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BLOCKCHAIN SCENES: A RESEARCH AGENDA

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ABSTRACT

Over the last fifteen years, the development of blockchain technologies has attracted a large volume of professional expertise, capital investment and media attention. This burgeoning sector of technology practices has coalesced around a few major initiatives (Bitcoin, Ethereum), but it is still moving at a fast pace and its configuration is evolving. If this sector is marked by a variety of technological protocols, financial arrangements and organizational forms, it is also, we would argue, a site of social effervescence. Parties, meet-ups, and the sorts of informal socializing which gather around events and networks of all kinds function to endow the blockchain sector with the characteristics of what, in cultural analysis, are often called “scenes”. The aim of this special issue is to examine the interest of the notion of scene for the analysis of blockchain practices. We argue that the notion of scene may be mobilized as a useful analytical framework not only for the study of blockchain practices, but for that of technology practices more generally. In this introductory article, we ask the following questions: how can the notion of scene contribute to the understanding of blockchain practices? And what sort of research agenda does the notion point to? In the following sections we first identify some “scenic” components in blockchain phenomena. Then we review how media discourses and academic scholarship have framed these phenomena to show that the scene perspective is undertheorized in the context of technology-related social groupings. Finally, we propose a framework to analyse the main dimensions of blockchain scenes, before presenting the contributions to the special issue. With this special issue, we aim to establish a research agenda around technology scenes at the junction of STS and cultural analysis.

Keywords: blockchain scene; technology scene; blockchain; community; culture; social effervescence

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Over the last fifteen years, the development of blockchain technologies has attracted a large volume of professional expertise, capital investment and media attention. This burgeoning sector of technology practices has coalesced around a few major initiatives (Bitcoin, Ethereum), but it is still moving at a fast pace and its configuration is evolving. If this sector is marked by a variety of technological protocols, financial arrangements, and organizational forms, it is also, we would argue, a site of social effervescence. Parties, meet-ups, and the sorts of informal socializing which gather around events and networks of all kinds function to endow the blockchain sector with the characteristics of what, in cultural analysis, are often called “scenes”. The aim of this special issue is to examine the interest of the notion of scene for the analysis of blockchain practices.

So far, the literature on digital ledger technologies has focused on the notions of community, ideology or imaginary to analyze these phenomena. We argue that the notion of scene may be mobilized as a useful analytical framework not only for the study of blockchain practices, but for that of technology practices more generally. In this introductory article, we ask the following questions: how can the notion of scene contribute to the understanding of blockchain practices? And what sort of research agenda does the notion point to? In the following sections we first identify some “scenic” components in blockchain phenomena. Then we review how media discourses and academic scholarship have framed these phenomena to show that the scene perspective is undertheorized in the context of technology-related social groupings. Finally, we propose a framework to analyse the main dimensions of blockchain scenes, before presenting the contributions to the special issue. With this special issue, we aim to establish a research agenda around technology scenes at the junction of STS and cultural analysis.

1 BLOCKCHAIN SOCIABILITIES AND CULTURES

1.1 Setting the scene

In an early documentary film about cryptocurrencies, *The Rise and Rise of Bitcoin* (Dir.: Nicholas Mross 2014) scenes of programmers busy at their computers are intercut with images of blockchain culture assembling in contexts of information exchange (like conferences), sociability (a “Big Lebowsky Party,” with white Russians and bowling, to celebrate one firm’s new office space) and political solidarity (the New Hampshire Porcupine Freedom Festival, in which blockchain developers could reassert their affinities with anti-statist social movements.) Scenes of these events provide photogenic relief in a film which often shows the viewer little more than computer screens, but they also enact the movement between individual creative labour and collective exuberance which characterizes cultural scenes of all kinds.

The emergence of the blockchain technology Ethereum can also be considered from a scenic perspective. In her 2022 book *The Cryptopians: Idealism, Greed, Lies, and the Making of the First Big Cryptocurrency Craze*, Laura Shin describes the living arrangements of a key group of young developers preparing to present Ethereum to the North American Bitcoin Conference held in Miami, Florida, at the end of January, 2014:

The Ethereum crew arrived several days before the conference in order to work. With a few exceptions, most of them were meeting for the first time. About a dozen or so people were staying in the house at any given time: Vitalik, Anthony, Charles, and Joe; Vitalik's Colored Coins friend, "capitalist Amir" Chetrit; Taylor Gerring, who was keeping the website up; Texture, who had been working in cannabis edibles; and some people Anthony had brought along, like a videographer, his business partner Steve, and several others. (...) Whereas on the first night about ten people slept at the house, the number grew as the week went on (Shin 2014, p. 29-39.)

Shin's account traces the networks of collaboration presiding over the growth of the Ethereum community as its history, but in the spectacle it offers of a youthful, male group co-habiting in a space of improvised collaboration, it is also describing a "scene". A "scene," as we shall see, may be defined in a variety of ways, but it almost invariably involves that supplement of sociability which attaches itself to activities otherwise considered in terms of the professional or cultural interests which they are intended to pursue. *The Cryptopians*, like so many journalistic studies of the Blockchain world, moves between step-by-step accounts of innovation or achievement and rich descriptive tableaux of moments in which bodies intermingle and the behaviors of a professional in-group spill onto the public stages of social effervescence (like bars, restaurants and hotel lobbies.)

