

# Towards a new anthropocene: the intersection of human evolution and environmental stewardship in the information era

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**Abstract.** The impact of digital technologies on society, the environment, and individuals has been examined. It has been demonstrated that the processes of digitalization serve as a medium for human development and influence the transformation of social relations; advancement of digital technologies has enabled the alteration of social relations in the realms of ecology, economics, politics, and the management of social and natural resources. It has been established that the issues of the information society began to interest society and scientists since the 60s of the 20<sup>th</sup> century, especially when the results of digital technologies development massively entered the human ontology, becoming a part of it. Such a flurry of digitization of social life and technologies determined the period of society's development and raised questions of anthropology, in particular, what a person of the information age should be and how he/she should be characterized. Scientific principles and methods were used to elucidate these and other questions, to scientifically substantiate worldview ideas: concreteness, integrity, historicism, rationality, comparison, and constructive criticism. In their totality and interaction, they contributed to high-quality research and the formation of scientific conclusions: the formation of Homo digitalis is due to the processes of digitalization, which are the basis of such concepts as the global village, the state in a smartphone, etc. It is noted that in the conditions of digitalization, not only the person changes, but also the traditional system of social relationships undergoes changes, the perception of the world, space, value orientations, etc. change. In fact, a new world is being created that will meet the interests of digital man. Identity becomes more complicated, becoming unstable and short-lived. The perspective of introducing modern technologies into all spheres of human life has been evaluated. It has been proven that the digitalization

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of the modern world in real practical life allows achieving a balance between the three factors of civilizational progress: social, economic and ecological.

## **1 Introduction**

The second half of the 20th century and the beginning of the 21st century are characterised as the information era, which emerged due to scientific and technical progress and the invention of such things as the computer, the Internet, etc. The appearance of these things and their introduction into human life raises many questions, one of which is the essence of a person in the information era. It should be noted that in the past, all scientific and technical revolutions: Copernicus, the industrial revolution had a significant impact not only on society, a person, but also on philosophy itself. The current state of scientific and technical achievements of society is not an exception, but on the contrary, it even more actualizes the raised issue of the essence of a person and his/her existence, because the social present is connected with the continuous digitalization of human life. The current state of scientific and technical achievements of society is not an exception, but on the contrary, it even more actualizes the raised issue of the essence of man and his/her existence, because the social present is connected with the continuous digitalization of human life and the introduction of artificial intelligence. That is, against the background of a smart person, a new subspecies is developing – a digital person, a person who fits into the digital space, which provides some sense-of-life content. We are not talking about the denial of a reasonable person, but it is considered from the position of the condition that created humanity on the path of scientific, technical, intellectual revolution.

Artificial intelligence has become an integral part of human life in the modern world. Its utilization has a significant impact on culture, ecology, the labor market, the management of natural resources, and the overall environment. In other words, it has the potential to shape the future of humanity, as it is capable of generating a wide range of outputs, from images to complex analytics.

## **2 Research methodology**

We used classical methodology, which includes such principles and methods as the principle of specificity, integrity, historicism and rationality, methods of comparison and constructive criticism, as well as categories of essence, necessity, measure, etc. A critical analysis of the theoretical concepts of the information society was carried out. Based on the review of the mentioned literature, issues related to the formation of a person in the information society were considered. Anthropological, cultural, axiological and epistemological methods played a special role. In their interaction, they made it possible to consider the formation of a new type of a person, *Homo digitalis*.

## **3 Discussion and research results**

Considering that today there is still no single conceptual approach to understanding the essence of the information society, in 2012 Peter Sasvari in his work «The Role Of Technology and Innovation In The Framework Of The Information Society», considering different approaches, came to the conclusion that to form a mono-entity at the current stage it is still difficult. The basis for all concepts, according to the researcher, is the information and digital technologies that society uses in its everyday life [16]. This article became one of the foundations of what we use in the modern understanding of the information society. That

is, we are talking about the development and wide use of digital and information technologies by society and people. Continuing this opinion, a group of researchers O. Danilyan, O. Dzeban, Y. Kalinovsky and A. Hetman points out that information technologies are revealed as technologies of creation, storage, recording, distribution and processing of information – it is practically a global information, cybernetic space in which the formation and formation of a person takes place [7]. Note that this space becomes a part of human life, and especially of economic relations, which is due to the change of value orientations in the conditions of social transformation. This is emphasized by Rafal Zhelyazny, who in his research examines the essence and relationship between the concepts of the information society (IS) and the economy of knowledge (KE) [19].

