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ARTIFICIAL INTELLIGENCE, TRANSHUMANISM AND BIOPOLITICS: THEORETICAL FRAMEWORKS IN THE PAST TWO DECADES¹

Abstract: The aim of the article is to present the theoretical frameworks of the anthropology of artificial intelligence (AI) and transhumanism, with reference to the concept of biopolitics, since the beginning of the 21st century. The introductory part briefly looks at the phenomenon of AI and the anthropological study of it, which is pursued within the broader context of anthropological studies of technology. The basic question analysed in artificial intelligence studies is man's relationship to technology and its place and role in the development of humanity. The authors also find it important to consider how the development of technology, and of AI within it, can affect the distribution of power and control systems of economic processes, primarily economic growth, migration and health. Finally, the results of anthropological research on AI and transhumanism are presented. In the conclusion, the authors briefly review the importance of AI and transhumanism research results and their role in the future development of anthropology and other social sciences.

Keywords: artificial intelligence (AI), anthropology, technology, social sciences

Non MeSH: transhumanism, biopolitics, anthropology of artificial intelligence, anthropological studies of technology

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Introduction: the nature of anthropological research on AI and biopolitics

Arguably, a key research topic related to human identity and self-knowledge is one that aims to focus on what it means to be “truly” human. The main purpose of AI is to show whether and how it is possible to study and simulate human intelligence so that computers can be programmed to do what the human mind does, e.g., to think independently, learn and advance intellectually through the acquisition of their own experience and based on the collected information. According to some authors, the first and foremost is to create a model of the human mind that will be used as a basis for building and programming an intelligent entity that resembles a human being. Alan Turing, a British mathematician and founder of AI, believed that an intelligent computing machine should resemble a human being by virtue of being able to think like a person. This perspective is accepted and integrated into the basic theories of modern artificial intelligence, which consider our mental capacities to be crucial for everyday life and self-knowledge. [1 p3] Basically, at first a computer was an information processing device, which operated by using symbols according to certain rules. When using computers, we must follow these rules and be “sensitive” to computer symbols, i.e., we are conditioned to think according to the way computers process our thoughts into information and knowledge. People who live and work with computers have come to rely on digital information on a daily basis. According to Ting Guo, “self-reconceptualization becomes more essential in contemporary culture since it is heavily influenced by AI technologies.” [1 p6]

Researchers, among them historians, investigate a key question of civilization: to what extent and by what means does technology determine political, social, economic and cultural forms in a society? In anthropology, the opposite question may also be posed: how does the cultural context shape, i.e., create or modify technology? Historians, in principle, support the view that technologies are social products, sensitive to the system of government and, therefore, to democratic or totalitarian control. Karl Marx started the modern discussion of determinism, and Robert Heilbroner renewed it in the context of the history of technology. Marx’s views are somewhat embedded in contemporary Western culture, in the form of phenomena that are constant reminders of how rapidly changing technologies can change human lives. The idea of “technological determinism” can take different forms, ranging from “hard” to “soft”. According to “hard determinism”, the progress of technology has the ability to influence the course of events, in the present and in the future. For example, the side in a war that has a more advanced military technology may gain the upper hand at a critical moment. Innovations in the field of genetic engineering can lead to changes in human DNA that can be inherited by future generations of people, thus directly influencing the future. The future seen through the eyes of “hard determinism” may have several versions. According to optimists, it will be the result of many free choices and the realization of the dream of progress. For pessimists, it will be the product of needs dictated by political and economic power structures, leading to totalitarianism. Proponents of “soft determinism” remind us that the history of technology is the history

of human action. In order to understand the origin of a particular type of technological power, researchers must first investigate its actors, i.e., who they were and in what circumstances they operated. In this sense, important questions arise: why were innovations created by certain people and not by others, why the innovations occurred at a certain time and place, and not in another time-space framework, and then, who benefited from them, and who suffered? [2 pIX-XV]

