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Cyberspace as an Ethical Agent



The commonly accepted view of technology is that it is ethically neutral, with a human agent being responsible for any ethical import that results from it.¹ We do not agree with this perspective. *We claim that cyberspace is an ethical agent, a role that is not commonly perceived.* Indeed, cyberspace is almost universally regarded as a neutral collection of software and hardware systems. We do not think of it having ethical import for our lives or as an ethical agent (an equivalent claim). Why is this perspective important for us, and what are the implications for us and society of assuming such a perspective? In the following paragraphs we provide the justification for this view and introduce the key concepts for this discussion.

What is Cyberspace? Cyberspace is a complex of hardware and software, including communication networks, the servers providing services over the

¹ By way of analogy, a knife could be used to slice bread or murder someone, depending on the wielder's intentions. We all know the famous slogan of America's National Rifle Association (NRA): "Guns don't kill people—people kill people." The ethical aspect of military technology can be rather easily accepted, but the ethical aspects of technologies like the Internet, which permeates throughout our everyday lives, is rather difficult to recognize and acknowledge.

network, devices for end users, intermediate transmission systems, the complex management overlay, and a whole array of support personnel supporting the network and services, including conceptual thinkers, programmers, technicians, and so on. Cyberspace needs a huge amount of energy to power its infrastructure.² In addition, it also needs sources to provide the information needed for network services, because cyberspace is a system par excellence for the exchange, transfer, aggregation, modification, storage, and retrieval of information. What is rarely realized is that we, the users, are an integral part of cyberspace. Indeed, without users, cyberspace is lifeless.³ With other technologies, we are usually mere users, but with cyberspace, we are essential parts of its existence, as much so as any other part.⁴ In other words, *we are the raison d'être of cyberspace*. However, this does not mean that cyberspace is necessarily for us.

The claim that “we are also an integral part of cyberspace” needs clarification. All technology is for human use, whether directly or to support other technologies that are directly used by us. Yet, information technology, aka cyberspace, has a different relationship with us. Cyberspace integrates us by using us as sources of information, which it then feeds to itself and builds upon. Indeed, the system of cyberspace is designed to gather and process information about us for almost every aspect of our lives.⁵ To analogize it

2 “Currently, one tool estimates that Bitcoin is using around seven gigawatts of electricity, equal to 0.21% of the world’s supply” (C. Baraniuk, *Bitcoin’s energy consumption “equals that of Switzerland,”* <https://www.bbc.com/news/technology-48853230>, 4.04.2022). “Already, data centers use an estimated 200 terawatt hours (TWh) each year. That is more than the national energy consumption of some countries, including Iran, but half of the electricity used for transport worldwide, and just 1% of global electricity demand [...]. Data centers contribute around 0.3% to overall carbon emissions, whereas the information and communications technology (ICT) ecosystem as a whole – under a sweeping definition that encompasses personal digital devices, mobile-phone networks and televisions – accounts for more than 2% of global emissions. That puts ICT’s carbon footprint on a par with the aviation industry’s emissions from fuel.” See also: C. Jones, *The Impact of Software on People and Society*, [in:] *The Technical and Social History of Software Engineering*, Upper Saddle River, NJ 2014, pp. 23–35.

3 Of course, most of the traffic on The Internet is machine-to-machine (M2M). But it is in support of user traffic.

4 See e.g. V. Fourkas, *What is ‘cyberspace’?*, https://www.researchgate.net/publication/328928631_What_is_%27cyberspace%27 (5.04.2022); S. Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, London 2019.

5 See e.g. M. Hanif, *What Data Is Collected About You*, <https://www.globalsign.com/en/blog/what-data-is-collected-about-you-online> (5.04.2022); N. Martin, *How Much Does Google Really Know About You? A lot*, <https://www.forbes.com/sites/nicolemartin1/2019/03/11/how-much-does-google-really-know-about-you-a-lot/> (5.04.2022); N. Martin, *How Much Data Is Collected Every Minute Of The Day*, in: <https://www.forbes.com/sites/nicolemartin1/2019/08/07/how-much-data-is-collected-every-minute-of-the-day/> (5.04.2022); L. Matsakis, *The WIRED Guide to Your Personal*

with the Internet of Things (IoT), we are the “things” of cyberspace.⁶ Using a metaphor we could say that information about us is the oil that lubricates the age of information.⁷