As we can see, the processes of informatization, digitization and the period of information technologies development have created a new environment that automatically raises the question of the formation of a new type of person – a digital person. Problems related to the formation of a digital person, his/her essence, are considered by modern philosophers, pedagogues, psychologists, etc. – that is, it has an interdisciplinary nature. But, nevertheless, the leading role in this direction belongs to philosophy. O. Danilyan, O. Dzeban, and Y. Kalinovskyi can be singled out among the researchers who deal with this problem. In their research, they consider the relationship between the development of digital technologies and the processes of human development. At the same time, they emphasize that modern man differs from his predecessors in the way of thinking, perception of the world, etc. These processes, in their opinion, are becoming more and more dependent on the development of technologies [3], i.e. Homo is a product of Digital.

Important for our research is the work of V. Voronkova and V. Nikitenko, which somewhat complement the worldview of the philosophers we mentioned, but have a more specific philosophical understanding of the digital person. In their work «Philosophy of digital man and digital society: theory and practice», the authors consider the philosophy of digital man and digital society through the prism of the unity of technological, economic and social components defined by Peter Sasvari, which have a significant impact on a person [18]. The authors testify that this process is due to the wide spread of digital technologies, the development and implementation of which leads not only to a change in the technological structure and mechanisms of economic growth, but also creates prerequisites for a radical change in the paradigm of the social system, changes people's consciousness, their worldview, contributes to the formation of a digital person, digital culture, digital worldview.

However, despite such a large number of studies, which is close to our research, the identity of Homo digitalis as a new type of Homo and as a value of the information society remains neglected.

However, despite the wealth of research in this area, the identity of Homo digitalis as a new type of Homo and as a value of the information society, driven by digital technologies, remains overlooked.

### **3.1 The impact of digital technologies on shaping the human world**

The beginning of the history of the philosophy of the information society can be traced back to the middle of the 20th century, when cybernetics emerged as an interdisciplinary field that studies systems and their behavior. The famous researcher, scientist, one of the founders of cybernetics, Norbert Wiener, in his work «Cybernetics, or Control and Communication in Animals and Machines» examines the issue of control and information exchange in systems.

In the 60s of the 20th century. Under the influence of the work «Understanding Media: The External Extension of Man» authored by Marshall McLuhan [12], the perception of the information society is changing. He adds mass media to it, which at that time already united people within the information space, and with the development of digital technologies, they

began to use them more and more in their activities. That is, there is a combination of information as a factor that is combined in the future with technologies. In the way proposed by the author, the limits of digital technologies are expanded. This is what prompted the scientist to put forward and substantiate the idea of a «global village».

Starting from this period, the issues of digital society, digitization of its life, etc. become relevant for many researchers. In particular, the French philosopher Jean Baudrillard develops the concept of hyperreality and the influence of information technologies on the perception of reality. In one of his works, «The System of Objects» [1], he examines the role of mass media in the formation of cultural stereotypes. That is, the author approaches from the position of influence of mass media on human consciousness, management of his behavior, etc.

Continuing the theme of influence on people, Jürgen Habermas developed the idea of the rationality of communications and the role of the public sphere. In particular, in the work «Structural transformations in the field of openness: a study of the category of civil society» [8], the author considers aspects of communication and the formation of public opinion in the information society. Another researcher, Jacques Derrida, in his work «Writing and Difference» examines the influence of new (communicative) technologies on the formation of the concept of truth, language and knowledge [4].

