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Anthropology and blockchain

Guest Editorial by Artyom Kosmarski & Nikolay Gordiychuk

We live in a troubled world, fraught with uncertainties and grim forebodings. Just half a decade ago, Sherry Ortner's vision of anthropology as dark and (over-)focused on the harsh and distraught realities of social life (Ortner 2016) positioned our discipline somehow apart from the triad of upbeat sociology, political science, and economics (which was unwilling to shake off its positive origins in the USA of the 1950s). Yet now, dark is the order of the day: looming climate and biodiversity crises; the Covid-19 pandemic and its consequences; and dramatic economic inequalities (no longer only 'out there', in the developing world).

The digital/IT also looms large in contemporary dystopian imaginaries. When we think about artificial intelligence, big data, digital platforms, blockchain, to name just a few key technologies, we increasingly think of them in terms of control, coercion, profiteering, and supplanting human agency, rather than freedom, the good life, and new opportunities. However, in this essay, as both social anthropologists and scholars of blockchain, we will argue that this technology somehow stands apart from the digital Leviathan and gives a frail hope of novel, weird, grassroots, decentralized forms of social life. These hold the promise of a more human-centred, radically experimental economy – where individuals and communities set the rules.

Although we may not (yet) witness a shift back from impersonal/commercial exchanges towards gift exchange, the very essence of money is becoming less reified and less likely to engender alienation. Oddly enough, Keith Hart (2005: 171) presaged this long before the advent of the crypto economy when he said that money symbolizes 'our individual relationship to the community. This relationship may be conceived of, much as the state would have it, as a durable ground … Or it may be viewed as a more creative process where we each generate the personal credit linking us to society in the form of multiple communities.'

* * *

Blockchain emerged as a buzzword along with Bitcoin after the 2008 crisis, as an antidote to the esoteric and arbitrary management of the banks and financiers (Campbell-Verduyn & Hütten 2019). Yet this technology is not necessarily bound to finance: blockchain, in the simplest terms, is a set of data blocks connected by cryptographic tools in such a way as to make it impossible to change the contents of one block without modifying the others. Hence the ongoing confusion of blockchain with Bitcoin (and other cryptocurrencies, as the most hyped application of blockchain).

The blockchain is a ledger stored in a network of decentralized nodes, and all recorded transactions are transparent to each member of the network. This approach to data processing (decentralized and distributed) prevents retroactive data modification (e.g. for fraudulent purposes). Blockchain allows the verification of the status of any data by a distributed network of computers (nodes) that do not belong to a single person or organization. Thus, this technology provides a tamper-proof and, at the same time, open system.

Blockchain was propelled from an obscure IT gimmick to a game-changer thanks to Bitcoin, an electronic currency that incorporated three key features: cryptographic tools; a way to achieve consensus within the system when users do not trust each other; and remuneration to network participants for maintaining its operation ('mining'). Cryptocurrencies have attracted the resources of millions

Artyom Kosmarski is a deputy head of the Laboratory for the Study of Blockchain in Education and Science (LIBON), State Academic University for the Humanities (GAUGN), Moscow, and a senior researcher at the Institute of Cultural Studies, HSE University, Moscow. His email is kosmarski@gaugn.ru. Nikolay Gordiychuk is a researcher at the State Academic University for the Humanities (GAUGN).

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of people by creating a means of payment that does not depend on the authority of the central bank, courts or police – where the algorithm itself guarantees the execution and the reliability of transactions (Swartz 2018).

Like any other (emergent) technology, blockchain evolves in many often conflicting and contested imaginaries, discourses and practices. Its techno-anarchist/libertarian genealogy brought revolutionary expectations in the mid-2010s: the days of the state and the central bank would be over as the 'neutral' technology guarantees trust in the interactions between people and institutions. Decentralizing features of blockchain ushered in a promise to foster transparent democratic decision-making, to set up new communities based on standard rules set in code.

* * *

One influential concept was the DAO (decentralized autonomous organization): a programmed set of rules, which are transparent, controlled by peer-to-peer interactions and not influenced by a central authority, public or private (Beutel 2018). Talk was rife about blockchain setting the infrastructure for the 'post-capitalist planet' with new forms of economy and politics (Manski & Bauwens 2020).

This should also have been an exciting field for anthropologists, with the possibility of doing an ethnography of IT experts, startup founders and other 'crypto people' – particularly the *langue*/*parole* gap between their statements (e.g. white papers and the code itself) and their practices: how transactions mediate; how communities form; what conflicts unfurl; which political values lie behind seemingly neutral solutions ('mere technology').

There are some fine ethnographies of blockchain (Faustino 2019; Husain al. 2020), but their small number is at odds with the significance of this field and its impact on society.

Meanwhile, by 2018-2020, the 'third parties' (the states and corporations) had got to grips with the disruptions of blockchain and started utilizing the technology for their own ends. Decentralization and peer-to-peer interactions became less critical while other features moved to the fore.