Back in 1998, Dennis Weiss pointed out that “the various subcultures that have grown up around the digital computer (the so-called ‘digital culture’) have been actively defining and shaping popular conceptions of what it means to be human and the place of humanity in the digital era.” Weiss emphasizes the mind as information independent of the physical body, the obsolescence of the human body, the elimination of the individuality of each person, the flexibility of human nature and logic, and the arrangement of the computer as a metaphor for the cosmos. According to him, “a renewal of the philosophical anthropology movement — devoted to the issues of human nature and humanity’s place in the cosmos — permits us to see the inadequacy of the conception of human nature implicit in the digital culture.” [3 p142] The basic focus of anthropology of AI is man’s relationship to technology, and its research is concerned with the future of humanity together with technology and with the questions of the “essence” of technology. Seventy years ago, Martin Heidegger posited technology as a way of “discovering” the world. The essence of technology, he argued, is not only technological or mechanical, but represents the way in which the world is revealed to us, and thus the “enframing” of the problem of technology determines our understanding of what exists in the world. [4 p3-4; 5 p23-24] Leslie White emphasized the primacy of technological factors in determining the form that society will assume: “[A] social system might well be defined as the way in which a society makes use of its particular technology in the various life-sustaining processes [...]” [6 pXIII] White also believed that the technological system of society included the means and ways of applying energy, and that the use of energy was a decisive factor in cultural evolution. The technological aspect of culture, according to White, initiates change, sets in motion a series of transformations following one another, which ultimately affects every part of the system. [6 pXIV].

The most important feature of the anthropological studies of technology is their focus on various knowledge practices that technologies bring about and on which they are based. Research in anthropology actively contributes to discussions of various value issues relating to technologies. Finally, they point to the way technologies fit into broader political-economic and socio-historical processes that shape and often foster inequality and discrimination, while at the same time creating diversity. [7 p2-3] At the end of the 20th century, in the 1980s and 1990s, industrial mass production increased, together with a faster development of transportation and global communications, and increased migrations. The same period also saw the efforts intensifying to define new directions for the anthropology of technology in the era of globalization. During the first two decades of the 21st century, anthropologists have continued to study the ways in which technologies develop and shape everyday life. [7 p12-18]

The term biopolitics was first used by Michel Foucault to denote the organized power of institutions over life in general, through the scientific and technological regulation of knowledge as a new form of state surveillance, i.e. repression over the lives of citizens. According to Alpar Lošonc, Foucault believed that the backbone of biopolitics is represented by political economy, changes in the management of family and society. Lošonc quotes from Lazzarato: “biopolitics is the strategic coordination of these power relations in order to extract a surplus of power from living beings. Biopolitics is a strategic relation; it is not the pure and simple capacity to legislate or legitimize sovereignty. [...] According to Foucault [...] biopower coordinates and targets a power that does not properly belong to it, that comes from the ‘outside’. Biopower is always born of something other than itself.” [8 p163-164; 9 p103, 10] According to Bogdana Koljević Griffith, “[...] it is also about total control of economic processes, i.e., the ultimate goal of modern political economy is population regulation in practically all aspects – especially economic growth, migration and health. Or, more precisely, given that the power exercised over populations relevantly includes the control and regulation of biological processes – birth, death, disease, food and living conditions in general [...]” [11 p1233] Artificial intelligence and transhumanism can also be considered in this context. The creation of artificial intelligence is often influenced by political and economic factors, and behind the ideas at the core of some AI systems are often people from the world of politics and political and economic power centres. Transhumanism, with its ideas about “improving man” and encouraging the development of intelligent life through science and technology, can influence the control of various issues in the field of health and provide solutions for controlling the population problems that the world is facing today.

Basic results of anthropological research on AI and transhumanism (2000–2023)

Only some of the results and interpretations of modern anthropological research on artificial intelligence in the digital age will be presented here to serve as an illustration of some of the contemporary trends in the anthropological analysis of the AI phenomenon and associated problems in the past two decades or so.

For researchers concerned with the nature of knowledge, the idea of artificial intelligence is one that fascinates and stimulates re-thinking. AI research opens up a wide range of key questions relating to culture, cognition, knowledge and power, raising numerous philosophical and methodological problems. Some AI experts believe that computers will be able to replace human expertise. Researchers who approach AI with a grain of salt respond to these claims by arguing that, given the nature of knowledge itself, machines can support human expertise, but cannot replace it completely. [12 p35] According to Diana Forsythe, when building an expert (AI) system based on scientific knowledge, the principles of selection and interpretation of existing knowledge must be applied. She believes that it would be useful for AI engineers to include the theory and methodology of qualitative social sciences in their education. In this

