

The Metaverse is Trending, but Does it Live up to the Hype?

Murat Selvi

The Metaverse is Trending, but Does it Live up to the Hype?

Murat Selvi

© TRT WORLD RESEARCH CENTRE

ALL RIGHTS RESERVED

WRITTEN BY

Murat Selvi

PUBLISHER

TRT WORLD RESEARCH CENTRE

October 2022

TRT WORLD İSTANBUL

AHMET ADNAN SAYGUN STREET NO:83 34347

ULUS, BEŞİKTAŞ

İSTANBUL / TURKEY

TRT WORLD LONDON

PORTLAND HOUSE

4 GREAT PORTLAND STREET NO:4

LONDON / UNITED KINGDOM

TRT WORLD WASHINGTON D.C.

1819 L STREET NW SUITE 700 20036

WASHINGTON DC

www.trtworld.com

researchcentre.trtworld.com

The opinions expressed in this discussion paper represent the views of the author(s) and do not necessarily reflect the views of the TRT World Research Centre.

Introduction

This paper discusses the virtual platform known as the Metaverse. In light of developments in connection speed, virtual reality (VR), wearable technologies and artificial intelligence (AI), social interactions

in virtual environments are set to take place at an advanced level. Although this idea is not completely novel, it has become one of the important issues on the global agenda over the course of the last two years. Though the idea of a new virtual universe for a world still reeling from the impacts of first global pandemic in a century is understandably exciting, it raises many questions and numerous concerns. While the Metaverse is seen by some as the harbinger of a great and radical transformation, freedom, and commercial opportunities, for others it mostly represents a compounding of the many threats already facing people in their daily lives, especially with regards to privacy, consumption habits and health. In this discussion paper, various aspects of the Metaverse are explored through an examination of scholarly opinions and discussions on the subject.

Many technological innovations introduced to society arouse great excitement and curiosity with the promise of improving people's current conditions and offering new possibilities. Every innovation deserves a certain excitement and curiosity, however, an exaggerated narrative may cause misunderstandings, lead to undesirable results, and engender grievances in society.

The Metaverse was originally conceived in 1992, voiced by futurists as the next phase of the development of the internet network (Stephanson, 1992). As described in the novel *Snow Crash*, where the term is mentioned for the first time, this platform would offer people what amounts to a second, or parallel, universe where they can exist virtually. It promised opportunities for interaction via highly realistic high-level imitation accessible by any smart device, regardless of location. Hypothetically, as a natural outcome of the extraordinary development in internet and digital technologies in recent years, it offers people the ability to perform almost all real-world interactions and transactions on a virtual platform. Moreover, it offers perhaps more freedom of action than the real world, by eliminating physical limitations and the laws of physics.

The development of three-dimensional imaging techniques, the increase in processor and internet connection speeds that greatly increase data transfer capacity, and the emergence of the opportunity to join a network at anytime and anywhere are some of the developments underlying the idea of the Metaverse. All these developments, combined with the idea of making virtual platforms a meta-platform that allows switching between them, and giving people the opportunity to be on the platform through their avatars,

creates a universe of virtual platforms where interaction is possible at a much higher level than even before. This development is also referred to as Web 3.0 or the Metaverse. (Dionisio, Burns, & Gilbert, 2013).