In addition to the mentioned classics are the works of Nick Bostrom «Superintelligence. Strategies and dangers of the development of intelligent machines» [2] and Yuval Noah Harari «21 lessons for the 21st century» [9], which consider the impact of technology on modern society and the individual.

The history of the philosophy of the information society testifies to the constant development and transformation of philosophical approaches to changes in technology and the socio-cultural environment. Representatives of this field continue to adapt philosophy to modern realities, studying the impact of information technologies on the way of life and thinking of people.

The modern stage of the information society development poses new philosophical tasks and challenges related to technological, social and ethical aspects, in particular in terms of the use of artificial intelligence and its possibilities in human existence.

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Taking into account the new processes that society has encountered – robotics, artificial intelligence, bio- and neuro-technologies, 3D printing and 3D-production, digital economy, digital management, give reasons to assert that society has reached the stage of complete digitalization, and the proclaimed idea «the state in a smartphone» fully reflected its essence. Digitization of society has changed the essence of social relations themselves, they have become individualized, fragmented, often based on virtual interaction, etc. The social system, which was built on the traditional, natural basis of the interaction of subjects, loses its essence – it is replaced by the possibilities of technology and digital technologies.

Note that the digital revolution had a profound impact on society in general and on philosophy in particular. Digital philosophy is part of the emerging field of digital humanities. It transforms some previously unchallenged philosophical concepts of belief, experience, knowledge, intelligence, cognition, value, truth, reality, responsibility, and privacy [15].

Digitization and increasing the rate of development of information and communication technologies (ICT) is the reason that «in the information society, classes are replaced by socially undifferentiated «information communities» – modes (Y. Masuda), traditional bulky corporations are destroyed, they are replaced by «small, mobile» economic forms: individual activity at home, «electronic college» (O. Toffler), the expediency of traditional printing is lost – it is replaced by «electronic books», changes in ideology, transformation of unemployment into secured leisure time» (H. Evans).

It should be noted that the current state of the information society – digitalization, is strengthened by new opportunities and achievements of ICT. These achievements become a part of human existence, and human life becomes unthinkable without them. Thanks to them, such new phenomena as blog activity, digital economy, digital government, freelancer, etc. are formed, almost all spheres of human life are moving into the digital world. Artificial intelligence is being implemented in the field of power system management, natural resources management, etc.

This vision of digitization processes in modern society emphasizes its complexity in the social structure, that is, it is extremely complex, multi-layered with various mechanisms of interaction and existing contradictions, which a person encounters for the first time and is not always ready to respond adequately to their solution. By resorting to the method of cause-and-effect actions, the consequence is that in the information society, the traditions and human essence that are familiar to a person, the society, pass into the plane of digitization. Thanks to this, the possibilities of communication are expanded, the so-called traditional temporal, and sometimes spatial, limitations are overcome, the speed and volume of information increases, etc. All this has a considerable impact on a person, and therefore the question of the person him/herself is raised: what is he/she like and can he/she be in the information society, because society is a condition for a person as a species and the process of his formation.

Based on this, we can state that technique and technology in the modern world contribute to the emergence of a new reality, which is a product of human creative activity. This new reality is called virtual, which, as noted by S. Dovgal, O. Buturlina, and T. Tukhtarova, should be understood as a highly developed form of computer simulation that allows the user to immerse himself in the artificial world and directly act in it with the help of special sensor devices. During such an action, the visual, auditory, sensory and motor sensations of the user are replaced by their simulation, which is generated by the computer [5].

Therefore, the conducted analysis gives reason to conclude that the information society is a system of social relationships based on information and communication technologies that contribute to the production, distribution and consumption of goods and services and is characterized by the presence of digital technologies (computers, mobile phones) united in one network, and which allow to generate, process and distribute information. That is, we are talking about the creation of a new world, which can be evaluated as an alternative world. This world, created thanks to digital technologies, which, as we can see, prompts massive functional transformations, Y. Harari notes, can call into question the very concept of «man» [10]. So, this is exactly what we will focus our attention on in the second block of the review.

