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# “Next Generation“ Online Social Networks Based on Cryptocurrencies and Blockchain

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When we do research and attempt to conceptually develop alternative social networks, we have to take several approaches into consideration: from *n-1* with its direct relation to social movements and its tools and spaces for collective work (which simultaneously leave activists to rely on *Facebook* as the most important tool for communication with the 'outside world'[1]) to *Facebook*-alternatives like *diaspora**, which solve single issues (privacy) but do not develop alternatives to media and communication concepts (individualism and narcissism). The generation of alternative social networking sites like *n-1* and *diaspora** has been stagnating for several years now, with some projects operating without a chance of reaching a critical mass along with others that have ceased to operate altogether. While our research has more of the character of an ‘archeology’ in this field, a coming generation of social networking sites is currently unfolding – mainly or even exclusively as 'Facebook-alternatives' – in which the material we can analyse and learn from consists mainly of abstracts, white papers and alpha releases. All the while,

experiences with running full implementations have been rare due to the fact that the phenomenon is still rather nascent.

These social networking sites are primarily based on blockchain technology and deploy or at least relate to cryptocurrencies[2]. The projects position themselves as critical of the business models on which most of the commercial social networking sites such as *Facebook* and *Twitter* operate, namely regarding the collection of data about their users by any means possible and the capitalisation of this data through its sale to advertisers[3]. While this sort of self-positioning has become a frequent marketing strategy among startups in the sector, not telling us a lot about any of its real aims[4], this new generation of social networking sites shares some features – mainly a decentralised archive and enhanced privacy awareness implemented through cryptography – that establish their key differentiation from traditional social networking sites. This can thus form the basis for developing alternative models. Against this backdrop, such new networks intend to be 'truly social', based on fairer business models and censorship-proof[5].

This should, however, not be misunderstood in political terms. Despite an at times harsh critique of the capitalistic greed behind *Facebook* & co., these are not anti-capitalist projects. What is practiced here, is a critique of (or aversion to) institutions rather than a critique of capitalism as the projects obviously adhere to some 'decentralised' form of capitalism. Business language is abundant in the discourse; discussions about fairness and being ‘truly social’ are combined with argumentation based on the development of market values, discussions about investments and methods for governing networks via the creation of economic incentives. In political terms, those are definitely very different forms of ‘alternatives’, but there might be a lot to learn from these social networking sites. The shift to blockchain, cryptocurrencies

and decentralisation as the basis of social networking sites may be a fundamental one in several respects, having the potential for opening up new perspectives. Therefore, it can be interesting to analyse and learn from them while preserving one's fundamentally critical position in relation to these social networking sites' drives towards a 'decentralised' capitalism. The networks can be interesting as analytical tools, as collections of micro-experiments, and – concerning their practical realisation – as one more of the drops which will sooner or later create a considerable hole in *Facebook's* monopoly position[6].

The background, made up of cryptocurrencies and blockchain technology, will be important in several respects for understanding these social networking sites. Thereby a few questions which are difficult to be answered at this current stage of development will have to be tackled. While at the beginning Bitcoin (starting in 2009) sparked quite some curiosity – ranging from the potential of a decentralised digital currency that aims to work without central institutions like banks to negative headlines about crazy fluctuations of its market value and involvement in criminal activities – the focus of attention has shifted to blockchain as the technology that makes Bitcoin possible. Blockchain is now seen as the important invention, the relevance of which exceeds that of Bitcoin by far.

Blockchain is a database system that basically resembles a ledger or journal, in which timestamped entries are saved in chronological order whereupon they cannot be easily changed in hindsight[7]. Blockchain's main feature is its decentralised storage. The integrity of the ledger/journal is not achieved through central storage in a server farm. It follows a converse method instead: the ledger/journal exists in a number of decentralised copies that are continuously synchronizing in a peer-to-peer setting. In most

cases, there are major nodes in the network that are responsible for creating entries in the blockchain (e.g. the in/famous mining of Bitcoins), with all of the nodes in the network locally storing a copy of the entire blockchain. In the case of a cryptocurrency such as Bitcoin, the ledger/journal keeps a record of all currency transactions that have been completed. Being so easily conceivable, this method can also be applied to several types of 'assets' or rights, from real estate to copyrighted material (which is a problematic case in its own right) to voting. Blockchain can also facilitate more complex processes (by not simply documenting transactions, but storing code in the ledger/journal, which is currently most prominently developed in the 'Ethereum'[8] project) such as the automation and decentralisation of contracts and organisations[9].