For governments, blockchain matters as a novel technology of public administration, increasing transparency and accountability. Corporate agents have been looking for the same thing, only on a company scale. They have also encouraged automation (through smart contracts, especially in logistics and supply chain management) and monopolization (blockchain as the code of a single platform where various players in an industry might participate, e.g. TradeLens by IBM, and Maersk in shipping).

This trend has coincided with the anti-globalization movement, the rise of surveillance capitalism (Zuboff 2019) and the resurgence of state borders/sovereignty during the current pandemic. It contrasts with the crackdown of Chinese authorities on Bitcoin and the harsh EU/US regulatory response to Libra, Facebook's planned cryptocurrency.

Still, everything is now getting more complicated. As smartphones and internet access become ubiquitous and early visionary projects reach maturity, increasingly compelling uses of blockchain are evident – especially in areas where control of the state and big business is thinner (e.g. in Africa), or in the crevices of large structures.

* * *

A key element involves decentralized finance (DeFi) beyond cryptocurrencies transacted on decentralized peer-to-peer exchanges using lending protocols, including insurance platforms. Self-sovereign identity (SSI) and decentralized identifiers (DID) are blockchain-based tools that allow people to prove their identity and various credentials (including professional record or academic performance) without reliance on Google/AppleID or state-run offices. In addition, decentralized autonomous organizations (DAOs) have become more practical and accessible tools for decentralized dispute resolution, verifiable voting and transparent decision-making for any collective.

These phenomena are worth studying. One may encounter them in the anthropology of the informal economy, partisan finance, education, social movements and NGOs. We, as researchers, can now peek into a vast playground of economic anthropology: a multitude of projects that question, put to the test or reimagine basic assumptions of mainstream economics (kudos to Karl Polanyi): What is value? What is money? What is an exchange?

The starting point for the crypto/blockchain economy is a token – a unit of value programmed and operated on a blockchain.[1] Few fully understand what a token is. The inertia of familiar social and economic structures makes us think of tokens as surrogate money, equities, bonds, and so on. However, they can be much more complex. Tokens are not monetary units like cryptocurrencies but technologically protected abstract units of value, whose meaning and operation rules are defined by a community of users. For example, one could tokenize gratitude for reviewing academic papers and prohibit selling such units (only giving them as a gift). Or one could tokenize votes for the authority of a scientist's stance on a particular issue.

The political economy of blockchain projects may sometimes be naïve or faulty. Still, we are arriving at new frontiers, where votes and capital, quantitative and qualitative, politics and economics, subjective feelings and quantifiable indicators are experimented with, with no definitive solutions.

For sure, one should remain critical of enthusiastic statements by blockchain visionaries and entrepreneurs and pay attention to complicated realities 'on the ground'. In one excellent study of the blockchain scene in Kenya, it turned out that the central government, routinely vilified as an adversary of the decentralized logics and transparency of blockchain, emerged, paradoxically, as an indispensable ally. Very few projects could survive without public support, persuasion (to make people trust blockchain) and regulatory assistance.

And the authors pose challenging questions:

> Are African entrepreneurs even willing to partner with governments they view as inefficient or corrupt? What Pan-African opportunities arise given that blockchain technology knows no borders? If blockchain becomes available to most, can it replace many government functions such as voting and land registry? Do government officials craft policy in a decentralized world or take on more of an administrative role? Are African cultures better suited for these models given their strong emphasis on community and their need for transparent governance structures? (Sydow et al. 2020)

* * *

Still, we do not claim that blockchain may fix everything. Anthropologists operate within academia (leaving aside other allegiances and commitments), and academia is no enchanted island. We know all too well about 'publish or perish', precarious positions, biased reviewers, immanent inequalities, and the like. Nevertheless, a fruitful similarity exists: peer-to-peer interactions without a central governing body are core both to blockchain and to science (peer review as the crucial procedure and the networks of invisible colleges).

Blockchain and its associated technologies (DeFI, smart contracts) are no saviour. Yet, they could act as a tool with which to implement bold ideas to make academia more accessible, transparent, unbiased, rich with alternative decision-making and funding devices. For example, it is possible to set up community-driven decisions on papers to be published, thus encouraging more active participation of authors/reviewers in editorial policy (Kosmarski & Gordiychuk 2020).

An idea that we find particularly promising is the utilization of blockchain infrastructure to distribute expertise/

1. Erik Bordeleau (2017) provides some useful thoughts on the meanings and futures of tokens.

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metrics across the whole community of scholars. Usually, evaluations are conducted periodically behind closed doors by a narrow circle of experts overburdened with procedures or by managerial outsiders to academia. Instead, the entire scientific community could be invited openly, in real time, using decentralized technology.

The metrics would no longer be imposed as a crude and alien measuring tool from the outside. Instead, they would organically grow out of the community's rules. This approach would make academics less inclined to disengage and become alienated from the very process of how universities and research institutions are run and evaluated – the 'metrics craze' (Kalfa et al. 2018; Muller 2018).