### **3.2 Digital technologies are the environment for Homo digitalis**

The modern development and intensive implementation of digital technologies are driving the emergence of a new economy, creating an environmentally balanced and socially oriented economy focused on increasing the population's well-being and improving ecological indicators. In the long run, this trend may lead to the establishment and growth of a digital society.

Considering the peculiarity and nature of man, he/she combines two worlds: on the one hand, this is the world of real things, the world that has existed since the beginning of the existence of man as a species and which has constantly changed according to the needs of man, and on the other hand – the virtual world we mentioned or, as Luciano Floridi calls it, «the metaphysical world» [6]. Undoubtedly, it is very difficult to agree with such an identification, but in our case it more meaningfully conveys the very essence of the virtual world at the current stage. But without resorting to the research of such an identification, let us note that these two worlds develop according to their own laws and what a person cannot

realize in the real world, he/she compensates for in the virtual one and vice versa. The constant improvement and development of ICT contributes to the fact that most people, trying to escape from reality, move to the virtual world, and this world in the conditions of today's realities is gaining popularity and increasingly colonizing human consciousness.

Based on this, it is worth agreeing with V. Voronkova's opinion that «the world of digital technologies of modern society is a real challenge for all organizations and enterprises that need a better implementation of the digital landscape, since this landscape is changing incredibly quickly, so, accordingly, it must change and our vision of the needs of digital concepts and approaches that require their adequate knowledge and understanding» [18].

We note that digital technologies are the basis of the digital space, which can model it in different ways, and artificial intelligence plays a special role in this. We note that digital technologies are the basis of the digital space, which can simulate it in different ways. We agree with the studies of J. Mutterlein and K. Fuchs that it is digitally open to everyone who uses the above technologies of the modern good and has access to the Internet [13]. That is, digital space should be understood as digital technologies and how people interact with them and through them. It's about how digital devices communicate and interact, and the digital infrastructure that enables it. The advantage of the digital space is that, thanks to digital technologies, it is able to blur the boundaries between its world, the real and virtual worlds. A person who combines three worlds with the help of digital technologies is able to create his own space by resorting to the search for identities that have different forms. As you can see, being in the digital space, a person has the opportunity to create his/her own space, which is part of the general digital space, can independently model it, create his own design, give it essential content, etc. Therefore, the digital space is created and developed thanks to digital technologies and the possibilities of their interaction and human interaction with these technologies, but understanding that the environment, space makes its demands on the person. That is, they stand out as one of the conditions of human formation.

Therefore, the digital space is created and developed through digital technologies and the possibilities of their interaction, including human interaction with these technologies. However, it is important to acknowledge that the environment, space imposes its demands on humans, playing a role in shaping individuals. In this context, digitization acts as a locomotive moving towards new opportunities for sustainable development, promoting the rational and efficient use of resources, and improving quality of human life.

It is worth noting that in the modern world, digital technologies are applied in industries, education, energy, healthcare, ecology, economics, and more. Their implementation significantly boosts economic activity while enabling the monitoring of environmental levels. As digitalization increases, the state must address the so-called «digital inequality» towards protecting the environment and enact laws on electricity consumption.

Understanding the essence of the information society, the importance of information in such a society and the digitalization of social life, the question arises: what should a person be like in such a society, what should he orient himself towards? After all, thanks to scientific and technical achievements, postmodernism has become a condition for the formation of a new reality that has an impact on a person and, accordingly, sets certain requirements for him/her. That is, when we talk about the information period of the development of humanity, we should also talk about the corresponding person – an information person who will be able to adapt to the demands of society and develop freely in it, a person who will possess technologies and at the same time will be able to preserve his essence.

In this context, it is worth referring to the work of Mark Prensky, who in 2021 introduced the concept of «digital man» (*Homo digitalis*). With it, he indicated people who live surrounded by computers, smartphones, Internet networks, etc., who are used to receiving information through digital channels, and all of the above becomes part of their existence, life [14]. Observing today's youth, we notice that they increasingly prefer digital



technologies, communication takes place with the help of these technologies. A person who will be able to control artificial intelligence, and not be its hostage.