In political terms, these technologies are highly ambivalent. On the one hand, cryptocurrencies are tools for further virtualising and thereby expanding the reach of capitalism through the integration of more people. It thus continually expands into more and more social microstructures and enhances its reach in a global geographical sense. (And currencies such as Bitcoin share the widespread problem in capitalist economies, not least the digital ones, in which the stakeholders who profit from it tend to ignore their projects' potentially devastating impacts on the environment, in this case, caused by mining's huge consumption of energy.[10]) On the other hand, they may also be useful tools regarding new modes of economy,[11] and in practical terms, for developing new concepts for the re/production of the commons. In a broader sense, however, ideas about Blockchain regarding the automation of organisational, social and political processes have been developed[12] and declared 'utopias', analysed in their frighteningly dystopian character by critical theoreticians[13]. At the same time, though, the combination of decentralisation teamed with

structures that support collective self-organisation also embodies a certain emancipatory potential.

The negative elements have exceedingly prevailed in the developments leading to the current situation, and it seems that a mix of hyper-capitalism and right-wing libertarianism is dominating the field, whereas the positive cases seem to have not expanded much beyond their conceptual phase[14]. Despite the subcultural and 'anti-establishment' self-perception and/or self-portrayal of parts of the Bitcoin and blockchain communities, the segment, which is seriously developing radical alternatives to current techno-capitalism, seems to be very small. Concerning the question of financing co-operative production (including the sustainability of the digital commons) the practical example of Commoncoin which was initiated by MACAO (Milan)[15] might be interesting as well as conceptual frameworks developed by the Economic Space Agency[16] (an 'extension' of the Robin Hood Co-operative[17]).

Back so social networking sites: Most of the Networks[18] have been in existence for a relatively short time, some – e.g. *Steemit**[19]*** and *Akasha**[20]*** – have been in operation for approximately one year now and others have just announced their upcoming alpha release (e.g. *Dawn*[21]). *Synereo*[22] may prove to be an interesting project for our research. *Synereo* is presented as vigorously developing a new generation of social networking sites, which attempt to leave not just *Facebook* behind, but also *diaspora**[23]. Like *Facebook* and *diaspora*, it is (an attempt to set up) a general purpose network, technically capable of scaling larger audiences. Starting from a discussion on the concept of attention and a detailed analysis of network structures and dynamics[24], they work towards developing an 'attention economy'. Thus, the aim it predominantly advertises now is putting “Creators and Curators on top of the

Internet's monetary food chain"[25]. However, on a conceptual level, there is a more complex discussion developing regarding the fostering and supporting of attention as the rarest element in the digital communication environment[26].

There are a lot of ambiguities and contradictions in this context. A profit-oriented business company lies Behind *Synereo**[27]*. The team does not deny this whilst assertively presenting their network as a 'project with a mission'[28]. They develop concepts for focusing their users' attention. And on that basis,[29] they develop the users' interests and activities on both an individual, and to a certain extent also, a collective level, while the network accepts advertisements and the whole 'attention economy' is based in micro-payments (and 'investments' in content) and involves a quantification of everything, including: the individual's position in the network[30] (and the value of one's attention according to this), writing, curating, and also dedicating one's attention – e.g. to watching advertisements[31].

The interesting thing is that (at least thus far) these contradictions have been dealt with relatively openly. This can be seen as promising with the potential for learning from the experiment. In April 2017, after completing a test phase, *Synereo* announced that it was releasing a public beta version of its 'Qrator' tool in June. It will basically be a collective filtering tool realised as a browser plugin. Users will have the possibility to post info about interesting content they find on the web to the *Synereo* network (by investing a small amount of *Synereo*'s Cryptocurreny AMP). This strategy will thus develop a social network through collective filtering, and it will offer the possibility for uploading content directly to *Synereo* in the following step. Perhaps its launch in June may already produce some insights into the relation of network dynamics and the current/upcoming state of the digital economy.

Many open questions remain, but the research and interviews do not need to embark on a journey towards the unobtainable aim of answering all of them. Instead they will try to collect insights and details which can be useful for developing strategies for emancipatory political work in this transforming environment of digital communication and economy.

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[1] While “[t]he danger, of course, is that today’s 'penny for your friends' social networks will survive long enough – at least one after the other – for their compromised social standards to become accepted or even internalized by users" (Douglas Rushkoff, *Program or Be Programmed: Ten Commands for the Digital Age*, New York: OR Books, 2010.).