There are of course other applications in cyberspace, such as systems monitoring other systems that may in turn monitor other systems in a hierarchy. These are not of interest here. Instead, we focus on the cyberspace–human integration. The definition of cyberspace that we use is obviously extended beyond the one that dictionaries provide, but only from this wider perspective⁸ can we begin to comprehend that we interact with a vast complex system of hardware and software.⁹

This system is unparalleled in the history of technology in terms of its ability to reach us and affect our lives, our thoughts, our choices, our private lives, our social standing¹⁰, and we are part and parcel of this system of systems.

In this study, we may use the terms cyberspace and the Internet interchangeably. Technically speaking, cyberspace and the Internet differ significantly, but there is significant overlap between them, so for the purposes of this study, we regard them as the same complex system.

We have claimed that “cyberspace is an ethical agent,” so there are obvious questions: What is an agent, and what is an ethical agent? *How can we attribute ethical agency to computer systems?* An agent (in a broad sense) is “a person or thing that produces a particular effect or change”.¹¹ We denote this as definition (a). We also have a different definition: “An agent is a program that collects information or performs a task in the background at a particular schedule. The term agent is often thought of as a software abstraction that is capable of acting with a certain degree of autonomy to perform a particular

Data (and Who Is Using It), in: <https://www.wired.com/story/wired-guide-personal-data-collection/> (5.04.2022); S. Zuboff, *The Age of Surveillance Capitalism...*, op. cit.

6 See e.g. D. Hanes [et al.], *IoT Fundamentals: Networking Technologies, Protocols, and Use Cases for the Internet of Things*, Indianapolis, Indiana, USA 2017.

7 L. Matsakis, *The WIRED Guide to Your Personal Data (and Who Is Using It)...*, op. cit.

8 The online Merriam-Webster Dictionary states that cyberspace is “the online world of computer networks and especially the Internet” (*Cyberspace*, <https://www.merriam-webster.com/dictionary/cyberspace>, 4.04.2022).

9 We need to recognize that each of the subsystems constituting the Internet (hardware, software) when taken separately or partitioned into a myriad of subsystems, may seem ethically benign or neutral. That is why to comprehend the cyberspace as an ethical agent we need to see cyberspace as one whole.

10 See e.g. L. Matsakis, *The WIRED Guide to Your Personal Data (and Who Is Using It)...*, op. cit.; B. Schneier, *Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World*, New York 2015.

11 *Agent*, <https://dictionary.cambridge.org/dictionary/english/agent> (4.04.2022).

task on behalf of its host”.¹² We denote this as definition (b). An agent must then possess some level of autonomy and causality. An ethical agent is an entity that impacts, changes, influences, restructures, or adds a new facet to the ethical sphere of our society.¹³

The concept of “cyberspace as an agent” is best understood as the conflation of the definitions (a) and (b), as in “an agent (sometimes called an ‘adaptive agent’) [as a program that collects information or performs a task in the background at a particular schedule] is generally regarded to be an autonomous entity that can interact with its environment. In other words, it must be able to perceive its environment through sensors and act upon it with effectors.” [1] Further, “cyberspace as an ethical agent” is thus understood as an agent as defined above, with the proviso that it adds a new facet to the ethical sphere of our society.

This definition of agency and ethical agency differs from definitions usually employed in traditional ethics or anthropology.¹⁴ However, sticking to these traditional definitions would prevent us from recognizing the agency and ethical agency of cyberspace.¹⁵ And this is why, we suggest, the ethical agency role of cyberspace has not been recognized for so long.

12 *What is Agent? – Definition from Techopedia*, <http://www.techopedia.com/definition/1292/agent> (4.04.2022).