In another account of the Ethereum community, Michael Leising's *Out of the Ether*, a lengthy passage describes the social-domestic situation at the Calafou retreat in Spain where, in 2013, the core Ethereum team met to work on various features of their projects:

There were separate buildings for sleeping and working. Mihai, Roxana, and Vitalik stayed in Pablo's three-bedroom apartment in the old factory workers' quarters. Across the way was a set of stone stairs and the outdoor shower. The factory seems to have been a little community of its own before lightning destroyed one of its main buildings. If you weren't feeling generous, you might say it looked a bit like a work camp: more penitentiary than pension. There was a long hallway in the apartment where Pablo hung bundles of tea leaves from the ceiling to dry (Leising 2021, p. 81.)

These media representations of blockchain culture, in its moments of scenic assembly, enact the passage between visibility and invisibility which is one of the defining processes of cultural life. Worlds marked by the secrecy and restricted intelligibility of the activity transpiring within them regularly erupt into visibility in those moments in which they generate event-structures (like parties, conferences

and summer camps) familiar to us from other, less esoteric, domains of social and cultural life.

1.2 Media discourses: a global competition between cities

In journalistic accounts¹ the term scene is mainly used in reference to blockchain to describe its production ecosystems. How do media discourses elaborate, explicitly or implicitly, the notion of blockchain scenes? A first observation is that the adjacent expression “crypto scene” seems more common in media discourse about the blockchain sector. However, inasmuch as the term “crypto” predates the invention of blockchain and may refer to a broader shared interest in encryption, privacy and security, we argue that the expression “crypto scene” is too large and ambiguous to offer a framework appropriate for the study of blockchain practices. A second expression often found in connection with blockchain is “fintech scenes”. This refers to the financial sector (trading, banking, insurance) in its development and use of digital technologies such as artificial intelligence, big data and blockchain. In this case as well, blockchain technology is not central. While an analysis that cuts across different technological scenes would be a fruitful research undertaking, we propose to start by designating those features which make blockchain scenes as such distinct.

A significant aspect of those writings which speak of blockchain “scenes” is their focus on cities as the sites in which such scenes form. The media discourse on blockchain technology is often preoccupied with the phenomena of global competition between urban creative economies. Many media articles are devoted to ranking cities in terms of the liveliness of their blockchain ecosystem and the “friendliness” of their territory for this industry. For example, an article published on the blockchain news website *Decrypt* ranks “The 15 Most Influential Crypto Cities in the World”² chosen for their “outsized influence” on the development of blockchain: Singapore is praised for its “lively crypto scene” while Berlin is said to have been “hip on the Ethereum scene” for many years.

In these global rankings, most selected cities are located in North America (Miami, New York, San Francisco, Washington, Toronto) and in Europe

¹ We conducted an exploratory (non-systematic) review of media publications available online about blockchain scenes. A series of keyword queries were run on the Google search engine between May and June 2022 with the terms “blockchain scene,” “crypto scene,” “cryptocurrency scene,” “crypto culture,” “blockchain culture” and “crypto communities.” Approximately 70 articles were collected from news media (The Guardian, NY Times, Financial Times, Fortune, Harvard Business Review, NPR, CNN, Reuters, Forbes, Al Jazeera, Business Insider Africa), technology blogs and magazines (Medium, WIRED, TechCrunch), blockchain-focused news websites (CoinDesk, ConsenSys Media, Crypto.com, Decrypt, NFT Evening, London Blockchain Labs) and urban tourism websites (Urban Gateway Explorehidden.com, Built In NYC). Sources were selected for their relevance to blockchain infrastructure and applications, cryptocurrencies, NFTs, and urban culture.

² Nelson, Jason, Jeff Benson, and Scott Chipolina (2021) “The 15 Most Influential Crypto Cities in the World.” *Decrypt*. <https://decrypt.co/88480/15-most-influential-crypto-cities-world>. (Accessed on October 19th, 2022).

(London, Berlin, Lisbon, Zug, Riga), with a few cities in Asia (Beijing, Singapore, Bangkok), Central America (San Salvador), the Middle East (Dubai, Tel Aviv) and Africa (Lagos, Bangui). Ranking is based on the following criteria: the establishment of blockchain start-ups, the presence of major companies or investors in the city; government regulations favoring blockchain development (for example, the fact that the Swiss canton of Zug, nicknamed “Crypto Valley”, accepts tax payments in cryptocurrencies); their corporate tax rate; their urban population (in size and talent, i.e., the availability of skilled labor in the field of blockchain); the organization of world-class blockchain conferences and summits (for instance, Miami hosted the *Bitcoin 2022* conference, described as the largest Bitcoin conference in history with more than 30,000 people); the availability of university education in the field; and the city’s creativity (the attractiveness of its cultural and artistic life). In this benchmarking perspective, which compares local factors of blockchain development, cities are pitched against each other in a race to position themselves as tech capitals and global blockchain hubs.