However, despite all these exciting developments, there are criticisms that the Metaverse is an extremely vague concept and something that simply will serve as the next stage of mass consumerism (Bogost, 2021). Even for the Metaverse to gain functionality as it is theoretically described, many different developments are needed in many areas (Cook, et al., 2020). Artificial intelligence (AI), virtual reality (VR), augmented reality (AR), internet of things (IOT), mobile connection speeds, sensors, cloud, and machine learning technology are just to name a few. Additionally, even if all this technological competence can be achieved in the next 10-15 years, it is not possible today to put forward a clear view as to whether this digital world will contribute positively to people's lives or will cause more harm than good (Kim, 2021). It is quite natural to be concerned about this issue because when they first emerged, discourses that glorified the positive aspects and ignored the possible harms were expressed for many technological developments, including the internet, social media platforms, and smart phones, which have now become an integral part of life. However, over time, it has been understood that these technologies, with all the advantages they bring, have a dark side (Alghamdi, 2016). Research into the impacts of these technologies points to many negative effects on people's social interaction, personal and mental health, work life and learning processes. There are many suggestions about ways to protect against some negative effects such as addiction, lack of attention, and depression linked to virtual environments (Akram & Kumar, 2017). Moreover, data security, privacy, and freedom in virtual environments along with the ability of tech giants to use the data they collect to manipulative ends are major topics of discussion (Sætra, 2019). There are findings that large companies such as Google and Facebook apply deliberate manipulations in many areas from purchasing behaviour to political participation. Thanks to the data it collects, Google can provide information to advertisers about when and under what conditions a product will be purchased. Facebook's efforts to interfere with political preferences through personalized messages has been the subject of legal action. In addition, there are scientific studies that the enormous amount of information encountered through all these technological tools negatively affects people's daily lives (Gazzeley & Rosen, 2017). For example, the habit of consuming content from multiple screens at the same time has been proven to undermine focus, planning and task completion skills. Also, many experiments show that hormonal balance and brain chemistry are affected by artificial light and radiation emitted by technological tools.

The Bumpy Road to the Metaverse

Throughout history, inventions and innovations have affected, changed and transformed people's daily lives. From the way of doing business to transportation, from communication methods to artistic activities, all areas that touch people's lives have been affected by technological progress. We can speak of a cumulative progress (at least throughout known history) in the use of tools and equipment for societies. In fact, each technological innovation has been a stepping stone to the next and has served as a tool to produce a more advanced technology.

These developments, however, are not linear, and there are periodic leaps in technological innovations and discoveries. In other words, scientific and technological developments that seem to be progressing step by step in a cumulative way can actually occur as a result of leaps and even some accidents. The term Metaverse, which has recently engendered comments to the end that we are on the verge of a big leap, has gained popularity and has drawn significant interest from both academia and the media. It is challenging to offer a clear definition for the Metaverse, which media organizations have covered with great fanfare as if a new universe is being created. Some assumptions about the Metaverse, however, seem exaggerated, particularly the claim that it will radically transform human society. Most of the time, they appear as one-sided hypothetical explanations where many questions that need to be answered remain unanswered.

To analyse the Metaverse in a more comprehensive way, it is necessary to have some basic knowledge of the sub-technologies that will make up the Metaverse such as virtual reality, augmented reality, convergence, wearable and mobile technologies, Blockchain and NFTs. Getting to know these sub-technologies can help us to form a more coherent perspective on what kind of environment will emerge when all these technologies come together.

The Internet, which started to spread worldwide in the 1990s and is now accessible to a little more than half of the world's population (Social, 2022), was invented after the Second World War as a result of efforts to build an uninterrupted, decentralized communication method that could not be easily sabotaged. ARPANET, the first example of internet technology that is widely used today, was used for the first time in 1969 as a technology that enables data transfer between computers over long distances. This version, later named WEB 1.0, allowed static data to be transferred from one point to another. Thanks to the developments that followed, WEB 2.0 became possible.

This concept, which came to the fore in 2004, expressed the possibility of interaction in the network. In this way, social media platforms such as Facebook, Twitter, Instagram, TikTok, and video platforms that offer access and interaction to rich media content such as YouTube, Netflix, Disney Plus, etc. became possible. Many developments such as online shopping, financial and official transactions through the network, and digital publishing have become a part of daily networked life.

With the development of smart devices that can connect to the internet, our relationship with the internet expanded far beyond the personal computer. Smartphones, tablets, and wearable technologies such as watches and glasses, and even kitchen utensils, vacuum cleaners, light bulbs, kettles, ovens, doorbells, and many more everyday items can be connected to this network. While these developments were made possible because of microchip and connection research, studies on machine learning and artificial intelligence enabled all these networked devices to work autonomously and in coordination.

