning the experiences of many other racialized communities’ across the world still need to be addressed.

We found three works that center the experiences of Indigenous peoples. Two of the works adopt Indigenous and feminist storytelling methods to explore MazaCoin, a cryptocurrency developed by Indigenous developer Payu Harris in 2014 Oglala Lakota Nation (Cordes, 2022; Tekobbe & McKnight, 2016). In such research, Indigenous and radical feminist epistemologies and research designs are front and center of making sense of the story of MazaCoin as opposed to dominant interpretations. A third paper evaluates how cryptocurrencies may become useful for Indigenous peoples (Alcantara & Dick, 2017). While taking seriously the struggles of Indigenous peoples, the analysis is very broad and based on secondary literature.

One landmark work that pushes the boundaries of theorizing is Inte Gloerich’s creative wielding of Sylvia Wynter to make sense of blockchain’s ability to simultaneously appeal to the marginalized by promising radical alternatives while also perpetuating colonial hierarchies. Relying on Wynter’s concept of ‘plots’, Gloerich explains how some blockchain projects such as DAOs serve as insulated plots where radical alternatives can be explored, all while existing on general plantations owned and dominated by colonizers (Gloerich, 2023). In this way, Gloerich makes sense of a global puzzle through the lens of theorists thinking from the margins, exposing the simultaneously creative agency and precarity of the marginalized.

While the above are pioneering efforts, they represent a very small minority of the general literature, meaning there remain large research gaps. We struggled to find works on cryptocurrencies and blockchain that center Queer communities, especially works theorizing from Queer positionalities and using Queer theory. Other minoritized groups in the Global North and vast swathes of specific communities in the Global South are missing. For example, what are other (intersectional) Indigenous encounters with cryptocurrencies and blockchain technologies? How are Black and other racialized people of various genders, classes, and locations experiencing cryptocurrencies, what agencies do

they have irrespective of their technical expertise, and how do they theorize and makes sense of the world of blockchain? Such questions indicate important ways forward in fostering a pluralistic field of blockchain and cryptocurrency studies.

Conclusion

This literature review sought to answer the following question: *To what extent does the academic literature on cryptocurrencies and financial blockchain technology engage with the experiences, agencies, and knowledges of marginalized communities?* We argued that most scholarship focuses on traditionally dominant actors shaping blockchain technologies, and thereby normalizes, problematically, the way their interests drive the development of this technology as opposed to the interests of marginalized communities. The literature tends to follow the relations of actors at the center of the cryptocurrencies market, such as developers, entrepreneurs, states, and banks, but only on rare occasion explores the beliefs, experiences, and actions of the most vulnerable in the system. Second, we find that most scholarship on cryptocurrencies also utilizes the knowledges (ontologies, epistemologies, theories, concepts, research methodologies etc.) of already dominant communities, even when not limiting the analytical scope to these communities. However, there are pioneering feminist, postcolonial, and decolonial analyses of blockchain innovations, which are beginning to address significant gaps in knowledge on the full impact of these new technologies.

Based on the above observations, we propose two new directions for research. First, academic research should focus in more explicit and precise terms on the experiences and agencies of traditionally excluded groups such as women, ethnic and racial minorities, LGBTQI+, the poor, and so forth, in carefully disaggregated and situated ways. Second, research should engage established theories and frameworks developed to reflect the experiences of marginalized communities as well as (new) knowledges being developed from within those communities themselves. Such shifts towards plurality and away from hierarchy in academia may encourage beneficial policy-making and activism on cryptocurrencies and blockchain more widely.

Notes

1. While ‘intent’ can matter, it is not itself a necessary factor in this dynamic.
2. More specifically, it provides a potential solution to the Triffin Dilemma by providing a global currency that is not tied to a state. The Triffin Dilemma is the tension that arises from a currency serving the functions of a domestic currency and a global reserve currency which creates pressures for the issuing country to possess a persistent trade deficit.

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