13 The typical requirement we place on an agent is the intentionality of its acts. This is a weaker requirement than that of mental representations. Thus, it can serve as a convenient basis for the concept of artificial agency (see M. Schlosser, *Agency*, [in:] *The Stanford Encyclopedia of Philosophy*, ed. E.N. Zalta, Stanford 2019). The question to be considered, then, is to what extent we can attribute intentionality to cyberspace. The intentionality of an artifact such as cyberspace is part of its design. Cyberspace operates intentionally, within the framework set by its designers. Every act of communication on the Internet is described by the intentional structure of the network’s layered model. Information does not arrive at the source on the same basis as an apple falling from an apple tree to a basket below. The simplest transfer of information triggers a sequence of intentional processes whole hierarchical structure of processes, acting intentionally. At the lowest layer we deal with transmission of physical signals, while at the highest layer (service level) – intentional actions are performed in interaction with other systems. Such other system may be, for example, a human agent-user.

14 A. Taylor, *Animals and Ethics: An Overview of the Philosophical Debate*, Peterborough, Ont.–Orchard Park, NY 2003, p. 20; V. Haksar, *Moral agents*, [in:] *Routledge Encyclopedia of Philosophy*, London 2016, <https://doi.org/10.4324/9780415249126-L049-1>.

15 This approach seems close to collective moral agency. We could qualify as moral agent “certain structured groups, such as states, corporations, or universities” (N. de Haan, *Collective moral agency and self-induced moral incapacity*, “Philosophical Explorations” 26 (2023) no. 1, p. 1, <https://doi.org/10.1080/13869795.2022.2086994>). *Per analogiam*, we could similarly qualify some socio-technical composites such as complex technical systems. However, the ethical significance of such composites goes beyond ‘procedural collectivism’ (N. de Haan, *Collective moral agency...*, op. cit.). The emerging problem of the moral responsibility of such complex technical systems could also be seen analogously to the moral responsibility of collective agents, where “corporate

We therefore pose a question again: Can we then assign agency to cyberspace (or the Internet) in this sense, and can we also assign to it causality in the ethical sphere, which is a precondition for an ethical agent?

In most cases, our realization that a computer system is an ethical agent or possesses ethical agency is only fragmentary and incidental. Indeed, *the agency of computer systems aka cyberspace generally goes unrecognized*. Any understanding of the impact on society from computer programs as agents is usually very narrow and fragmentary, and the impact itself is misunderstood; there is no general conception of a software/hardware system like cyberspace as an ethical agent, and the ethics of software or computers are limited to professional ethics or disregarded entirely.¹⁶

Why is the possible ethical agency of cyberspace worthy of attention? Human society and its functions are built upon some ethical principles. These principles, and the axiological structure connected with them, usually manifest and develop in culture and customs, and they are open to scrutiny, control, and verification. We are immersed in many of them from childhood, so we may not explicitly realize their existence. These ethical principles weave the ethical fabric of our societies, acting as general principles to live by, and we rarely question them under normal circumstances, at least within a civic and democratic society. If another powerful factor enters this fabric of ethical constructs and acts upon it, changing or affecting it in ways we do not understand, then we need to know about it. People who sleep through such creeping changes tend to wake up one day in something like a gulag.¹⁷

responsibility is an additional and non-redundant level of responsibility” (N. de Haan, *Collective moral agency...*, op. cit., p. 2). Using complex digital systems (even “participating” in them) could lead to similar problems arising in the context of collective moral agency – a *self-induced moral incapacity*. These issues are the flip side of the problems described in this article. However, they are beyond the scope of this article and should be the subject of a separate study.

16 For example, the study on the impact of software by St. Augustin’s college (*The impact of software*, <https://sddhsc.wordpress.com/hsc/9-1-development-and-impact-of-software-solutions/9-1-1-social-and-ethical-issues/the-impact-of-software/>, 4.04.2022) lists 10 points, none of which lists the ethics of computer programs. Johnes, while listing tens of types of software, never mentions the ethical side of these tools. He only classifies them as beneficial or harmful – see C. Jones, *The Impact of Software on People and Society...*, op. cit.

17 Zask explains the dangers of the Internet: “It is not a question of eliminate the services offered by the Internet but to base a social project on virtual relationships via the Internet is to destroy society. Analogous to the city built in the air which Aristophanes laughed at in *Les Oiseaux*, the one we are building in the “clouds” is anti-society. Face-to-face relationships, the importance of which is in fact put into perspective, are absolutely essential. We must come back”, J. Zask, *La communication virtuelle : le nouvel opium du peuple ?*, <https://aoc.media/opinion/2020/06/15/la-communication-virtuelle-le-nouvel-opium-du-peuple/> (5.04.2022).