1.3 Existing perspectives in academic scholarship

As for the academic scholarship in the humanities and social sciences,³ it only marginally uses the expressions “blockchain scene” or “crypto scene”. And when it does so, it speaks of these rather informally, without elaborating on the notion. This may be explained by the fact that other notions referring to social groupings and their cultures currently dominate the field of blockchain studies, such as “community” and “organization” (in particular, decentralized autonomous organization or DAO; Scott 2017; DuPont 2017). These social groupings are predominantly analysed through the lens of their “imaginaries” (Swartz 2017), “ideologies” (Golumbia 2016) and modes of “governance” (de Filippi et al. 2020). A few studies of blockchain-related artistic practices do mention the existence of a “crypto scene” or an “NFT scene,” but only in citations from field interviews and tweets. So far, none of these discourses has proposed conceptualizing the notion in relation to blockchain.

The notion of community is the closest in scope to that of scene. It is frequently used in blockchain literature, in reference to such phenomena as “blockchain community”, “cryptocurrency community” or “crypto-community,” either in the plural or in the singular form, the latter being reductive because it flattens the differences between the multiple existing groups. Among the different blockchain communities, the expression “Bitcoin community” is by far the most frequently used, Bitcoin being the first and most renowned blockchain - and still the most studied so far. The literature that takes the notion of community as focal point tackles the issues of fellowship, shared resources and sets of relationships.

³ We consulted the SCOPUS, ProQuest, Google Scholar and EBSCOhost databases during May and June 2022.

The main angles of analysis developed in the community perspective can be categorized as follows. A first body of works deals with community *bounding*. This differs from traditional conceptions of community which emphasize a common geographic territory, cultural heritage or kinship. The boundaries of a blockchain community rather tend to be delineated by common practices and stakeholderism. By common practices, we mean logics of action rooted in a blockchain infrastructure, for example relying on Ethereum for smart contracts. Stakeholderism in blockchain communities is mainly characterised by the ownership of certain coins or tokens, whose acquisition marks the threshold of entry into a community. The notion of “transactional community” (Swartz 2020; Tremčinský 2022) is also used in the literature to emphasize the economic ties produced by the circulation of value in spheres of exchange. Swartz (2020) points out that economic transactions also shape a sense of belonging, inclusion and identity: but as an economic technology, blockchain is also rigged by logics of exclusion resulting from wealth inequalities. Instead, Reijers and al.’ (2016) resort to the notion of “contractual community” (in the sense of social contract theory) to underscore the institutional processes in blockchain collectives.

Another set of studies focuses on the *composition, structure, and binding* of blockchain communities. Early studies of Bitcoin provided insights into the sociodemographic composition of its user groups (Bohr and Bashir 2014; Lustig 2015). A large number of studies has investigated the motivations, values and beliefs of blockchain community members. These have mainly focussed on such aspects as political affiliation (Brody and Couture 2021), trust (Dodd 2018; de Filippi et al. 2020) and the sharing of collective narratives (Faustino 2022). In contrast, Caliskan (2021) adopted a social network analysis approach to study the social structure of the Electra project, a global group of developers and supporters. He mapped this group on a social graph, outlining how the distribution of clusters between center and periphery produces network hierarchies.

These studies provide a useful prism for analyzing blockchain dynamics. But they tend to leave several important dimensions in the background: the *supplement of sociability* that characterises an effervescent social setting; the performative and theatrical aspects of *self-presentation* (as notably identified by Goffman 1959); the *cultural and aesthetic fashioning* of identities and lifestyles; and the *embodied* features of social interaction (including their gendered and racial predicaments). The notion of scene is well suited to highlight these features of social formations that other analytical frameworks tend to leave on the side.

As for the cultural dimensions of blockchain, they have mainly been addressed through the lens of those *subcultures* on which it is understood to have been founded: namely the 80s cypherpunk movement and its cryptoanachist take on encryption to subvert State power and surveillance. In his historical account of digital cash, Brunton hints at “a thriving scene of pseudonymous characters” (engineers, programmers, hackers and enthusiasts) mixing in a “utopian geek scene” (2020, p. 64, 121). He highlights how digital cash operates as a “performance of a

certain subculture and their model of futurity” which “should be treated with an appropriate theatricality” (2019, p. 129). His account judiciously connects the speculative aspect of digital currency with the staging of its imagined future through the embodiment of characters (their style, singular clothes, wearable sci-fi gadgets and folklore). However, the notion of scene was elaborated in contrast to that of subculture, as a way of sidestepping the latter’s “underground” connotations (Bennet and Peterson 2004). Indeed, aside from the cypherpunk movement, which actively cultivated a secretive and subversive identity, large parts of blockchain activities now operate in the open -- if not in the mainstream.