With the enormous increase in artificial intelligence, machine learning, artificial reality, internet of things, microchip transaction volume and internet connection speeds, we have witnessed changes that have affected daily life in many areas. All these developments hold the potential to lead not only to the emergence of technologies that make daily life more effortless and easier, but also to radical changes in many areas such as mass production, agriculture, health, law, media, transportation and communication, security problems and forms of warfare.

In 2021, we witnessed that a drone equipped with artificial intelligence destroyed a threat without direct human input. The Turkish-made unmanned aerial vehicle Kargu-2 was recorded as the first drone to have determined and neutralized its target with artificial intelligence. According to a 2021 UN report, this event, which took place in Libya in 2020, was a first in this field. The most important feature of this unmanned aerial vehicle was that it was equipped with artificial intelligence and presented the first example on the battlefield of a drone making decisions on its own (Cramer, 2021).

Modern societies, which are affected by all the technological developments listed above, have begun to be expressed as network society (Castells, 2009). As Manuel Castells, one of the pioneers of this concept, stated, many social structures have emerged throughout human histo-



(Celal Güneş - Anadolu Agency)

ry, but the most important difference that distinguishes the network society from previous social structures is the revolution in information and communication technologies (SOAS, n.d.). Thanks to developments in electronic communication technologies based on microchips, people can shop online, pay their bills, attend classes, and hold business meetings. They can even perform many official actions such as writing a petition, voting, giving a power of attorney, and paying their taxes. Through many e-government platforms such as turkiye.gov, usa.gov or gov.uk, transactions that used to take a significant amount of time can be done in seconds. All these developments not only made it possible for numerous transactions to be carried out much faster and effortlessly, but also have led to changes in people's habits. Faster production has enabled faster consumption, developments in mass production, transportation and communication facilities have accelerated the processes of cultural interaction and similarity of societies, thus, all these effects mediated to the emergence of this new social structure called network society. The fact that the world is physically surrounded by a network through fibre optic and copper cables shows that this qualification is quite appropriate.

At this point, it is not difficult to guess that the Metaverse is actually the next stop of this technological progress. It can be considered as the inevitable result of the rapid and uncontrolled technological progress, as described in dystopian novels and science fiction films, including *Snow Crash*, where the term was first expressed. The main idea of the different stories told in all these stories is that people become powerless and incompetent in the face of technology. In other words, the technological development, which should make life easier and effortless, offer many opportunities and innovations, and serve people in every way, has turned into the biggest problem that people have to deal with. In all these works of art, the problems are depicted in various ways, such as not being able to access the opportunities offered by technology or not being at the level

of competence, not having enough resources or financial means to use it. Moreover, the environmental effects of excessive production and consumption, which is possible thanks to technology, and the production of weapons that reach a threat level on a global scale can be perceived as a threat to all humanity.

The Metaverse concept has also been the subject of scientific studies and conferences, many of which took place before discussions of the Metaverse were popularized. In fact, it was a topic that has been discussed among technology manufacturers and academics as a vision for the future, and a roadmap was prepared in 2007 (Smart, Cascio, & Paffendorf, 2007). In these and similar meetings, where predictions about the possibility of the Metaverse depending on the development of sub-technologies have been shared, issues such as augmented reality, virtual reality, virtual or mirror worlds, Web 3.0 have been discussed (Daniel, 2007). Although there is no environment where the Metaverse can yet be experienced, it aroused great curiosity in the community and people started doing research to get involved to the Metaverse. The term settled into the trends in Google searches, causing many to think that a new economic investment tool, such as a house or land investment, has emerged.