[2] In the sense that they create own currencies or tokens, which form main elements in the network’s governance, as well as in conceiving their own project for following parallel lines. E.g. in the early announcement of *Synereo*, published in October 2014: "The Bitcoin revolution has brought us control over our money. In this position of control, we are its owners and we decide what to do with it, uninhibited by the interests of those in positions of great influence. *Synereo* is attempting to do the same, only with the fundamental social tool of the Information Age - the social network” ("*Synereo*: A fully decentralized social network owned by you", https://bitcointalk.org/index.php?topic=827782.0).

[3] See e.g.: Gideon Rosenblatt, “You Are Not the Product: The Coming Revolution in Social Networks”, http://www.the-vital-edge.com/not-the-product/.

[4] One example is 'Unthink', which advertised its anti-Facebook position (e.g. https://www.youtube.com/watch?v=pxMqSdgB-uA), but: “Despite its anti-Facebook message, Unthink was based on exactly the same business model as Facebook: get venture capital funding ($2.5 million to be precise), use the funding to grow a userbase, and leverage that userbase into ad dollars” (http://www.johnchow.com/zurker-the-social-network-that-you-can-own/#).

[5] In some cases, this extends to: "*Synereo* is Mesh-Network compatible, and does not rely on the centralized Internet. The system cannot be blocked or restricted by centralized powers such as governments or Internet service providers. The network can never be shut down. *Synereo* is innately compatible with distributed, peer-to-peer wireless network technologies, assuring that as long as smart *devices* are in range, no central Internet service provider is required for smooth functioning" ("*Synereo*: A fully decentralized social network owned by you", op. cit.).

[6] How considerable this aspect will become also depends on the question as to if and to which extent announcements stating that the blockchain will become a 'revolution' lead to an entirely new phase in the development of digital communication and economy. While it does not seem likely that the technology will turn out to be so 'disruptive', it does seem possible that the stakeholders may generate considerable hype.

[7] For the current discussion on the frequently stated 'immutability' of the blockchain, see Gideon Greenspan, “The

Blockchain Immutability Myth", http://www.multichain.com/blog/2017/05/blockchain-immutability-myth/.

[8] https://www.ethereum.org/.

[9] For those dreams compared to the actual current situation, see: Lana Swartz, "Blockchain Dreams: Imagining Techno-Economic Alternatives After Bitcoin", in: Manuel Castells et al., *Another Economy is Possible: Culture and Economy in a Time of Crisis*, Polity, 2017, http://llaannaa.com/papers/Swartz_Blockchain_Dreams.pdf. We should also notice, that these concepts do not attempt to strengthen trust between people, but to replace it with a technological solution: "It allows cooperation without trust, in other words – something that is quite different from fostering or building trust. As the founding Bitcoin document details, proof-of-work is not a new form of trust, but the abdication of trust altogether as social confidence and judgment in favor of an algorithmic regulation. With a blockchain, it maybe doesn't matter so much whether I believe in or trust my fellow peers just so long as I trust in the technical efficiency of the protocol. The claim being made is not that we can engineer greater levels of cooperation or trust in friends, institutions, or governments, but that we might dispense with social institutions altogether in favor of an elegant technical solution" (Rachel O'Dwyer, "Blockchains and their pitfalls", in: Trebor Scholz, Nathan Schneider (eds.), *Ours to Hack and to Own*, New York, London: OR Books, 2016).

[10] Criticism has been repeatedly raised by environmentalists and scientists, who compare the energy consumption caused by Bitcoin to that of entire small countries such as Ireland or Denmark (Karl J. O'Dwyer, David Malone, "Bitcoin Mining and Its Energy Footprint", Limerick 2014; Sebastiaan Deetman, "Bitcoin Could Consume as Much Electricity as Denmark by 2020", https://

motherboard.vice.com/en_us/article/bitcoin-could-consume-as-much-electricity-as-denmark-by-2020). However, the environmental problem seems to be largely ignored by the stakeholders. The huge energy consumption is not caused by technical necessities on the whole, but in supporting aspects of 'governance': for slowing down the pace at which Bitcoins are 'produced', and for artificially creating costs that make production more expensive. (Small currencies which are closer to the form of community currencies do not need the 'proof-of-work' method, but can implement these aspects of governance through human cooperation and collective decision making.)

[11] See (not relating to blockchain): *Power at the End of the Economy. A Discussion with Maurizio Lazzarato, Brian Massumi, Peter Pál Pelbart and Akseli Virtanen*, http://www.futureartbase.org/2014/10/07/power-at-the-end-of-the-economy-2/.