In summary, a review of the literature provides evidence that the notion of “blockchain scene” is widely used by actors in the field but undertheorized in academic scholarship. We argue that the notion of scene opens analytical dimensions that other existing approaches do not adequately tackle. In the next section, we provide a more detailed account of ways in which the notion of scene may inform the analysis of blockchain dynamics.

2 FROM ART SCENES TO TECHNOLOGY SCENES

2.1 Expanding the scene perspective to technology

Originally theorized in popular music studies (Straw 1991; Shank 1994), the notion of scene has been taken up in urban studies to analyze the ways in which sociability in its public forms may settle around particular kinds of work or diverse objects of cultural, social and economic interest. We propose to extend the scope of scene analysis beyond art worlds and urban settings to tackle technological phenomena as scenes.

Over the years, the notion of scene has been employed to study a variety of social worlds, but rarely has it been applied to the study of technology production. Leach and Haunss (2008) studied social movements through the lens of *activist scenes*. McKelvey et al. (2021) applied the notion to the study of political affiliation by identifying *partisan scenes* online. Drysdale (2021) used scene as a framing device to analyse the material and representational elements of *chemsex scenes*. As for *technology scenes* per se, very little academic literature specifically focuses on these objects of inquiry. A paper by Hamdaqa et al. (2014) takes the “Kitchener/Waterloo technology scene” as a background case study to test the potential of “social network analysis techniques” for “scene discovery”. The authors extracted a dataset from the Meetup platform and mapped correlation patterns between people, locations, events, and topics. Yet the paper’s contribution is more oriented towards the improvement of graph and clustering techniques than towards the social analysis of technology scenes in themselves.

Science and Technology Studies scholarship has provided extensive insight into the socio-cultural dynamics of technology-oriented communities (see Kelty on

the cultural significance of free software, 2008; or Coleman on the aesthetics of hacking and its festive conferences, 2012), but these studies hardly ever identify the “excess” or supplement of sociability as a distinctive feature of scenes. Furthermore, while the notion of community is centered on human bonds, the notion of scene allows us to conceive blockchain networks as a hybrid assemblage of people, places, “things, and actions that sustain the life” of blockchain phenomena (Casemajor and Straw 2016). In this sense, the notion of scene is appropriate for analyzing the socio-technical nature of digital practices and digital world-making: it draws particular attention to the cultural, spatial, and material entanglement of blockchain formations.

If all professional activity or collective interests may generate scenes, we suggest that technology scenes have specificities. By technological scenes we mean public forms of sociability framed through or around the development of a specific technology. Emerging technologies are especially prone to scene formation because of the social effervescence carried by fast-developing innovation. Technology scenes are first characterized by a spirit of collective enthusiasm around the transformative potentials of a technological form. The outcomes of new technological ventures being typically uncertain, technological scenes generate an excess of speculation about their future development; this speculation produces a burst of expressive forms staging these anticipations. Indeed, Blockchain scenes are brimming with narratives and imagery depicting their promised outcomes; so, too, are AI scenes, artificial intelligence currently being a main driver of economic and creative enthusiasm (or wariness, for those who are less enthusiastic).

A second (and related) feature of technology scenes is a tendency to conflate creativity and technological innovation. The reference to creativity in relation to blockchain scenes epitomizes the creative economy paradigm, in which technological innovation and cultural creativity are increasingly conflated. From the late 1980s on, the expression “creative economy” has become paradigmatic in cultural, economic, and urban policymaking (O’Connor 2007). The creative economy paradigm expands the notion of creativity beyond the arts and culture sector to technological innovation. Beyond the observation that technological innovation is also driven by talent, inspiration, intuition and rule-breaking, this paradigm more crucially puts forward a new definition of creativity that encompasses all activities which ‘have a potential for wealth and job creation through the generation and exploitation of intellectual property’ (DCMS 1998, p.3; see also Howkins 2002). This refocusing to intellectual property opens the door to an “identification of the creative industries with a ‘new economy’ driven by ‘digital’ technologies and closely related to the ‘information’ or ‘knowledge’ economy.” (O’Connor 2007, p. 42).

In this perspective, centered on trademark, copyright and patents, the creative economy would include a wide range of activities such as science and R&D, industrial design, software, business-to-business services—and blockchain services and applications which would enter the definition of “creative entrepreneurialism”.

Thus, technology scenes would contribute to the development of “creative cities”. But such a conflation of culture, technology and economics within the buzzword of “creativity” was strongly criticized for being too wide and confusing. For Pratt (2005), the term is not helpful in distinguishing the specificities of technological innovation *in comparison* to those of cultural innovation. Healy (2002) also suggested that all ICT jobs are not creative: for example, many tech support and programming jobs are routine based. He argued that “IP Industries” would be a better fit than “creative industries”. Garnham (2005) pointed out that the activities and businesses lumped together in the “creative economy” paradigm have such disparate interests that this generates policy contradictions.