In the realization of this situation, the efforts of large companies operating in the field of technology to be the pioneers and thus to increase their brand awareness have a great contribution. However, it can be said that both social and traditional media organizations contributed much more to the emerging of this exaggerated narrative. The fact that academics, who were given the opportunity to express themselves on the screens in a limited time, exaggerated their discourses while trying to make the best use of short time periods, also served to spread this exaggerated narrative. Of course, the same mistake was valid for presenters, reporters and writers who did not have in-depth knowledge of the subject.

What is the Metaverse?

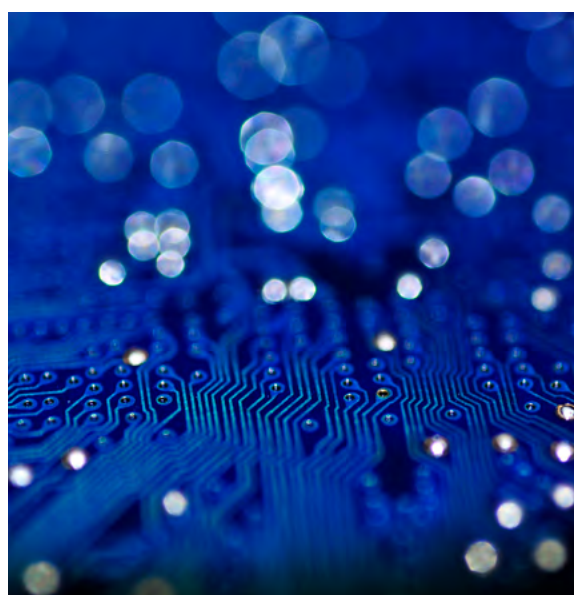
There are many definitions for the Metaverse. None of them fully and comprehensively explain the Metaverse, however, because it currently does not exist. Predictions about what it will look like largely consist of describing faster, more realistic, larger-scale, richer, more interactive, and more connected versions of existing virtual platforms. This connectivity and interaction issue not only means that virtual platforms gain a passivity within themselves, but also means that the physical universe we live in now becomes closer to the virtual universe and that our current reality reaches the virtual-real dimension in an augmented way (Cook, et al., 2020). The convergence of the virtual and the real, which we can experience as integrated with physical reality, such as games like Pokémon-Go, hologram screens used in some cars, etc., is considered one of the most important sub-technologies that will enable the Metaverse to exist. While people can exist on the virtual platform through avatars, virtual objects are perceived as existing in the physical world. In fact, the vital point of this entire Metaverse discussion lies in this "as if" part. As if it is real, as if it is there, as if it is real.

As many people who are close to the subject have pointed out, in order to produce and use today's technological tools, we need high amounts of energy, large-scale factories, plastic, and many other raw materials and minerals. Although technological tools and virtual platforms come up with more attractive interfaces and stylish designs every day, we have nothing but computer operations that still take place in a primitive way on physical servers anywhere in the world, which consume extremely high amounts of energy (Bogost, 2021). The introduction of cloud technology has served to create the perception that we are no longer directly connected to powerful computers, but that the data we want to access from the clouds is magically loaded onto our devices. Similar to this clever naming "cloud", the term Metaverse has surpassed the issues such as computers, servers, processors, and the amount of energy required for their operation, and sustainability.

At this point, as many network society thinkers have expressed, people experience alienation from technology. In other words, people are deprived of information about how the tool or environment they use works. Almost all the technological devices we use today are effectively a closed box for us in that while we use them for so much of our daily lives, most of us know little to nothing about their capacity and how they work. Most of us can't even change the batteries of the mobile devices, do any maintenance on our cars, and even open the lids of these closed boxes.

We have no control or decision at any stage of the process, whether it relates to hardware or software. While many people in the previous generation were able to maintain and repair the vehicles, our interaction with the technological tool we use has been taking place at the rate offered by the interface. The contribution of this situation to the life of the consumer and the logic of capitalist mass production has been a matter of debate, especially in the academic community, and it continues to be discussed. Regarding the Metaverse, it seems that having less knowledge about how it works will be a factor that facilitates the integration of users into the system as a mere consumers.