[12] The 'enemies' in these 'visions' are mainly all sorts of 'mediators' and 'intermediaries'. The proposed solution is to replace them with algorithms, which reveals an extensive inability in understanding social processes and thus appears all the more absurd when we think about it against the backdrop of our project *Midstream*. In practice, e.g. the simplistic idea of Bitcoin as a peer-to-peer currency, which does away with banks, has largely failed already. The fact that corporate banks were among the earliest adopters of blockchain technology is maybe not as strong of proof as it seems at first, but there have been several other failures: “In the one fully existing blockchain-based system, Bitcoin, decentralisation remains a challenge. Instead of developing capacities for lightweight protocols optimised for home computers or small-scale collectives to host the blockchain, metallist speculation in Bitcoin the currency has lead to centralisation of the infrastructure. Blockchain hosting has been consolidated in the

form of industrialised 'mining' operations, with the top two pools operating 57 percent of the blockchain and five mining pools operating 80 percent. There is the common suspicion that some of these pools might be owned by the same operator, which would mean further consolidation (Otar 2015). Similarly, instead of transacting directly via the blockchain, most people use Bitcoins via a new class of Bitcoin-specific intermediaries: wallets, exchanges, debit cards, other payment portals. These do the work that financial intermediaries have always done: broker settlement and clearance, make equivalence between exchange rates, manage risk and fraud. What bitcoin entrepreneurs who have built these applications on top of the blockchain have discovered is that direct financial communication – like all communication – does not happen by magic. Bitcoin entrepreneurs have wound up rebuilding most of the payment system from the ground up" (Swartz, op. cit., p. 92).

[13] See: J.Z. Garrod, "The Real World of the Decentralized Autonomous Society", *tripleC* 14(1): 62-77, 2016, http://www.triple-c.at/index.php/tripleC/article/view/692; Brett Scott: "Visions of a Techno-Leviathan: The Politics of the Bitcoin Blockchain", http://www.e-ir.info/2014/06/01/visions-of-a-techno-leviathan-the-politics-of-the-bitcoin-blockchain/; David Golumbia, *The Politics of Bitcoin: Software as Right-Wing Extremism*, Minneapolis: University of Minnesota Press, 2016.

[14] "Examples of Blockchain Technology Liberating Communities to Collectively Manage Their Resources in a De-centralized or Autonomous Manner Are Still Abstract Thought Experiments or Draft Prototypes at Best" (http://networkcultures.org/moneylab/2016/03/21/promise-of-the-blockchain/).

[15] See: http://www.macaomilano.org/rivista/IMG/pdf/commoncoin-2.pdf and Tiziana Terranova, Andrea Fumagalli, “Financial Capital and the Money of the Common: The Case of Commoncoin”, in: Geert Lovink, Nathaniel Tkacz and Patricia de Vries (ed.), *MoneyLab Reader: An Intervention in Digital Economy*, Amsterdam, 2015.

[16] ECSA Team, “Programmed Decentralised Commons Production”, https://medium.com/@ecsa_team/programmed-decentralised-commons-production-2b1fac7cf9a8.

[17] See: ECSA Team, “From Robin Hood to Economic Space Agency”, https://medium.com/economic-spacing/from-robin-hood-to-economic-space-agency-4516e8c01024.

[18] For links to some more of these networks, see: "Decentralized Social Networks - Comparing Steemit, Synereo, Decent, Alexandria, Yours.network, Safe network, ZeroNet", https://steemit.com/steemit/@moh-rokib/decentralized-social-networks-comparing-steemit-synereo-decent-alexandria-yours-network-safe-network-zeronet.

[19] http://steemit.com, see: https://steemit.com/steemit/@lukestokes/steemit-putting-the-social-back-into-social-media.

[20] https://akasha.world/, see: https://blog.akasha.world/2017/05/03/akasha-odyssey-year-one/.

[21] In an interview, Brenn Hill describes *Dawn* as being "about reinventing social networks in a way that is group-centric and pro-social instead of individual-centric and exploitative." (Frisco d'Anconia, "Blockchain-Powered Dawn Reinvents Social Networks as We Know Them", https://cointelegraph.com/news/blockchain-powered-dawn-reinvents-social-networks-as-we-know-them). See

also: *Dawn* v0.1.2 Whitepaper, https://steemit.com/beyondbitcoin/@faddat/dawn-v0-1-2-whitepaper.

[22] https://www.synereo.com/.