For all these reasons, we will avoid referring to technology scenes as “creative”, although studying how media and policy discourse may do so constitutes a fruitful research avenue. By taking technology scenes as an object of analysis, we rather seek to understand their sociocultural dimensions, that is in relation to the creation and circulation of symbolic forms, sociabilities, meanings and affects characteristic of particular social formations that develop around technology production and appropriation.

Across this broad corpus of discourses, we may speak of a double movement of the notion of creativity. On the one hand, we find the notion that any economic activity (including that involving blockchain) as resting, at least in part, on the sorts of sociability and “effervescence” often associated with cultural sectors. We may speak of this as a “culturalization” of all sectors of economic or technological activity. On the other hand, we have the persistence of efforts to maintain a notion of the “cultural” as characteristic of a specific sector – one whose principal focus is materials of a symbolic or expressive character. Blockchain worlds may generate scenes in the sense that all economic worlds generate scenes, as the surplus of sociability which grows around any collaborative activity. Alternately, blockchain worlds may be scenes in the more precise sense that, as clusters of activity marked by invention, imagination, and the production of belief, they are fundamentally (and not just secondarily) cultural.

2.2 Key analytical dimensions

We propose to identify five key analytical dimensions that may frame the study of blockchain as a technology scene.

- 1) Blockchain scenes are *loosely bounded social formations* organized around a particular blockchain technology or practice. They gather professional as well as ordinary users (developers, investors, miners, traders, users, artists, and enthusiasts) who are engaged in activities such as the production, use or negotiation of blockchain technology. These informal networks of interest may form around specific coins or platforms (Bitcoin, Ethereum), sectors (DeFi or decentralized finance, artistic NFTs) and geographical locations (eg. the New York NFT scene).

2) Scenes are characterized by *social effervescence*: a state of collective excitement which accelerates the rhythms of social gatherings and produces a surplus of sociability. Durkheim (2012) used the term in his analysis of religious life to describe “effervescent moments” and “effervescent social environments”: by this he means historical and social situations where people seek to come together more, driven by creative energy. In the case of blockchain, social effervescence is prompted by the belief that this emerging technology might bring a historical turning point, a radical change in financial services and further development of the Internet (see the discourses about “Web3”).

3) Correlatively, blockchain scenes are shaped by a *clustering of creative intensity*: the novelty and promises of the technology attract creative talent, generating an excess of expressive energy. The blockchain field is indeed characterized by an abundant production of technologies, services, applications and artworks. A plethora of different blockchains have been experimented with, hundreds of distinct coins have been created, and a myriad of projects are under development in various sectors (not only in finance but also in supply chains, identity management, or land registration). So far, only a handful of blockchain networks have succeeded, and most projects remain at the early state of proof of concept and prototypes, but the blockchain field is still characterized by a strong creative intensity.

4) A central facet of scenes is the display of *public forms of sociability*: the performative elements of social gatherings where people work, trade, debate and mingle. In blockchain scenes (as in most scenes today), modes of assembly range across offline and online settings: workspaces and professional events (conventions, conferences), celebrations such as NFT parties, and last but not least, online platforms (Twitter, Discord, Telegram, Reddit and so on). The notion of scene invites us to pay close attention to the experiential qualities of social gathering: to the spectacle of sociability, the theatricality of social interactions, the embodiment of social roles and identities, and all the material artefacts that sustain these practices of public appearance. Interestingly, Goffman’s original interest in scenes and self-presentation was rooted in a study of gambling in Las Vegas (Shalin 2016): a type of risk-taking activity akin to trading highly volatile assets such as cryptocurrencies. Staking is undeniably a key feature of blockchain scenes, be it through the investment in ICOs (initial coin offerings, with highly uncertain outcomes) or through bidding in NFT auctions. What is specific to blockchain scenes is the public nature of these economic transactions: auction bets as well as crypto wallet contents and history of transactions are openly accessible. Yet blockchain scenes are also shaped by thresholds of visibility and invisibility: whom and what is in the limelight, what’s easily observable and what remains underground (see Frizzo-Barker’s article on gender dynamics in this special issue).

5) Finally, scenes are affective networks: they carry structures of feeling that hold aesthetical, ethical and political implications. Scene affiliation provides a sense of belonging, through “systems of identification and connection” (Woo et al. 2018). As networks of affinities, they convey symbols and meanings that coalesce into distinctive identifiable cultural formations. Scene affiliation actively participates in identity formation and lifestyle. In this perspective, one’s crypto wallet may be read as an expression of taste (through NFT collections) but also as an expression of ethical inclinations: the choice of coins purchased may --to a certain extent-- indicate ethical preferences. For example, the ownership of Sol or Tezos coins may signal a preference for environmentally sustainable blockchain technologies, while Bitcoin is viewed as a libertarian and anarcho-capitalist endeavour.

These analytical dimensions provide a framework for studying blockchain scenes, their conditions of formation, their sociocultural dynamics and their evolution. While the analysis of specific, localised scenes may constitute a research agenda in itself, *cross-scene analysis* comprises a fruitful direction for further research. One may think of DeFi (decentralized finance) as a confluence between fintech scenes and blockchain scenes, or consider NFT production as an entanglement of visual art scenes and blockchain scenes. Metaverses are also an alleged meeting point for blockchain and artificial intelligence technologies. From this point of view, cross-scene analysis allows to study how the entanglement of distinct creative and technological networks may spawn the formation of new scenes.