According to some, the Metaverse is a new marketing universe that deserves to be described as the "black hole of consumption" (Bogost, 2021), though many technology giants proudly tell people about the steps they have taken on Metaverse. These companies promise a much more advanced form of interaction, a new world in which we can do everything much more easily. Many leading platforms such as Facebook, Microsoft and Linden lab are in a serious race to present their Metaverse platforms to people. Large commercial organizations and important brands are already collaborating in this field to take their place in the Metaverse and protect their brand values in virtual worlds (Kim, 2021). A platform where consumers flock with curiosity, of course, means a potential market for trademarks.



(Evrin Aydın - Anadolu Agency)



(Erçin Ertürk - Anadolu Agency)

Is Every Innovation Good for Humanity?

Almost every technological innovation without fail has come with suggestions that it would make significant contributions to people's lives. Manufacturers and marketers have always managed to create a discourse that will increase demand and consumption. However, despite all the laudatory phrases, the internet has become an environment where complex, harmful, and illegal activities take place much more easily than the real world where laws, security forces, and strict scrutiny exist, while providing easy access to an enormous amount of information. Social media platforms, which were once expressed as the only means of creating new public spaces, have started to be seen as one of the biggest threats to democracies, as can be seen in some conceptualizations expressed as echo chambers today (Cinelli, Morales, Galeazzi, Quattrocchi, & Starnini, 2021). With the effect of these negativities observed in previous technological innovations, the Metaverse raises concerns about sustainability, data security, accessibility, consumption habits and negative effects on human health.

We are talking about a multi-virtual platform where we feel as if we are in a virtual environment instead of the virtual platforms we interact with through the screens although recommendations have begun to be made, such as shortening the screen usage time to reduce the harms of the screens. There are many questions and discussion topics, from the size of the technology expenditures that people must make to access these platforms, to the effect of the inactive time spent while connected to the metaverse on human physiology. Moreover, studies on the brain's working structure and perception level provide a lot of evidence that people falter in the face of multiple stimuli. It is known that the effort to focus on more than one screen at the same time negatively affects the performance of the brain, has a distracting effect, and prevents the successful performance of mental activities (Gazzeley & Rosen, 2017). Of course, it is not possible today to know what kind of effect the Metaverse will have now. However, when we take a step back and look at the data on the effects of techno-

logical innovations such as social media and smart phones on human health, we can easily come across findings that indicate that social media addiction causes anxiety, and even negatively affects interpersonal communication by causing loss of self-esteem.

Existing experiences indicate that the ownership status of virtual platforms can also be a problem. There are many questions about how decisions are made about which messages and how often we encounter in social media, how algorithms work, and more importantly, what exactly is done with the terabytes of data collected about us. We have become accustomed to seeing the slightest digital footprint of any product returning to us as tons of advertisements as an inevitable consequence of digitalization. However, along with the 2016 US elections, we have witnessed that with the Facebook and Cambridge Analytica data scandal, virtual platforms can be used as weapons in manipulating people's political participation behaviours (Madrigal, 2017).

All these developments, which evoke the feeling that we are rapidly approaching a future resembling an episode of the science fiction series Black Mirror, may suggest that we are on the way to a frightening technological bondage rather than an exciting vision of the future.

Thanks to the possibilities of current technology, information about where we are, what we do, what we like and even what we might want the next song to be is stored on a server somewhere, and we are surrounded by the inferences of the capacity of an artificial intelligence processor that processes this data and makes decisions for us. In addition to facilitating everyday life, smartphones, smart homes and roads, cars and more have become tools that have more information about us than we do ourselves. Thanks to all this advanced technology, it is possible to observe every single second of any given day. So, what will be the result when interacting with this technology more closely, for a longer period and much closer to reality? For now, this issue continues to raise important questions.

