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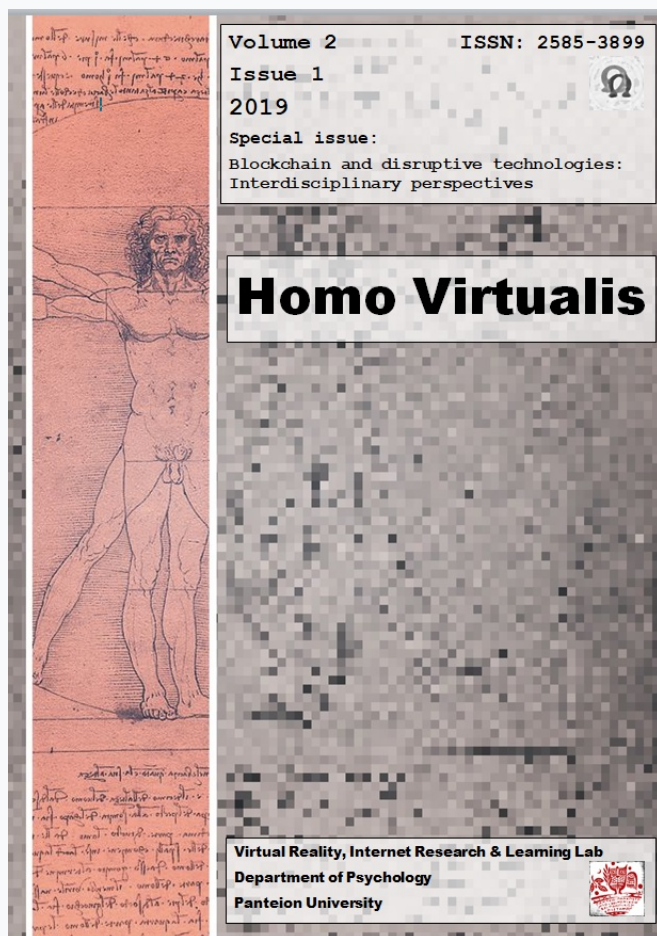
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Radical technologies: Blockchain as an organizational movement

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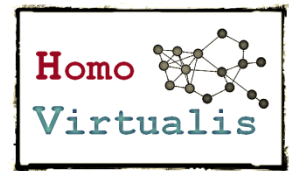
Radical technologies:

Blockchain as an organizational movement

Maria Koletsi[1]

Abstract: The emergence of blockchain technology has created a debate regarding technologies' socio-cultural symbolism. Prevailing as alternative or complementary to internet technology, blockchain's decentralized radical architecture reflects organizational change, enhancement of degrees of freedom, for individual identities and communities, new schemes of distributed trust and privacy, transformation of power relations and social reality perception. The current paper aims to contribute to the ongoing debate, from an organizational and socio-psychological perspective, discussing the key elements of a socially grounded technology, like any other technological product within the history of humanity. Through an evolutionary lens, blockchain technology is examined as a decentralized grassroots organizational movement at birth, influencing and, at the same time, be influenced, by science, culture, as well as by other aspects of individual and collective networked life, apart from the economy. Social sciences and cyber sciences are in a crossroad where society and technology integrate creating a mixed socio-technological or techno-social reality. Therefore, it is of high importance for them, to address the new epistemological challenges by developing new methodologies and tools, independently from any utopian or dystopian predictions.

Keywords: *blockchain, organizational movement, decentralized technologies, social contract, radicalization, cyberpsychology*

Introduction: Radical technologies and radical procedures

Radicalization is a misconceived concept with a non-established consensus for its definition, in social and political sciences. Even though it describes a cognitive process where procedures of transformation take place on a given time and context, it is often identified as the "alter ego" of terrorism or a prerequisite for violent extremism (Borum, 2011; Githens-Mazer, 2010, 2012). One of the key elements, during the radicalization process, is the differentiation of the old known cognitive schemes towards new ones provided by the external social, economic, political or cultural environment (Klandermans, 2014). The stimuli content on different environments often propose information that contradicts or supports already

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embedded knowledge and beliefs' system, forcing people to decide whether they will accept or reject it. The level of adaptation or conflict on these new facts and situations can be followed by high or low transitional tense. The outcome of this dynamic process leads on organizational change with new organizational paradigms, having a direct or indirect conservative or progressive content.