What is not within the scope of this study. First, we will not talk about the professional ethics of programming or the ethics of autonomous robots, cars, weapons, and so on. We will also not talk about computer algorithms, such as abstract sorting, searching, optimization, Artificial Neural Networks (ANN), search heuristics, and so on, because these are merely parts of the whole. The same argument applies to specific technologies, such as the Internet of Things, social networks like Facebook and Twitter, individual systems like Google because they are only parts of a greater complex. Similar thinking goes for the class of software applications such as simulation programs, video/photo editing programs, YouTube and other platforms for sharing videos and images, voice recognition, and deep fake software, as well as programs for monitoring biological functions, personal traits, pacers, and location apps, among others.¹⁸ There are specific cases where it is clearly evident that a piece of software or hardware has some sort of ethical impact, such as in the case of social platforms, video games, messaging apps, or monitoring systems. We are interested in assuming the most wide-ranging perspective, so while we will obviously still talk about specific software platforms or systems, it will only be within this larger context.

Refreshing our objectives, we question how cyberspace can be an ethical agent. We will explore the influence that cyberspace may have on the ethical fabric of our societies. However, just identifying the problem would be an anti-climax, so we need to ask what we could do with cyberspace and its overwhelming nature instead of simply going entirely “off-grid,” something that is arguably no longer possible. We ponder this question in the closing part of the study.

How does cyberspace act as an ethical agent?

Software agents influence our behaviors, such as what we do, how we think, and how we make our choices. They educate us, and they shape us and our cultures. In many cases, they have, to some degree, subsumed the roles of teachers, priests¹⁹, personal assistants (Wohlner 2919), and legal consult-

18 See e.g. M. Hanif, *En...*, op. cit.; N. Martin, *How Much Does Google Really Know About You?...*, op. cit.; N. Martin, *How Much Data Is Collected Every Minute Of The Day...*, op. cit.; L. Matsakis, *The WIRED Guide to Your Personal Data (and Who Is Using It)...*, op. cit.

19 See e.g. S. Musaddique, *How artificial intelligence is shaping religion in the 21st century*, <https://www.cnn.com/2018/05/11/how-artificial-intelligence-is-shaping-religion-in-the-21st-century>.

ants.²⁰ The scale of the impact and reach of software agents goes beyond any technical revolution we have previously encountered.

January 2022, the major social networks had a staggering number of users (Clement, 2022): Facebook (2.9 billion; 2.3 billion in 2019), YouTube (2.6 billion; 1.9 billion in 2019), WhatsApp (2 billion; 1.6 billion in 2019), Instagram (1.5 billion; ca. 1 billion in 2019), WeChat (1.3 billion; 1 billion in 2019), TikTok (1 billion; 0.5 billion in 2019), SinaWeibo (0.57 billion; 0.46 Billion in 2019), and Reddit and Twitter (0.43 billion each; 0.33 billion each in 2019).²¹ What is more, these are just the most popular platforms.²² In these social networks, everyone is potentially connected to everyone else. Your profile is visible to anyone who wants to see it, barring any restrictions set by users (the apparent restrictions are mostly illusory as ‘leaking’ of personal data from highly secured sites is rather a norm than exception), and it may include idiotic photos you took during a high school trip twenty years ago but since forgot all about.

At this scale it is hard to fathom how cyberspace is shaping our current ethical attitudes, informing our ethical choices, and developing our ethical values? In fact, The Dunbar number²³, which is the number of people that someone can have meaningful relationships with, is believed to be about 150, give or take. So, what kind of relationships, let alone meaningful ones, can we have with many thousands, millions, or even billions of people? Probably none. Cyberspace relationships are in this view meaningless. Put another way, would you expect to have a meaningful relationship with every inhabitant of Mexico City or New York, let alone every person in China or India? You simply would not expect anything from the vast majority of people, so bear this in mind when you count your “likes” and “followers.” But Dubar is

html (5.04.2022); S. Samuel, *Robot priests can bless you, advise you, and even perform your funeral*, <https://www.vox.com/future-perfect/2019/9/9/20851753/ai-religion-robot-priest-mindar-buddhism-christianity> (5.04.2022); W. J. Wildman, K. J. Stockly, *Spirit Tech: The Brave New World of Consciousness Hacking and Enlightenment Engineering*, New York 2021.