way, engineers would develop new ways of thinking about how to acquire knowledge and that would help them achieve their own system-building goals. AI engineers are aware that they have to make choices about what to include in their systems, which is essentially based on their own values and assumptions. AI engineers' ways of thinking, values and assumptions have a manifold influence on the selection of knowledge on which AI systems are based. The knowledge and solutions that AI systems possess and bring, which are taken for granted as being reliable, illustrate the cultural nature of scientific practice. Design decisions made by individual AI engineers are encoded in computer languages that many people cannot read, and when an expert system is built, it is very easy for the user to assume that what such a system "says" must be correct. In a way, a knowledge-based AI system is a replica of its creator's perspective. AI engineers are often unaware of everything they have incorporated into or excluded from the system. The power exercised by AI engineers has a political dimension, raising questions about the relationship between technology and society. The big questions that arise are whose knowledge should form the basis of the "knowledge base" and whose practices should be considered as "expert"? Who should select the cases or "knowledge" that should represent "reality"? All of this is influenced by big political issues concerning differences in culture, race, class and gender. [12 p55-58]

"Deep learning" techniques, which are gaining popularity in the field of artificial intelligence, identify patterns in a large number of data systems, make classifications and predictions. AI experts and scientists who trust "deep learning" techniques present these classifications and predictions as more accurate than those made by humans. Claims of "superhuman" accuracy of these results, along with the inability to explain fully how these results are obtained, create a discourse about AI that some authors call enchanted determinism. To analyse this discourse, researchers draw on Max Weber's "theory of disenchantment".² "Deep learning" is a complex form of technological calculations and predictions that Weber associated with disenchantment. In order to explain the mechanisms of these systems, which cannot be interpreted, and their counter-intuitive behaviour, so-called magical discourses are being used. Discourses of magical "deep learning" create techno-optimism, leading to a large number of phenomena, and the deterministic, calculated power of these systems intensifies the social processes of classification and control, and protects their creators from responsibility. [16 p1-19]

² Weber borrowed the idea of the process of disenchantment of the world from Schiller. Putting this idea at the core of his sociology, Weber, elaborating on it, expects the suppression of superstition, myth and magic which will be replaced by a more realistic approach to the world. Once magic is eliminated from life, the mind returns to itself and tries to reconstruct the world according to rational criteria. In this way, intellectualism suppresses magical beliefs and the world's processes become disillusioned, losing their magical significance; they still exist, but no longer signify anything. The new religions of modernity, which replace the myths of traditional society, cause a short circuit in the human mind with empty promises, cause resentment, which leads to collective aggression and despair. [13 p496-498; 14 pXX-LXII] As stated by Weber: It means that in principle, then, we are not ruled by mysterious, unpredictable forces, but that, on the contrary, we can in principle control everything by means of calculation. [15 p12-13] Our age is characterized by rationalization and intellectualization, and above all, by the disenchantment of the world. [15 p30]

According to Marchenko and Kretov, the question of correlation between the philosophy of information and transhumanism projects should be divided into several spheres. The first of these is the nature of formal modalities of interaction between humans and the digital information environment. Next, the status of human consciousness and personality in the context of such interaction is important and, finally, we are considering the transformation of cognitive and human activity through this interaction. The status of human consciousness and personality moves on levels between imperative (that is, the one who programs) to affiliate (social-communicative platforms) and dependent (strategies of use, problems of digital personality and manipulative strategies in the sphere of information). The transformation in the form of speech and language discourse is explained by the fact that “live” speech is not formalized within digital communication models. [17 p110-11]

Some authors look are concerned with the economic, political and historical dynamics of technological innovations and their consequences on employment and economic restructuring, which are carried out through sovereign and discursive power. [18 p331] The conclusions are reached that technological change has a transformative potential, but also its uncertainties and limits. Also, Boyd and Holton believe that the analytical perspective “has normative implications in that it raises the possibility of alternative futures [...]. The possibility of futures other than the dystopian or utopian strands of the radical change thesis, allows an array of competing hypotheses about future trends to be articulated and evaluated against a plurality of normative viewpoints. Such an exercise is crucial if a deliberative democratic discourse is to emerge around new technology.” [18 p343]