Yet scene analysis raises some methodological challenges: how to study scene formation at the confluence of online and offline spheres? How to consider the double dynamic of localisation and globalisation of technological scenes? In the next sections, we elaborate on these two challenges, both of which are linked to the study of scenes as spatialized formations.

2.3 Connected spaces: (re)location through digital materiality

In the context of the ever-growing importance of digital environments, we contend that studying technology scene phenomena implies remapping the locale of technology-related practices by acknowledging the entanglement of *digital and non-digital social settings*. Music studies and video game studies are two research areas that provide useful insights for apprehending the digital dimensions of scenes. They analyze the ways in which online spaces of assembly, everyday digital sociability and online visibility provide new conditions that re-shape scene dynamics.

The field of game studies is especially rich with studies that tackle the role of digital environments in the formation, sustaining and transformation of cultural scenes. In particular, Grimes (2015) revisited the notion of scene to study the networks of cultural activities that formed around a popular video game franchise.

She showed how a digital game system (the Sony PlayStation) may function as a “temporal and spatial ‘place’” by providing an underlying infrastructure through which gamers who are separated geographically may interact. While their collaborative activity is “tethered” to a network of material artefacts that shape digital stages and forums, it also extends across a range of informal spaces and domestic contexts that are geographically located. Whereas Grimes takes digital locations as a focal point to illuminate the network of multiple locations where the sociability of gamers unfolds (from online gaming environments to bedrooms), Young (2022) adopted an opposite approach. In his study of the Toronto video game production scene, he takes as starting point the urban space where participants organize regular social gatherings (meetups, drinking parties and game jams) in bars, museums or schools, showing how these social practices are entangled in digital spaces through the use of game editors forums and social media apparatus (Twitter hashtags, Slack or Discord channels) in which members of the scene share their productions, access information and recruit potential participants.

The field of music studies has also generated digital expansions of the notion of scene. In their early conception of “virtual scenes”, Bennett and Peterson (2004) emphasized the role of the Internet in the shaping of exchange among fans. They characterize chat room-based groups and listserv-based scenes as spaces for sharing resources such as memes and DIY creations. However, insisting on the tailoring of digital spaces to “the needs and interests of fans” (2004, p. 11) may underestimate the profound impact of digital networks on professional actors. Kruse (2010) provides several arguments that support this latter emphasis. In a study of independent music scenes, she shows how the Internet provides support for organizing band tours, for becoming visible to peers and audiences, or for selling music. Moritzen also argues that “Bennett and Peterson’s postulations would not focus in depth on the mediations imposed by digital culture” (2022, p. 121). Her study of in-game concerts in Fortnite and Minecraft (two massively multiplayer online games) details how the material mediations of digital gaming (immersive visual effects, sound design, avatars) shape the gathering of spectators and their sociabilities. The use of the term “virtual”, by implying something that does not physically exist, does not fully capture the importance of materiality in the analysis of digital settings.

To sum it up, music studies and video game studies each contribute to the analysis of scenes’ digital dimensions from a different perspective. In the case of music studies, where the notion of scene was first conceptualized to grasp the material inscriptions of cultural flows in urban spaces, digital spaces were initially perceived through the paradigm of dematerialization (as “virtual” spaces of reception). In video game studies, on the other hand, where digital materiality historically provided a foundational substrate for production and reception practices, the digital dimension of scenes was picked up from the outset from the double perspective of localized clusters of activities and online spaces of assembly. As for blockchain practices, having emerged out of a novel global digital

infrastructure, they are largely “born digital” – such that, in fact, their local and translocal underpinnings often remain a blind spot in academic literature.

As Kruse (2010) crucially points out, online scenes and offline “conventional” social formations cannot be separated. Such a perspective fruitfully expands the notion of scene beyond mere geographical locales to rethink the “complex, mediated-yet situated relationships between practice and place” (Grimes 2015, p. 389). Prior shares a similar perspective (while not tackling the notion of scene) in his book on popular music and digital technology, by arguing that a pre-digital space of production “now co-exists with and expands into a plurality of supplementary spaces through which creative practices flourish” (2018, p. 82).

Mapping the coordinates of blockchain scenes thus implies considering a double set of interconnected spatial parameters: a) *in situ coordinates*, situating scenes in geographical territories; and b) *online coordinates*, situating them in digitally mediated networks of communication. In this doubly spatial perspective, blockchain scenes may be conceptualized as a nexus of activities unfolding in a materially hybrid (digital and non-digital) network of infrastructures, social agents (not just receptors but producers and intermediaries as well), artefacts in circulation and flows of information and affects. Both sets of coordinates are framed by multiscale dynamics (local, translocal and global). These are not restricted to geographic territories; they also affect the composition of online spaces (see Lemieux’s article as well as Barondeau and Aceiton’s contribution in this special issue). Yet these two sets of coordinates are governed by distinct—but permeable—temporalities (synchronicity vs a-synchronicity), social norms of interaction, and economic regimes.