20 J. Walter, *AI Could Give Millions Online Legal Help. But What Will the Law Allow?*, <https://www.discovermagazine.com/technology/ai-could-give-millions-online-legal-help-but-what-will-the-law-allow> (5.04.2022).

21 *Most popular social networks worldwide as of January 2022, ranked by number of monthly active users*, <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/> (5.04.2022).

22 By comparison, ResearchGate has 20 million users as of 2022 (15 million users as of 2018), Academia.edu has 179 million users as of 2022 (71 million users as of 2018), and LinkedIn has 774 million uses as of 2022 (610 million users as of 2019). It is worth to compare these numbers also with PhilPeople (<https://philpeople.org>) – “The online community of philosophers”, which has only 304,037 profiles in April 2022.

23 See e.g. A. Krotoski, *Robin Dunbar: we can only ever have 150 friends at most...*, <https://www.theguardian.com/technology/2010/mar/14/my-bright-idea-robin-dunbar> (5.04.2022).

an old school. Cyberspace changes the game. You can be influenced by these uncounted masses of virtual members or by those who run the system.

Chinese Government's coronavirus tracking app, tracks how much people exercise, what they drink and whether they smoke, their temperature, how much they sleep, and probably much more. Every day, people are assigned a score ranging from red ("bad boy") to green ("good girl"). Needless to say, all this gets centrally stored, but where? Whom is it passed onto and for what purposes?²⁴ We simply do not know. The people are simply told that it is for their benefit, whatever this term means for the Chinese. If you still believe the question of ethics for cyberspace is unfounded, exaggerated, or overstated, think again.

Cyberspace should be interpreted as an ethical agent because it influences our social relations and peoples decisions and doxatic attitudes.²⁵ Some artificial agents mimic human actors, such as bots, but most software has an ethical impact in a more sophisticated, not to say insidious, way. By accepting the use of certain software tools, such as very popular applications, we accept the role designed for us. Now, what is common in the use of different applications, such as sporting apps like Endomondo and Sport Tracker and scientific social networks like ResearchGate? In these examples, we seriously accept our role as an object under technical control. The usefulness (or implied usefulness) of these apps enables us to become accustomed with this new role, even though it has been criticized by hackers for decades for not reflecting the ethical aspect of software freedom.

The rough ethical waters of cyberspace

Mediatory role of digital communication makes us blind to the complexity of other persons. It is similar to a form of reduction performed by an ideal bureaucratic procedure. Our digital world is by nature a kind of ideal bureaucratic system in that it works with a well-defined set of interactions, procedures, and algorithms. Of course, software interfaces are designed to be user friendly, but this hides the formalized nature of relationships. The abundance

24 N. Gan, *Chinese city wants to score and rank its residents based on their health and lifestyle*, <https://www.cnn.com/2020/05/25/tech/hangzhou-health-app-intl-hnk/index.html> (5.04.2022).

25 See e.g. J. Zask, *La communication virtuelle...*, op. cit.

of digital pictures and videos gives users a false sense of freedom when they are in fact participating in a formalized network of interactions.

This situation brings the first paradox of an Internet-mediated social reality: On the one hand, there is a level of social interaction that would be hard to imagine in a traditional society, but on the other hand, there is no opportunity to meet people and form deep bonds beyond what is facilitated through this medium. In the digital world, we are surrounded by artificial creations, which are called *simulacra* according to Baudrillard. Situations like the current global pandemic demonstrate how artificially constructed worlds can be interesting and engaging, but they are not essential for our reality. Digital technologies can be useful in many situations, but they lack direct inter-personal interaction.²⁶ One source of the above problem is how cyberspace relationships are deprived of embodiment, with agents being reduced to abstract nodes on communication networks. This technological reduction is dangerous because it facilitates the use of human agents as typical objects for technological manipulation.