From the standpoint of political anthropology, algorithms, digital data processing and decision-making mechanisms are no longer purely technical-rational constructs. They are always created under the influence of those who create them politically and technically. In other words, the creation of AI is very frequently influenced by political factors, interests and ideas behind people from political life, and AI engineers turn those ideas into reality through programming. So AI can be seen as a kind of amalgamation of people and codes, which is in accordance with the basic principles of the so-called “new materialism” school of thought. According to these views, it is inadequate to distinguish between humans and machines, animate and inanimate matter, participants in events and structures. According to some authors, the people who develop the systems do not dictate the functioning of the algorithms, but the acquisition of power and the necessity of management will result from the interaction between the algorithms and those who developed the system. “Governance by Things’ requires good, human and humane ‘Governance of (these) Things.’” [19 p7-8]

According to Michael Harkin, the long-awaited biological connection of man and technology contributes to the transformation of human beings. The development of technology has led to the proclamation of “technological singularity”, in which an intertwining of humanity with technology will be possible, whereby a kind of immortality will be achieved, either through the replacement of impaired body parts or through the replication of individual human consciousness in a virtual form. If the development of technology enables humans to overcome their own mortality, the issues

of maintaining populations with unlimited life spans and the morality of living outside “natural” limits will open up. Harkin also points out the importance of how the benefits of technology will be distributed. He also states: “Finally, as humans become more technological beings, technological beings are becoming more human. The category of ‘humanoid robots’ is new to us in reality, although long imagined in science fiction, and considered at a fairly deep level by writers such as Isaac Asimov and Philip K. Dick. However, the reality of humanoid robots will open up fundamental philosophical, ethical, and legal questions of humanity and its relation to robots”. In the same way, the author discusses the Internet revolution, highlighting the intertwining of the virtual and real worlds of Internet users, because for many online identity is a central component of their overall identity. According to Harkin: “If we are living (or soon will be) in a post-human world, it is worth questioning whether we can be said to be entering a post-cultural era. [...] Or, going further, should we finally recognize, as many have urged, that ‘culture’ was always an ideological construct — a scientific reification used to manufacture and legitimize boundaries that reflected a set of distinctly European fantasies — fantasies that proved to be historically unsustainable?” [20 p99-102]

According to Kathleen Richardson, the Terminator film series exemplifies how super-advanced intelligent machines tend to destroy humanity to ensure their own supremacy. She explores the origins of the robot as a cultural product in the cultural milieu of the 1920s. According to her, the robot was a critical response to the views of right-wing and left-wing philosophies which, as Karol Čapek believed, were obsessed with work and production. Richardson explores how the revolution and the fear that humans are gradually losing their individuality influenced the notions and understanding of robots. Then she introduces the concept of robot into the field of artificial intelligence, which focuses on the simulation of human intelligence in machines, and points out that much of the efforts put into creating AI has been devoted to the development of war machines. In doing so, Richardson focuses on Alan Turing’s biography, related to his theory of thinking machines. The author explores the philosophy associated with social robots and social machines, and leads us to the new way of thinking about what it means to be social and how companionship between humans and machines can be developed. Richardson is also engaged in the study of gender issues of the people involved in the creation of robots and AI systems and the types of those people, who are often characterized as “weird”. The creative work of scientists on constructing the robot is a form of unconscious dialogue with their own existential anxieties and difficulties. Finally, the author interprets the roles of fantasy and reality in the creation of robots. [21 p1-20]

Michael Mateas analyzes HAL 9000, a form of AI from the books of Arthur Clarke and the film productions created from them (most notably 2001: A Space Odyssey and 2010: The Second Odyssey). Instead of presenting Hal as an expression of human fear of an evolutionary confrontation with increasingly autonomous technologies, Mateas offers an interpretation of Hal as an expression of goals, methodologies and dreams in the field of artificial intelligence. Hal contained pre-existing intellectual currents already operating within the field of AI and served as an important cornerstone that had a remarkable impact on individual actors in the field of artificial intelli-

gence and aspirations in the field. Writing in the context of the combined efforts of the humanities and computer science, Mateas reads Hal as a representation and expression of technological practices within AI. Hal was and remains a powerful inspiration for AI researchers. The author shows how Hal influenced the work of AI engineers and the current state of AI research. There have been many depictions of robots and smart computers in science fiction films, but few have achieved the status of Hal among AI experts. It has integrated many specific abilities, such as computer vision, natural language processing, chess playing, etc., representing the desirable model of intelligence that AI researchers have been looking for.³ Also, Mateas points out that the field of AI has produced a series of technological practices and interpretive conventions in the creation of machines whose behaviour can be considered intelligent. Artists have begun to incorporate AI into practices of cultural production, which is reflected in the production of artefacts and experiences that function in the field of culture. [22 p147]