The term can be better described as a phenomenon at birth, an informal and formal transformation of human systems' knowledge database involving cognitive functions, time and space parameters, as well as other external environmental aspects, that can interfere and slow or accelerate the outcome, as well as its qualitative and quantitative elements. Due to the particularity of the phenomenon it is important to clarify the aims and means based on which it reveals intertemporally. Any radical transitional situation has clear organizational characteristics aiming to change, or support a given status quo, the power structures and power relations from a political, social, economic, cultural or technological perspective. At the same moment, the used means for a successive organizational transition and aims' accomplishment, can vary from moderate to extreme violent, totally peaceful or a combination of both providing the appropriate ground for the emergence of revolutionary or consensual practices and fulfilling the life cycle of the new organizational characteristics.

History of the humanity provides a wide range of incidents where radical thought and praxis led to ideas, discoveries, artifacts that transformed societies through an evolutionary process of consensus and conflicts. Technology has played, and still plays more than ever, a catalyst role to this direction (Gilbert & Campbell, 2015). Technological innovations unveil more and more the social within the technological, and vice versa, creating a continuum of techno-social or socio-technical realities that reshape human mind and body by extending the boundaries of thought and action. The current debate on post-humanism and post-truth passes inevitably through radical technologies, such as augmented and virtual reality, blockchain environments, artificial intelligence, which facilitate or create the preconditions for a radical organizational transformation on the lives of the individuals, communities and societies.

Voshmgir (2017), founder of BlockchainHub, describes blockchain technologies as a protocol of trust offering to individuals the choice to escape from the chaotic universe of data and central administration to a more democratic data distribution. She stresses out that internet's future is decentralized and that blockchain offers a unique opportunity to exploit technologies of privacy and expand privacy by design. Voshmgir (Medium, 2017) explains the social roots of decentralized techno-relations and argues that blockchain technology is an ecological system, a new internet containing several types of organizational formats addressing different levels of trust: federal, public or private.

Beck & Müller-Bloch (2017) acknowledge the innovative and radical nature of blockchain architecture and distributed ledger technology in relation with a shift towards a unique organizational change. What is of high importance, is that adaptation to blockchain techno-realities demands cooperation and collaboration both into the intra-organizational and inter-organizational level creating new dimensions on the institutional operationalization and the establishment of trusted relations.

The debate on blockchain evolution as the offspring of web.3, points out an important element, the radical identity of this new technology and a revolutionary perspective as per almost any technological mean that affects social relationships. The uniqueness of the current

blockchain and distributed ledger technology expectations, focus on an old, but always up to date agenda, that of personal and civil liberties in accordance with human rights and obligations, throughout the centuries. An agenda that takes into consideration that technology is a byproduct of human evolution, providing alternative ways for the organization of everyday life for individuals, communities and societies and creating inevitably new power structures by influencing social relationships, within and between different cultural systems.

Blockchain and power relations

Heidegger (1977) observes that technology's essence is not merely technological but a deep reflection of human thought and action to control and understand the physical environment. Therefore, for Heidegger any technology is not ideologically, socially or culturally neutral. For humanity the core issue is neither the efforts to control technology nor to reject it, as a cause of dehumanization, but to discover and expand itself through the revealing technological presence. New technologies, internet and artificial intelligence, augmented, virtual and mixed reality uncover the human curiosity and ability to interact with nature and other individuals, gathering knowledge and develop social relations of cooperation or conflict for survival and prevalence. Power relations are a key factor penetrating every aspect of life, both in the physical environment and in cyberspace (DuVal Smith, 1999), from the more trivial to the most important issues. To this direction, technological evolution should be seen through an ontological lens where its existence reproduces already established relations or produces new relational categories of power, among individuals, communities and societies. Especially in communication technologies the struggle for power and control is obvious. Castells (2009) supports that multimedia communication networks present three different layers of power: networking power, where the access or denial on the flow of information is controlled by authorized gatekeepers, networked power, where specific nodes of a network exercise their power upon other nodes and network-making power, where the organizational dimensions of a network are based upon the allocation of power on the different subparts of the network. Therefore, Castells' theory on communication power (2009) describes vividly the non-neutral nature of communication technology, as well as the content of power relations, and the context of power structures struggling to control, not the information per se, but the information routes and communication outcomes. The networks of individuals and communities interacting and communicating in cyberspace present a set of common characteristics that demonstrate the creation of grassroots movements, socially oriented and horizontally organized, with focus on autonomy and trust, participation, co-creation and shared values. These networks operate in the online environments based on self or mass communication creating new self-regulatory social spaces contesting the existing power norms. Could these networks be the ancestors of blockchain communities of the present? Could blockchain technology be parallelized to an organizational movement with self-liberating core elements by design, which overcome Castells' description on power structures and avoid old and new online authorities and monitoring? To what extend and with what procedures grassroots social movements played an important role towards the evolution of radical by design and scope technological innovations such as blockchain and decentralized distributed lives on cyberspace?