The formation of the digital society took place thanks to the convergence of artificial intelligence technologies, machine learning and powerful databases capable of using an unlimited amount of information for the purpose of its processing, classification and multiple use. Epistemologically, there is a transition from the «knowledge» model to the «information» model. In such a model, a person must be able to select (filter), analyze and apply information. Knowledge is presented to him/her in the form of digitized information that a person can obtain with the help of information technologies.

Note that electronic devices connected to the global network leave digital traces even if they do not have an actual user. With the help of devices, notes V. Voronkov, digital processing of not only a person as an object, but also the entire global infrastructure for the possibility of its full simulation and reproduction takes place at personal, family, industrial, social and other levels. At the current stage of total implementation of digital technologies, not only what a person does is changing, but also who he/she is and into whom he is reincarnated. Digital transformations in society have a multifaceted impact on a person and affect all spheres of his life: the inviolability of personal life and forms of ownership, the change in the nature of consumer behavior, the amount of time devoted to work, rest and family, the principles of career development and skills improvement methods. Homo digitalis can change its corporate ties without being rigidly bound to them; she can and is able to very flexibly build relationships with other people, join different social communities and different cultural traditions. Homo digitalis is less burdened by formed and historically determined stereotypes, it has more mobile reactions and the ability to manipulate any layers of information, it acquires a new abstract form of its existence [18]. The above leads us to the idea that we are talking about the digital generation, which arose with the advent of computer equipment and digital technologies.

As we can see, the created digital space is causal in the formation of a new type of person, a digital person who differs from his predecessors: he creates his own language – a digital language, builds his own identity based on digitalization, thinks and learns about the world thanks to the possibilities of digital technologies, forms new types of interaction. These processes are modified due to the transformation of the human brain, which is affected by the changes of the era. These aspects were emphasized by Gary Small and Gigi Worgan in the work «The Brain Online. Man in the age of the Internet» [17].

Thanks to digital technology, traditional mechanisms of identity lose their essence – digital, multi-vector ones are formed. Being in the digital space, the virtual world, a person tries to become part of various social networks, focusing on the values promoted by virtual social networks. Adopting values, a person tries to identify him/herself with a network group. Such identification is unstable and short-lived, because at any time a person can leave a virtual social group and join another.

The above makes it possible to talk about the creation of a sociocultural portrait of Homo digitalis, which is endowed with the appropriate characteristics. To them K.Goncharenko attributes: a digital person is formed as an information and knowledge carrier and interpreter of a huge amount of information; according to the purpose, information is given a certain subjective meaning, turning into knowledge – the basis of development; information is a resource for the realization of human intellectual abilities; in the cognitive sphere, an increase in the value of the speed of perception and processing of information is observed everywhere, and, moreover, often to the detriment of the depth of perception; reducing the need to train random access memory, which can be transferred to devices; mobile means of communication take on the features of a «psychic organ» taken outside: without a gadget or a mobile phone, a person feels helpless, deprived of memory and communicative function in general; loss of interest in fundamental knowledge of the basics, being satisfied with

superficial knowledge of problems, ignoring verification by experience and critical thinking; the formation of a special type of visual «clip» thinking, where the brightness and accessibility of the content is valued more than its depth; the possibility of obtaining an almost unlimited amount of information in a relatively short period of time; virtualization of interpersonal contacts, which, on the one hand, facilitates communication, and on the other hand, creates the illusion of accessibility and ease of relations; the transformation of gadgets into an element of the subconscious, an individual external carrier of the collective unconscious; transfer of various types and methods of communication to the online sphere; an increase in the number of pathologies due to envy due to clearly expressed property stratification; the identification of a digital person occurs due to the involvement of a person in one or another sphere of information, virtual and social spaces; self-presentation of an individual on the Internet is carried out through a nickname, an avatar, a page in a social network, due to the freedom of their construction and attractiveness for users [11].