The cyberspace complex also has another dangerous feature in that it could be leveraged for perfect surveillance²⁷, and consequently the loss of privacy. Computer networks enable the tracking of almost every user activity. For example, smartphones are designed for easy communication, but they also make virtually perfect tracking devices. Indeed, the design of contemporary mobile devices makes them a perfect surveillance tool akin to Jeremy Bentham's panopticon model. This modern panopticon has another dangerous feature: It is not governed by a state, which could usually be controlled through traditional political methods, such as democratic elections. The contemporary panopticons exist far beyond such traditional forms of control.

26 Social distancing during the pandemic is rather exceptional and has been interpreted as painful. It is not equated with a large-scale form of house arrest only because the different aim justifies a more positive interpretation of it.

27 See e.g. S. Zuboff, *The Age of Surveillance Capitalism...*, op. cit.

Cyberspace, behavior modification, and our autonomy

Some of us may know – others may not, depending on where they are on the spectrum of cyberspace addiction – the scope, size, and reach of this social media phenomena.²⁸ As Jaron Lanier states in his book on the impact of the Internet, “We are being tracked and measured constantly, and receiving engineered feedback all the time. We’re being hypnotized little by little by technicians we can’t see, for purposes we do not know. We are all lab animals”.²⁹ Furthermore, he says, “Now everyone who is on social media is getting individualized, continuously adjusted stimuli, without a break, so long as they use smartphones. What might once have been called advertising must now be understood as continuous behavior modification on a titanic scale”.³⁰

Lanier posits that social networks have been engineered using scientific methods for behavior modification, which uses “methodical techniques that change behavioral patterns in animals and people. It can be used to treat addictions, but it can also be used to create them”.³¹ So, what is the result of these mind games? Lanier says, “The damage to society comes because addiction makes people crazy. The addict gradually loses touch with the real world and real people. When many people are addicted to manipulative schemes, the world becomes dark and crazy”.³² The mechanism for actually developing an addiction is scientifically proven and algorithmic but well beyond Pavlov’s experiments. Every aspect of social media—such as the type of content you get in your feed, the type of feedback you send, how much time you spend looking at images, and what you do or do not like, literally everything—is geared toward getting you addicted to social networks and enticing you into commenting more, posting more photos, and “engaging” with Facebook’s community of sorts. The time you spend on Facebook, Twitter, and other similar platforms is the currency of social media. The more you stare at the screen, the more likely you are to be exposed to advertisements and per-

28 For an overview of the topic, see, for example B. Eunson, *Communicating in the 21st Century: C21*, Milton, Qld 2016.

29 J. Lanier, *Ten Arguments for Deleting Your Social Media Accounts Right Now*, London 2018, p. 5.

30 J. Lanier, *Ten Arguments for Deleting...*, op. cit., p. 6.

31 J. Lanier, *Ten Arguments for Deleting...*, op. cit., p. 10.

32 J. Lanier, *Ten Arguments for Deleting...*, op. cit., p. 11.

haps buy some useless product.³³ With social networks, you are not facing a nice, user-friendly interface that has been optimized for your personal experience – you are facing something more akin to a gambling slot machine, which has also been pejoratively called a one-armed bandit for its ability to empty a person’s pockets.³⁴ Of course, the computer mechanisms used to induce dependency are complex, but whatever they are, they are optimized to act like a powerful narcotic, thus triggering a permanent hunger for more.

Lanier also states that “Social media is undermining the truth.” The latest craze about immunization is proof of this, because people believe the cranks over the scientific evidence. Would you wish to return to the times of widespread polio and measles epidemics, or do you prefer it like it is now? It’s your choice. In the world of social media, we cannot tell who is lying, who is selling something, who is a real person and who is a bot, which news is real and which is not, and who is a troll. After a session on social media reading feeds of comments from cranks, troll factories, and a few decent people, you lose the ability to discriminate between the real world and the imaginary one.