The above questions are not rhetorical but support an in-depth analysis to understand the social genealogy of technology and the many organizational shapes and meaning of techno-

logical transformations. Swan and De Filippi (2017) discussing the philosophical dimensions of blockchain argue that, like the internet, blockchain technologies "invite a full range of consideration in the classical areas of philosophy: ontology, epistemology, and axiology".

To this direction, Sir Tim Berners Lee's (2014) vision for a Magna Carta for Internet promote a Digital Bill of Rights, with a special focus on privacy, freedom of expression and responsible anonymity. Berners-Lee's proposal has as a milestone the May of 2019, where officially the 50% of the global population will be online. Magna Carta for the Internet focus on a new "contract" consisted by the basic principles of internet life (for the citizens, communities, public and private entities), giving a special emphasis on individual internet rights and freedoms. The project is obviously inspired by the historical document of Magna Carta Libertatum (1215), a charter of rights notably documenting the abolition of certain privileges of the King of England, the respect on legal procedures and civil rights.

The necessity for a new contract on individual and collective freedoms on cyberspace could be described as a grassroots regulatory framework that reassures freedom of expression and action by the people for the people to the people. On the other side, blockchain technologies become also a terrain for discussion on the necessity or possibility for the formation of a new type of social contract. Rousseau (1895) on social contract theory described that "man is born free and everywhere is in chains" to underline the importance of the free will during the symbiosis of humans. Rousseau's thought focus on humanity's achievement to include personal liberties and interests into the communal interest, through procedures of agreement and consensus on common liberties between equal individuals. What is of high interest is that, blockchain technology is questioned if it can raise new models of governmentality leading in a new type of social contract. In order to understand better the problematic, scholars (Reijers, O'Brolcháin et al., 2016) focus their analysis on theories of social contract (Hobbes, Rousseau and Rawls). Following their rationale, blockchain technology could be effective on decayed governmental models. At the same time, blockchain is a non-discriminative technology, even though power relations are pre-established in the public ledger, as it can support decentralized power, rights and freedoms. Apart from that, Reijers et al. (2016) generally acknowledge the dynamic development and the social affectability of the specific technology.

If the time to open a discussion on a new social contract in the blockchain era has come, then the preconditions, out of which an organizational movement of change will be born, should have been already developed.

Blockchain as an organizational movement

Many scholars, entrepreneurs and institutional entities working on blockchain technologies, recognize that blockchain's special characteristics point out the social and organizational significance of technological evolution. Castells' network society seems to evolve into a hyper multi-ethnic virtual society reflecting a human chain with human blocks and nodes on cyberspace, taking advantage different models of relational virtual communities' organization (Roberts, Smith & Pollock, 2006), in order to share memories, present action and expectations. In other words, a continuous development of virtual public spaces for participation takes place (see also Davis, Elin, & Reeher, 2002), remembering Arendt's thought on democracy, organizing cloud agoras in blockchain technology (Kostakopoulou, 2018). Blockchain

and other distributed ledger technologies promote in their radicality a set of axioms socially pre and re-defined, both individually and collectively operationalized: decentralization, privacy, security, freedom, trust, cooperation, exchange, participation, and consensus.