The latter point is particularly important given that the coordination of scenes increasingly depends on corporate digital services (social media, messaging applications, distribution platforms) whose economic models expand the economic logics of datafication (Sadowski 2019) and platformization (van Dijck et al. 2018). The conditions of online visibility are particularly affected by these logics in the form of interaction metrics, filtering and recommendation algorithms, as well as content monetization. In this context, scene activities are actively shaped by logics of capture, negotiation and resistance to data extraction and commodification, a political economic regime now central to late capitalism.

2.4 Global dynamics

Until recently, academic scholarship mainly framed blockchain as a set of global networks, without tackling their geographic inscription. As for media discourses on blockchain scenes, they often use the expression “blockchain scene” to refer to a few metropolitan centers of technology production concentrated in the global North. This bias endures, even though the uses of applications (especially cryptocurrencies and decentralized finance) are growing rapidly in the global South. According to Chainalysis, a company that provides data on blockchain markets, most of the top

ten countries in terms of grassroots adoption rates⁴ for cryptocurrency are located in non-Western countries: in Vietnam, Philippines, India, Pakistan, Brazil, Thailand, China (Chainanalysis 2022). The attractiveness of cryptocurrencies for lower and upper middle income markets lies in the challenges facing unstable economies, where cryptocurrencies are used for money transfer, sending remittances, peer-to-peer phone payments, in-store payments and to preserve savings. According to Statista’s global consumer survey (Buchholz 2021), the global user base of cryptocurrencies increases yearly, but unevenly between countries: in 2020, 32% of Nigerians surveyed reported either using or owning cryptocurrency, while North American and European nations had low levels of adoption.

We can therefore observe a strong discrepancy in the geography of blockchain sites of production and use. The global North concentrates most sites of technology production, but it has low consumer adoption rates, while the global South, in contrast, has the highest consumer adoption rates but few sites of production. Another significant geographic difference lies in the sociodemographic portrait of cryptocurrency users. While in Global northern countries cryptocurrency users tend to be predominantly men (Caliskan 2021), a 2019 OECD survey in Asia (Malaysia, the Philippines, Vietnam) shows that there was no significant difference between men and women in the holding of cryptoassets— and women were even slightly more likely than men to hold such assets (OECD 2019).

These observations lead to two important points to be considered in the study of blockchain scenes. First, this research should not be restricted to the sphere of technology production, but also embrace the reception, uses and appropriation of blockchain services and applications. Secondly, research should pay close attention to scenes located in the global South, which present characteristics significantly different from those of the global North that dominate the academic literature. Two papers in this special issue offer such a diversified perspective (Ackah on Ghana and Hou on China). The next section presents the contributions to this special issue in more detail.

3 CONTRIBUTIONS TO THE SPECIAL ISSUE

In ‘Lifeworld’ on Ledger: A ‘Scenic’ View,” Victoria Lemieux uses the concept of “virtual scene” to explore three Blockchain ‘ecosystems’, those of Bitcoin, Ethereum, Algorand. As the analysis unfolds, concepts of lifeworld, scene and ecosystem join with others, like “microcosm or “technical system,” in the elaboration of a rich typology of organizational forms. Each of these forms emerges within a conceptual framework which illuminates aspects of collective behavior unseen by the other. The notion of life worlds forming around a technical object (such as a blockchain) has affinities with an understanding of scenes, as the set of

⁴ Based not only on individual crypto-currency use, but on a combination of indexes such as exchange trade volume.

events and behaviors which gather around objects of devotion or labour. And yes, as Actor-Network Theory reminds us, social processes may be built into technical systems, rather than simply collecting around them as if they have drifted there from elsewhere.

Lemieux's article engages in a detailed fashion with the spatial dimensions of scenes. If, following Bennett and Peterson, it has become common to see all scenes as articulating on-screen and off-screen space, Lemieux asks whether digital platforms themselves might not serve to circumscribe a given scene in terms we might imagine as spatial. Is a blockchain itself, as a "technical-mediatic space" of inscription, a territorial phenomenon? Are its boundaries isomorphic with those of a scene or is the space of a blockchain able to accommodate multiple scenes? These are among the many conceptual questions posed in Lemieux' analysis.

A longstanding focus of scene analysis is the extent to which the normal absence of formal authority in scenes weakens the exercise of power within them or merely hides it behind structures of authority which, because they are informal, are often invisible to newcomers. This is one among many questions addressed by Betty Blay Ackah's article "Ghana's blockchain scene on WhatsApp: A space for convergence and divergence." The notion of informality is central to Blockchain culture in Ghana for several reasons, as Ackah notes. One is that, in a country where large numbers of people are undocumented and without formal banking identities, the anonymity and low barriers to engagement characteristic of blockchain culture make it an appealing alternative to other arena of financial activity. At the same time, the ubiquity of WhatsApp as a communications tool has made it the key support of a "virtual scene" in which cryptocurrencies are monitored, discussed, and exchanged. This scene is produced in the "loosely constituted sociability" which takes shape around blockchain on WhatsApp.