Quite a few reasonable blockchain projects for academia have been either proposed or launched. Yet, almost none have acquired the status of such killer apps as Telegram or Google Scholar. Why is this? One explanation is that academia seems to split into 'tribes' cherishing their standards and differences, in contrast to a more homogeneous 'crowd' of incentive-driven Bitcoin miners. Another is that scholars rely on stable institutional structures in their everyday practices, and the hot DeFi plasma does not appear particularly welcoming or attractive to them. Finally, decentralized, ground-up solutions require serious engagement and commitment from individual scholars and the whole community, which is not easy given the stress of other obligations. There is still time, however. The game is not over. ●

Towards decentralized anthropological scholarship

Some ethical considerations

Velina Ninkova
Velina Ninkova is a postdoctoral fellow with the project Indigenous Citizenship and Education (funded by the Research Council of Norway) at the Centre for Sami Studies at the University of Tromsø, the Arctic University of Norway. Her email is velina.ninkova@uit.no.

The year 2020 witnessed the accelerated unravelling of our social, economic and political structures. Overnight, Covid-19 transformed public and private lives and reinforced long-voiced injustices. Academia is not an inherently equal space even among the privileged, and ethnicity, race, gender, sexual orientation, age, class and ability intersect and act to the disadvantage of most (Malisch et al. 2020). In disciplines such as anthropology, the epidemic recentred another already-articulated truth. The constitutive long-term 'fieldwork as a rite of passage' is a masculinist fantasy, and 'in the field', just as 'at home', not all 'men' are created equal (see Berry et al. 2017). Concerns about 'our communities', which we have often chosen as 'ours' precisely because of their historical experiences of oppression and marginalization, sent further shocks along our already fractured lines.

Will they cope, and if so, at what cost? The reckoning will be long and complex and require restructuring old and new values, practices and relations. Setting our sights on a post-pandemic world, while alluring in its urgency, is a futile task. Just as Foucault (1977) suggested that instead of 'origins', we should focus on 'emergence', so too instead of 'endings', we may want to think in terms of 'co-endurance'. The future, once again – but this time perhaps more than ever – is not quite what it used to be.

The global pandemic has also contributed to the fast-tracking and the broader international (institutional but also cultural) adoption of emergent technologies such as blockchain. The subversive possibilities of such technologies may address some of the injustices regarding access, equity and participation outlined above. The adoption of blockchain and new channels for decentralized scholarly production, communication and ownership that these technologies facilitate also demands that we rethink and rebuild the relationships we have forged with communities and individuals the world over. This essay is an invitation for a multiperspective dialogue on some of the questions we, as anthropologists, must consider at the dawn of decentralized publishing and science. What does the future of decentralized anthropological scholarship look like, and what are the political, moral and ethical values we must consider, commit to and take action over?

The blockchain is a collaboratively managed and distributed write-only ledger that keeps track of a shared database of synchronized and replicated records (Janowicz et al. 2018; Swartz 2017; van Rossum 2017). One of its allures lies in its potential to evade prohibitive central authorities and directly empower its participants across geographical, economic, political and cultural borders. Its applications span beyond the realm of cryptocurrencies. Indeed, not long from now, a wide array of data, services, goods and contracts will be stored, accessed and shared through blockchain.

Enter academia. The global technological advancement of the past two decades has led to attempts to democratize science and increase quality through umbrella initiatives such as open scholarship and open science. Yet, as Miller (2021) has argued, technology is not value-neutral but modelled after the normative contexts from which it has emerged. Initiatives such as Open Access, for example, have failed to bridge the North-South divide and secure the hoped-for rapid and widespread communication of research findings (Tennant et al. 2016).

Publishers continue to serve as gatekeepers who profit from charging both readers and authors in the process (van Noorden 2013). Coupled with the impact of longstanding linguistic, ethnic and gender bias (Drieschová 2020; Helmer et al. 2017; Politzer-Ahles et al. 2020), slow publishing cycles and lack of recognition for the demanding work of peer reviewers (Cintas 2016), the state of academic publishing seems firmly entrenched in its time-tested, colonial and patriarchal model.

Recent efforts in the field of decentralized publishing offer glimpses of alternative modes. Picture this: the infrastructure moves from the hands of publishers to the scientific community (Tenorio-Fornés et al. 2019). Transcripts uploaded to a blockchain platform allow editors transparently to access the most suitable reviewers, who promptly perform the task and receive recognition for their work. The communication process between editors, reviewers and authors is fast and seamless, as is the distribution of, discovery of and access to research findings in the form of articles, books, data, and so on.

Research outputs are not authoritative monolithic bodies impervious to change; instead, they may be added to and developed over time – the ledger can easily keep track of a scholarly text's evolution. The academic output will transform from static to processual (Janowicz et al. 2018; Janze 2017; Novotny et al. 2018; van Rossum 2017). Today's 'wrongly assigned incentive structures' will be replaced by incentive models that ensure the equal treatment of articles, reviews and data. Native cryptocurrencies can incentivize reputable work performed by authors, editors, reviewers and network operators. This incentive will also help improve the process's quality, speed and fairness (Janze 2017). In sum, decentralized publishing through

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