As Blumer (2018) vividly describes, blockchain tends to become a social and economic movement, based upon a revolutionary technology providing transparency, self-regulation, and efficiency. Ethereum co-founder Lubin (2018), tweets that blockchain is transformed into a real movement, with the rapid growth of decentralized networks around the world. Zwitter & Boisse-Despiaux (2018) underline blockchain's possibility to address humanitarian action and development aid. Kostakopoulou (2018) emphasizes that cloud agoras however inclusive try to become, they cannot totally reassure participation, but supported by blockchain technology, they could strengthen democracy, as individuals can practice their democratic right and act around different aspects and problems of their life, in a glocal level. Furthermore, Reijers & Coeckelbergh (2018, p. 125) describe blockchain's ontological content as a socio-cognitive process that "configure the narratives through which we understand our social reality" by re-defining social relations within a certain time and context. Swan (2015) supports the idea of blockchain thinking, parallelizing the semi-artificial information process, based on a complex computational system, to the cognitive informational process of the human brain.

Among others, blockchain enabled projects refer to sharing and solidarity economy, social inclusion, elections and political participation, identity management, individual rights and data privacy, co-creative and crowdfunding scientific and cultural activities. The United Nations (n.d.) have already established a special department on blockchain, launching a multi-UN agency platform in order to improve humanitarian aid. Academic communities, such as Berkeley Blockchain (2019) interdisciplinary community and Oxford Blockchain Society (2016), create blockchain based ecosystems and crypto-communities for collaboration and sharing of common resources. Women's formal and informal organizations develop virtual communities for equality and participation on technological environments. Blockchain Babes (2018) represent themselves as a movement trying to raise awareness on women's participation to technological transformations. Crypto Chicks (n.d.) have created an educational hub for relevant purposes and LGBT Token (LGBT Foundation, 2018) refers to the economic support of equal rights. As it concerns culture, Wunder Art Museum (2018) is the 1st decentralized digital museum promoting art as a service and art as an asset. Fresco (n.d.) is the 1st network for the promotion and disposal of art creations. Research institutions, such as RMIT Blockchain Innovation Hub (2017), located in Australia, study the social and economic consequences of blockchain, such as crypto-democracy. Civil platform (The Civil Media Company, 2019) builds a global community of crypto-journalists, Democracy Earth Foundation (2015) addresses democratic processes as a decentralized open source organization system and Agora community (2018) offers a voting system based on blockchain technology. Moreover, Vote Coin (2017) refers to anonymous crypto-democracy, as it, also, supports a coin based voting system.

As Gaggioli (2018) explains, every praxis of individual and society life is now decentralized. Within this decentralized universe of everything, intermediaries do not have any role to play, as transactions are monitored and approved by users, and trust and cooperation, among valid anonymous strangers, reveal new socio-psychological dimensions in a complex secure organizational ecosystem. Cyberpsychology and other cyber disciplines (cybersociology, cyberanthropology) have the opportunity and scientific responsibility to collaborate

and understand emerging organizational complexities. By studying the phenomenon of decentralization and distribution of individual and social presence on cyberspace, it is possible to bring out new aspects of human interaction, towards a more consensual and creative social symbiosis and co-existence.

Conclusion

In a world in transition by new promising technological challenges, individuals and communities promote decentralized relations and contribute dynamically to the development of social technologies, in order to address complex phenomena. A new socio-technological vocabulary has been developed producing a new language of hashtags trying to explain #crypto-science, #crypto-culture, notably #crypto-economics and #crypto-currency that have direct and indirect impact on different individual and social behaviors on cyberspace: #crypto-politics, #crypto-power, #crypto-elections, #crypto-vote, #crypto-democracy, #crypto-identity, #crypto-nation, #crypto-community, #crypto-movement and last, but not least, #crypto-freedom.

Radical technological innovations should not be considered as a panacea to humanity's problems but as social technologies leading to new organizational paradigms that transform the thought and action of societies, providing, at the same time, new structures of distributed and decentralized power, re-shaping social relations and humanity's understanding of social reality.

Therefore, social sciences and cyber sciences, on the one hand, should show interest and examine, in depth, these transformative technologies, and, on the other hand, they should focus the study on the multiple dimensions and effects of these transformations, independently of any utopic or dystopic predictions.

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