[23] “Diaspora was a great attempt at decentralized social networking. Its design is obsolete at this point, though. There are a few major differences between Synereo and Diaspora that should be highlighted: Synereo is built with top-of-the-line encryption and privacy tools. Diaspora is decentralized but is still quite insecure; server owners have access to your information and may also control your participation in the network. Synereo is designed as a framework for managing the attention economy. Synereo optimizes your ability to achieve your goals, social or otherwise, by shaping both inputs and outputs of information in ways that reflect your own estimation of value. Synereo offers a straightforward and simple user experience and does not require technical know-how to participate in the network. The DendroNet does all of the heavy lifting in a way that is completely transparent to the user. From our perspective, Diaspora is an attempt to decentralize a first generation network, and we're really thinking about the next generation of social networking“ ("Dor Konforty: Synereo is the ‘Natural Next Step’ After Facebook" https://cointelegraph.com/news/dor-konforty-synereo-is-the-natural-next-step-after-facebook).

[24] Cf. "Synereo: The Decentralized and Distributed Social Network" (Synereo Whitepaper, 15 March 2015), https://github.com/synereo/synereo.github.io/raw/master/whitepapers/synereo.pdf.

[25] https://blog.synereo.com/2017/04/03/synereo-announces-qrator-the-first-liberated-attention-economy-application/. “The

first step towards Synereo's vision of a freer and fairer Internet is the liberation of User Generated Content. We believe that UGC is the cornerstone of a future P2P media market, and for it to flourish and compete with existing outlets, a new business model has to be established – one that empowers independent journalists, artists, and bloggers, rather than the platforms tucked between them and their audiences" (ibid).

[26] See: *Synereo* Whitepaper, op.cit.

[27] *Synereo* does not deny that it "does intend to generate a profit, implementing open source business models (like implementation, consultation etc)" and that "[i]n the foreseeable future, most profits will probably be funneled into further development. Everything on top of this will be subject to the board's and shareholder's priorities - as it is the case with any LTD" (https://www.reddit.com/r/Synereo/comments/5ne8wj/does_synero_plan_on_being_for_profit_in_any_sense/). At the same time it presents itself as not being constrained by a profit-making impetus: "Can you imagine Facebook implementing a feature that would decrease their revenue by 5%? Being unconstrained by financial desires, Synereo has a few key advantages in extensibility [...]" (Dor Konforty, CEO of *Synereo*, in an interview published in February 2015, "Dor Konforty: Synereo is the 'Natural Next Step' After Facebook", https://cointelegraph.com/news/dor-konforty-synereo-is-the-natural-next-step-after-facebook).

[28] Simultaneously, the so-called 'sharing economy' – with its profit-oriented startups that turned from their sharing agenda to profit-making as their single relevant aim in no time – provided us with a fresh example of how inappropriate this organisational form

is for implementing a 'mission'. See: Tom Slee, *What's Yours is Mine. Against the Sharing Economy*, OR Books, 2016.

[29] “The relationship between agency and attention has profound psychological, sociopolitical, and ethical implications. It requires explicit critical reflection as we develop the next generation of social networks" (*Synereo* Whitepaper, op. cit., pp. 5–6).

[30] In addition to their currency AMP, there is ‘reo’, its own measurement for quantifying an individual’s position in the network. See also: “There is an explosion of interest in alternative currencies, new value formations based on reputation or trust in online networks instead of traditional forms of labor or investment [...]” (Bill Maurer, Lana Swartz, "Curating Transactional Things", in: Bill Maurer, Lana Swartz (eds.), *Paid. Tales of Dongles, Checks, and Other Money Stuff*, Cambridge, London: MIT Press, 2017).

[31] This is not a new idea but common practice in e.g. computer games, where users can watch a 'video' and get some game tokens as a reward. In *Synereo's* concepts, this is also described as an incentive for raising the quality of its ads (their distribution in the network is lower cost when people find the ads interesting and watch them voluntarily). This concept was already present in Digg (see Robert W. Gehl, *Reverse Engineering Social Media*, Philadelphia: Temple University Press, 2014), and it seems to fit perfectly now within its public relations storytelling paradigm. *Synereo* claims to have made several improvements regarding the creator’s position in relation to advertising: It would not be possible to block channels in reaction to advertisers’ complaints about them – unlike in a recent *Youtube* incident – and because of direct AMP payments, the creators would not solely rely on money from advertisements (https://blog.synereo.com/2017/05/01/when-

the-madmen-call-the-shots-the-problem-with-ad-based-attention-economy-nsfw/).