From a practical point of view, the formation of a digitized personality is determined by the requirement of a society of sustainable development. Thanks to the development of digital technologies, a person has the opportunity to satisfy his thirst for knowledge without leaving home and without harming the environment. In this context, modern education has been influenced by digital technologies, and with their development, the educational process is increasingly digitized and improved: virtual laboratories are used, experiments are conducted, various species and subspecies of flora and fauna are studied; another form of education appeared – distance education.

Thanks to it, education has become more accessible, knowledge has become open, and people have become more responsible. All this is aimed at preserving nature, time and continuous development. The realization of this goal is the result of the implementation of the concept of sustainable development. The implementation of digitalization in the society of sustainable development in practical life allows to achieve a balance between the three factors of civilizational progress: social, economic and ecological.

## 4 Conclusion

The implementation of digital technologies in society requires not only the shaping of a new type of individual but also the application of these technologies in various human activities, aiming to preserve the environment: in energy, agriculture, and the management of social and natural resources. The goal of such digitization is environmental preservation. Artificial intelligence plays a crucial role in automating numerous processes carried out by society. For example, the development of artificial intelligence enables effective management of energy supply and consumption regimes, agricultural production, and monitoring of ecological levels. Another positive aspect of using artificial intelligence is its impact on decentralizing systems that support the social environment, providing flexibility to respond to consumer needs, effectively influencing the formation and functioning of centralized systems. Therefore, digital technologies allow for the preservation of the environment and the transformation of social, ecological, economic, and political relations. Society has realized that the pace of environmental restoration cannot match the pace of its pollution.

## References

1. J. Baudrillard, *The System of Objects* (London–New York, 1996)
2. N. Bostrom, *Superintelligence. Strategies and dangers of the development of smart machines* (Our format, Kyiv, 2020)
3. O. G. Danilyan, O. P. Dzeban, Y. Y. Kalynovskyi, *Cogito* **15(1)**, 142-159 (2023)



4. J. Derrida, *Writing and difference* (Osnovy, Kyiv, 2004)
5. S. Dovgal, O. Buturlina, T. Tukhtarova, *Grani* **23(1-2)**, 40-48 (2020)
6. F. Luciano, *The Information Society* **25**, 153-158 (2009)
7. A. P. Getman, O. G. Danilyan, O. P. Dzeban, Y. Y. Kalynovskyi, *Revista de Filosofia* **39(102)**, 78-94 (2022)
8. J. Habermas, *Structural transformations in the sphere of openness: Study of the civil society category* (Lytopolis, Lviv, 2000)
9. Yuval Noah Harari, *21 lessons for the 21 Century* (BookChef, Kyiv, 2022)
10. Yuval Noah Harari, *Sapiens: Homo sapiens. A brief history of mankind* (Force Ukraine, Kyiv, 2022)
11. K. S. Honcharenko, *Philosophical horizons* **42**, 137-140 (2019)
12. M. McLuhan, *Understanding Media The extensions of man* (London and New York, 1964).
13. J. Mütterlein, Ch. Fuchs, Conference: 23rd Pacific Asia Conference on Information Systems (PACIS). At: Xi'an, China (2019), [https://www.researchgate.net/publication/337818199\\_Digital\\_Technologies\\_and\\_their\\_Influence\\_on\\_Spaces](https://www.researchgate.net/publication/337818199_Digital_Technologies_and_their_Influence_on_Spaces)
14. M. Prensky, *On the Horizon* MCB University Press **9(5)** (2001)
15. Matthew N.O. Sadiku, M. Tembely, S. Musa, *International Journal of Advanced Research in Computer Science and Software Engineering* **8(27)** (2018)
16. P. Sasvari, *International Journal of Advanced Research in Artificial Intelligence* **1(2)**, 31-38 (2012)
17. G. Small, B. G. Vorgan, *Surviving the Technological Alternation of the Modern Mind* (Harper Collins, New-York, 2008)
18. V. G. Voronkova, V. O. Nikitenko, *Philosophy of the digital person and digital society: theory and practice* (Helvetica Publishing House, Zaporizhzhia, 2022)
19. R. Želazny, *Journal of Economics and Management* **20(2)**, 5-22 (2015)