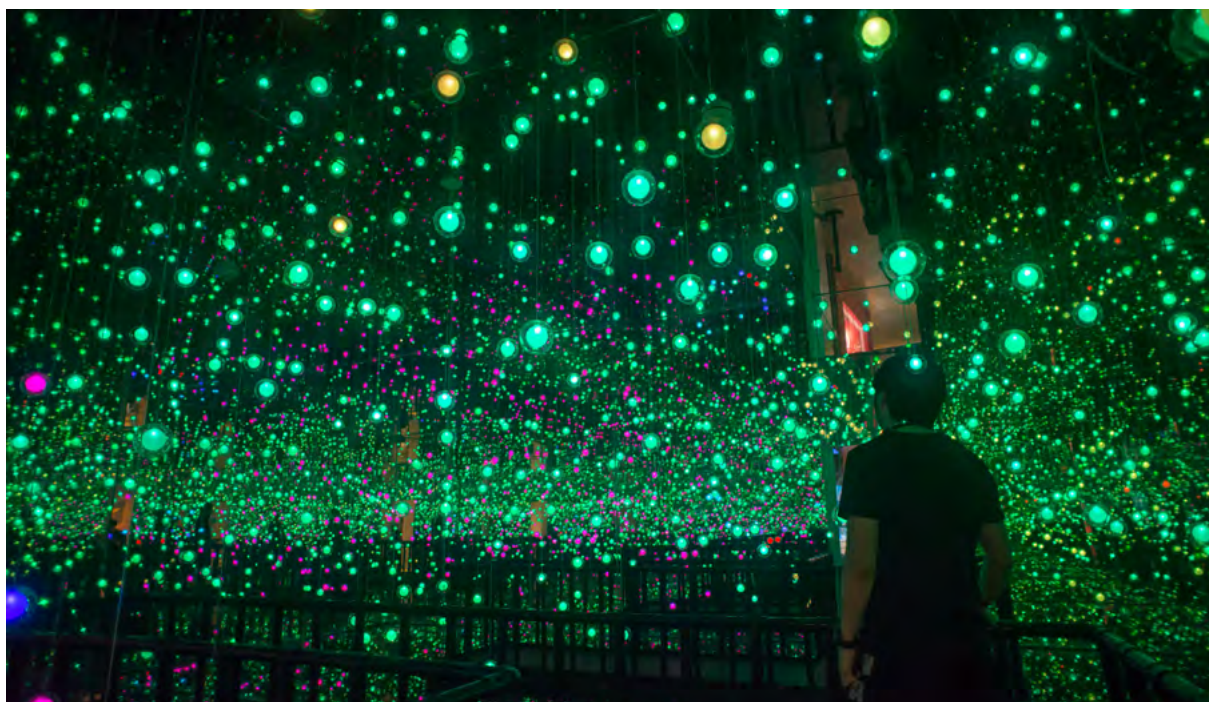
Conclusion

The interactions of societies with technology serve the transformation of society today, as in every era. Witnessing a faster transformation than ever before throughout known history, modern-day societies have tried to keep up with the industrial revolution first and then the digital revolution. However, today, nearly half of the world's population still cannot access the internet, people in many countries continue to live without adequate health care, education, infrastructure, food, and security needs. While agricultural activities are still carried out with the old traditional methods in some parts of the world, the assumptions that a rapid transition to the information society will occur seem to have not materialized. A society, country, or city that have completely transitioned to worker-free factories and paper-free digital institutions are not yet possible. Moreover, with all the developing technology, the problems of the world are no longer regional. Developing communication and transportation tools have helped to create global effects in many problems as well as the benefits they provide.

The Metaverse seems to promise a virtual universe where almost all needs can be met, from manufacturing to shopping, from meetings to entertainment activities, education, and health services. According to tech producers, it will give an opportunity to exist in connected and borderless

virtual platforms with the help of sensors, wearable technologies, processors, VR and AR. Some argue that we are only ten years away from this highly intriguing hypothetical universe. However, others say that it will never be possible as described, and even if the anticipated technological developments occur, it will not contribute to societies as envisioned. Also, even if the most optimistic forecasts come to be, it is a serious question to what extent these technological developments will be made available to the world's population as a whole.