Even in digital spaces, Ackah observes, scenes bring with them "hierarchy and disparity" rooted in the differential possession of social capital. This social capital, the author notes, is highly gendered, with women typically relegated to minor roles on the margins of cryptocurrency exchange or other forms of involvement with blockchain. With their concealed forms of authority and obscure protocols of acceptance, scenes are often more exclusionary, for women and other groups, than more formal kinds of social organization.

Jiayi Hou's contribution to this issue, "Making Ends Meet by Mining on Blockchain: Subalternity, Materiality, and Yearnings of Chinese Amateur Crypto Miners" offers an ethnographic analysis of a group of amateur crypto miners in China who belong to the social category of *shehuiren*. The label, literally translated, means "society people"; it designates a specific type of subaltern population in post-socialist Chinese society. Hou defines the blockchain scene in which the *shehuiren* are involved as one composed of a variety of human and non-human actors: "technologies, discourses, places, institutions, artifacts, forces, and people."

In certain respects, this low-level Chinese blockchain scene, connected in multiply mediated ways to transnational domains of bitcoin-related activity, may be

seen as mirroring the local, marginal music scenes studied in so many other examples of scene analysis. Ho’s analysis extends far beyond the familiar dialectic of the local and the transnational, however. It captures the complex ways in which blockchain work reveals both the exclusions to which the shehuren are subject and the ingenuity with which they find ways of persevering. Banished to places of economic marginality by neo-liberal economic policies in China, the shehuren have made bitcoin mining (and occasional trading) the focus of collective endeavours which include the sharing of information and other resources. As well, as Hou notes in the article’s conclusion, engagement with blockchain allows the shehuren to engage in constant interaction with larger social structures from which they are typically excluded.

Julie Frizzo-Barker’s contribution to this issue, “Women on the Block: A Technofeminist Discourse Analysis of Blockchain Meetups, Conferences, and Hackathons,” begins by noting the contradiction between the claims of Blockchain culture to offer revolutionary forms of democracy and accessibility and the starkly gendered ways in which power and inclusion are structured within that culture. Public recognition of this gendering often expresses itself as judgemental commentary on a world of “blockchain bros” meeting up and hanging out. As we noted earlier in this introduction, events such as conferences or work retreats often constitute the public face of blockchain culture. They will serve, as well, as points of entry for journalists or scholars seeking to observe that culture.

Following Frizzo-Barker, we might see events such as these as constituent features of blockchain scenes, alongside the more informal gatherings, hallway encounters and drink nights typical of technology-focused work cultures more generally. As women in blockchain communities have moved through these scenes, they have found themselves occupying a variety of roles: as sexualized curiosities, tokens of inclusivity and, if only occasionally, bearers of respected expertise. Cyberfeminist and technofeminist efforts to challenge the gendered dynamics of blockchain worlds have intervened at the level of institutionalized structures but have laboured, as well, to produce more inclusive scenes – spaces of communication and proximity in which women may build the multi-threaded links and solidarities which true diversity and inclusiveness require.

In “A First Glance at the Quebec NFT Gaming Scene,” Régis Barondeau and Pablo Aceiton Campos offer a concretized notion of scene as the quasi-totality of institutions, professional roles, discourses, media and other phenomena sustaining a particular activity. In their case, the activity analyzed is the production and exchange of Non Fungible Tokens within the important gaming scene to be found in Québec, Canada. Drawing on theoretical principles developed in the analysis of creative industries, the authors situate an NFT scene in relation to the *underground*, *middleground* and *upperground* of the gaming industries. While an expansive definition of the NFT scene may encompass all of these levels, Barondeau and Aceiton extend the boundaries of their analysis further, to examine a broad corpus of social media posts, scholarly publications, official industry

announcements and other forms of discourse responding to the emergence of NFT's within Quebec's gaming culture. If a scene emerges across this body of discourse, it is one devoted to debating and evaluating the viability of NFT's as components of a highly successful gaming ecosystem. Technological innovation and financial calculation are central to the fate of NFT's, but the analysis by Barondeau and Aceiton acknowledges the importance of affective features in defining the conditions of their emergence. Fear of industry disruption, indulgence in inflated expectations, arcs of hope and disillusionment – these responses, which we might deem emotional, form part of the thick complexity of Quebec's gaming scene.

All five of the articles included in this issue set blockchains and cryptocurrencies within worlds loosely circumscribed by geography, ethnic identity, gendered relationships and distinctive balances between on-screen and off-screen life. Some of these worlds, we might suggest, are scenes. Most of them contain scenes, embedded within (or themselves enclosing) other social unities, like life-worlds, microcosms, networks or professional communities. With this special issue, we hope to suggest new ways of understanding the diverse ethical universes, behavioral protocols, and attention regimes that make up the blockchain sphere.

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