Going back to the main discussion we must realize that the issue that Lanier talks about covers not just the abusive side of social media, although for any sane person, this should be reason enough to quit these networks. Lanier also talks about the insidious mind control and the reshaping of social relations, social structures, and social views, all of which Facebook and its ilk have the power to achieve and indeed do. But what is the purpose of all this? It is just to make more money, regardless of the consequences. Lanier says that social media is not left or right wing but rather points to the gutter. If you doubt that we are experiencing a global-scale behavioral modification process, consider events like the Brexit referendum of 2016,³⁵ the so-called

33 As of January 2019, we spend on average 144 minutes a day on social networks. The 16–24 age group averages 180 minutes, while for 25–34 year olds, the average is 157 minutes. For 34–44 year olds, it is 127 minutes, 99 minutes for the 45–54 age bracket, and 73 minutes for 54–64 year olds. See: S. Salim, *How much time do you spend on social media? Research says 142 minutes per day*, <https://www.digitalinformationworld.com/2019/01/how-much-time-do-people-spend-social-media-information-graphic.html> (4.04.2022).

34 *One armed bandit*, <https://www.urbandictionary.com/define.php?term=one%20armed%20bandit> (4.04.2022).

35 See, for example R. Krzanowski, *New dark age: technology and the end of future*, “Information, Communication & Society” 22 (2019) no. 9, pp. 1352–1359, <https://doi.org/10.1080/1369118X.2019.1610026>; V. Polonski, *Impact of social media on the outcome of the EU referendum – EU Referendum Analysis 2016*, <https://www.referendumanalysis.eu/impact-of-social-media-on-the-outcome-of-the-eu-referendum-eu-referendum-analysis-2016/> (5.04.2022); M. Scott, *Cambridge Analytica helped ‘cheat’ Brexit vote and US election, claims whistleblower*, <https://www.politico.eu/article/cambridge-analytica-chris-wylie-brexit-trump-britain-data-protection-privacy-facebook/> (5.04.2022).

Arab Spring of 2010³⁶, the *Rohingya* genocide³⁷, or the US presidential election of 2016³⁸.

Conclusions and reflections for the future

The aim of this paper was to investigate the claim that cyberspace is an ethical agent that affects the ethical fabric of our societies. The ethical influences of cyberspace are mostly obscured and not obvious to most users, although they may sense its fragmentary impacts in the parts of cyberspace they interact with. However, due to the reach and scope of the technologies involved, cyberspace impacts all aspects of our lives, both private and public, of which we may or may not be aware.

Some prophets present cyberspace technology as a form of technological singularity, which is a modern version of Romantic Millennialism. Such visions bring about the hope of human amelioration and amplification through technological means. As some authors have stated³⁹, we are just living in a singularity. If this is true, we are living in a singularity that is far removed from our expectations. The essential amelioration was not achieved, and we instead became increasingly lonely and restricted, like we are in prisons. In these modern prisons, however, we have computers, enabling us to idle away the time and avoid thinking about our human condition.

We hope that this paper will act as a wakeup call and trigger a new discussion about the increasing use of Internet-based technologies. We need to examine our condition from different perspectives beyond the prevailing discourse of Internet gurus, geeks, and visionaries, as well as the Gates and the Bezoses. They all have their own fish to fry, and these may not be meant

36 H. Brown, E. Guskin, A. Mitchell, *The Role of Social Media in the Arab Uprisings*, <https://www.pewresearch.org/journalism/2012/11/28/role-social-media-arab-uprisings/> (5.04.2022).

37 E. Douek, *Facebook's Role in the Genocide in Myanmar: New Reporting Complicates the Narrative*, <https://www.lawfareblog.com/facebook-role-genocide-myanmar-new-reporting-complicates-narrative> (5.04.2022); P. Mozur, *A Genocide Incited on Facebook, With Posts From Myanmar's Military*, <https://www.nytimes.com/2018/10/15/technology/myanmar-facebook-genocide.html> (5.04.2022).

38 See e.g. *Election 2016: The Role Social Media Played in the Elections*, <https://www.authoritylabs.com/election-2016-the-role-social-media-played-in-the-elections/> (4.04.2022); S. Sanders, *Social Media's Increasing Role In The 2016 Presidential Election*, <https://www.npr.org/2016/11/07/500977344/social-media-s-role-increases-in-2016-presidential-election> (5.04.2022).