The Metaverse may serve as a milestone for consumer society to consume more quickly and effortlessly. As described in almost all dystopian science fiction such as the Matrix, Ready One Player, A.I. Artificial Intelligence, and the novel Snow Crash, where the term is mentioned for the first time, it may also become the new address for the struggle and protection effort of man against the technology produced by his own hand. At this point, we can state that the area that needs attention is the relationship established with the technological innovation rather than the technological innovation itself. The Metaverse or by any other name, this digital future will come in some form as predicted and described, or in a completely different way that no one anticipated.



(Zhong Zhenbin - Anadolu Agency)

Bibliography

Akram, W., & Kumar, R. (2017). A study on positive and negative effects of social media on society. *International Journal of Computer Sciences and Engineering*, 5(10), 351-354.

Alghamdi, Y. (2016). *Negative effects of technology on children of today*. Oakland University.

Bogost, I. (2021). The Metaverse Is Bad. *The Atlantic*, 22.

Castells, M. (2009). *The Rise of the Network Society, With a New Preface*. Wiley.

Cinelli, M., Morales, G. D., Galeazzi, A., Quattrociocchi, W., & Starnini, M. (2021). The echo chamber effect on social media. *Proceedings of the National Academy of Sciences*, 118(9).

Cook, A. V., Bechtel, M., Anderson, S., Novak, D. R., Nodi, N., & Parekh, J. (2020). *The Spatial Web and Web 3.0: What business leaders should know about the next era of computing*. Deloitte Insights.

Cramer, M. (2021, June 4). *A.I. Drone May Have Acted on Its Own in Attacking Fighters, U.N. Says*. Retrieved from The New York Times: <https://www.nytimes.com/2021/06/03/world/africa/libya-drone.html>

Daniel, T. (2007). *Meet the Metaverse, Your New Digital Home*. Retrieved from CNET: <https://www.cnet.com/culture/meet-the-metaverse-your-new-digital-home/>

Dionisio, J. N., Burns, W. G., & Gilbert, R. (2013). 3D Virtual worlds and the metaverse: Current status and future possibilities. *ACM Computing Surveys*, 45(3), 1-38.

Gazzeley, A., & Rosen, L. D. (2017). *The Distracted Mind: Ancient Brains in a High-Tech World*. (A. Babacan, Trans.) United States: MIT Press.

Kim, J. (2021). Advertising in the Metaverse: Research Agenda. *Journal of Interactive Advertising*, 141-144.

Madrigal, C. A. (2017, October 12). *What Facebook Did to American Democracy*. Retrieved from The Atlantic: <https://www.theatlantic.com/technology/archive/2017/10/what-facebook-did/542502/>

Sætra, H. S. (2019). Freedom under the gaze of Big Brother: Preparing the grounds for a liberal defence of privacy in the era of Big Data. *Technology in Society*.

Smart, J., Cascio, J., & Paffendorf, J. (2007). *Pathways to the 3D Web: A Cross-Industry Public Foresight Project*. Retrieved from Metaverse Roadmap: <https://www.metaverse-roadmap.org/MetaverseRoadmapOverview.pdf>

SOAS. (n.d.). *Introduction to Knowledge, Communication & Development*. Retrieved from The network society: https://www.soas.ac.uk/cedep-demos/OO0_P523_MKD_K3637-Demo/unit1/page_10.htm#:~:text=The%20definition%20of%20a%20network,based%20information%20and%20communications%20technologies.

Social, W. A. (2022, Jan 26). *DIGITAL 2022: ANOTHER YEAR OF BUMPER GROWTH*. Retrieved from We Are Social: <https://wearesocial.com/uk/blog/2022/01/digital-2022-another-year-of-bumper-growth-2/>

Stephanson, N. (1992). *Snow Crash*. New York: Bantam Books.