39 See e.g. W. Grassie, *Millennialism at the Singularity*, <https://grassie.net/millennialism-at-the-singularity/> (5.04.2022).

for our consumption. We therefore need an outside reference point. This could be religion or philosophy, or it could be our own humanity if we still understand its meaning.

Last but not least. Lanier presents several arguments for why we should quit social media. He says that quitting social media is the most finely targeted way to resist the insanity of our times, and he provides arguments for why social media is the scourge of our time. The fact that smartphones have evolved into almost-perfect mass behavioral modification tools is not the most important observation, even if it is not so obvious. The fact that the business model behind social media relies on enticing people into buying things is also not the worst aspect. The worst part is this: As research has shown, the more negative, obscene, or offensive information that a customer is exposed to, the more addicted he or she becomes to the screen. As Lanier says, “the social media are more efficient at harming society than at improving it. Creepier customers get more bang for their buck”.⁴⁰ The allegedly free social media is after money, nothing else, and certainly not your happiness, your success, your scientific papers, or your birthday party. Nobody online gives a hoot about you as a person.

We do not call for the outright rejection of digital technologies, however, because rebellions and revolutions generally only achieve destruction (plus they usually consume their fathers at some point). What we call for is to not leave this problem in the hands of engineers, politicians, and jurists. Their specific aims, values, and perspectives do not give us any assurance that they would find a solution that benefits us. We must also take into account that the sphere of ethical activity of modern man is not only shaped by religions, ideologies or philosophies. Important active, shaping influence is also exerted by technical artifacts such as cyberspace. Is the complex technical systems could lead modern societies to *self-induced moral incapacity*, like it could happen in collective moral agency?⁴¹ These new challenges for humanity opens new areas of reflection for contemporary ethics. By warning about the dangers of technology we are not Luddites but savvy users.

40 J. Lanier, *Ten Arguments for Deleting...*, op. cit., p. 26.

41 More on this topic see: N. de Haan, *Collective moral agency and self-induced moral incapacity...*, op. cit.

Abstract

Cyberspace as an Ethical Agent

Cyberspace is typically regarded as a neutral technological complex composed of software and hardware systems, generally perceived as a source of substantial societal benefits. However, cyberspace is rarely considered a technology–human system with ethical implications that could transform society as we know it. This chapter argues that we should be conscious of cyberspace’s ethical impact on our societies, democratic institutions, culture, and on us as individuals. We should view cyberspace as an ethical agent. The arguments presented are grounded in current literature, research, and electronic sources, lending a practical dimension that extends beyond purely abstract philosophical thought. We also question why this perspective on cyberspace is so critically important and what conclusions we hope readers might draw from adopting such a viewpoint.

Keywords: cyberspace, ethical agents, ethics of internet, internet, social media

Abstrakt

Cyberprzestrzeń jako etyczny agent

Cyberprzestrzeń jest zwykle określana jako neutralny kompleks technologiczny systemów oprogramowania i sprzętu komputerowego, i jest powszechnie postrzegana jako coś, co przynosi ogromne korzyści społeczeństwu. W rzeczywistości cyberprzestrzeń rzadko jest postrzegana jako kompleks technologia–człowiek o skutkach etycznych, który może przekształcić społeczeństwo, jakie znamy. W rozdziale dowodzimy, że powinniśmy być świadomi etycznego wpływu cyberprzestrzeni na nasze społeczeństwa, nasze instytucje demokratyczne, kulturę, a także bezpośrednio na nas. Cyberprzestrzeń powinniśmy postrzegać jako czynnik etyczny. Przedstawiona argumentacja opiera się na aktualnej literaturze, opracowaniach i źródłach elektronicznych. Nie mają zatem one wyłącznie abstrakcyjnego charakteru filozoficznego. Zadajemy także pytanie, dlaczego to spojrzenie na cyberprzestrzeń jest dla nas tak istotne i jakie, mamy nadzieję, wnioski mogą wyciągnąć czytelnicy z przyjęcia takiej perspektywy?

Słowa kluczowe: cyberprzestrzeń, etyczni agenci, etyka internetu, internet, media społecznościowe