According to Wolfgang Hofkirchner and Hans-Jörg Kreowski, “transhumanism is a worldwide philosophical and futuristic movement aiming to enhance the intellectual and physical capabilities of human beings beyond their current limits. Having its roots in the 1920s and 1930s, it has gotten quite some drive and attention in the last three decades. [...] Transhumanists intend to employ already existing and future technologies such as artificial intelligence, robotics, cognitive science, information technology, nanotechnology, biotechnology and others as human enhancement technologies.” The authors state two positions. The first was given by Max More, one of the main proponents of transhumanism, who defines it as “both a reason-based philosophy and a cultural movement that affirms the possibility and desirability of fundamentally improving the human condition by means of science and technology.” There is another point of view, that of Francis Fukuyama, who saw transhumanism as one of the most dangerous ideas in the world.[23 pV]

For the military-industrial complexes, transhumanism is a kind of temptation. Namely, future technologies promise to break the limits of military power, especially in terms of connecting people and machines, overall computers. [24 p97-110] Also, new gene editing inventions allow direct modification of the DNA of organisms. Genetic engineering can be used to improve human beings and, even, ensure that these changes be inherited by future generations. [25 p111-120] In the same way, transhumanism forces social innovation that can be a double-edged sword, as we face an era of military rearmament due to advances in AI, robotics, and the enhancement of human beings. [26 p121-130] Some authors believe that computers will never be more intelligent than humans, because human intelligence is not based only on logical and computational operations, but possesses a number of characteristics unique only to humans (such as curiosity, imagination, intuition, emotions, passions, desires, pleasures, enjoyment, purposes, goals, values, morals, experience, wisdom, judgment and humour). [27 p133-140] Others believe that a verification criterion is necessary for robotic devices, computing machines, autonomous cars, drones, etc., so they will not harm

³ Michael Mateas. Reading Hal: representations and artificial intelligence , <https://users.soe.ucsc.edu/~michaelm/publications/mateas-a-space-odyssey-2006.pdf> (accessed 14.01.2024)

humans under any circumstances. [28 p141-154] Transhumanism is under the scrutiny of scientific critical viewpoints related to racial and decolonial theories. The views of transhumanism tend to establish an “algorithmic” relationship to the historical processes of race formation within the Euro-American historical experience, and form a techno-scientific response to the “white crisis” phenomenon. [29 p169-183]

Questions in the domain of transhumanism and biopolitics have also been discussed by anthropologists and sociologists in Serbia and the region. The second volume of the journal *Anthropology* for 2012 (published by the Department of Ethnology and Anthropology, Faculty of Philosophy, University of Belgrade) is devoted to relations between the body, (bio)technologies and power. Polona Tratnik points out the importance of biotechnology, which she considers as “a political technology investing in the body, improving its qualities, prolonging youth, taking care of health and reproduction”. [...] It intensifies techniques of biopolitics and anatomo-politics (detected by Foucault) and implicates specially derived politics, engineering-politics and regenerative-politics, which demonstrate that there is power over life and body in contemporaneity that is far exceeding the extensions and the technological possibilities of power from the biological modernity.” [30 p17] Ivana Greguric touches upon many questions raised by cyborgisation, the process “in which organic and inorganic ‘nature’, humans, computers and machines integrate, making a single matrix entity – the Cyborg”, and emphasizes: “In order to protect man from the omnipotence of technology and its unethical application is necessary to establish cyborgoethics that would determine the implementation of an artificial boundary in the natural body.” [31 p41]

Veselin Mitrović, focusing on liberal eugenics, writes: “Does the precision of the reproductive technologies enable freedom of choice regarding the desirable personal traits, or it is a potential tyranny of parents over children and the path to a uniform sexuality?” [32 p79] He is of the opinion “that the concept of the liberal eugenics would not lead to the reproduction of chosen traits but to the self-reproduction of women which might eventually create an asexual society”. [32 p79]

Offering introductory remarks on the post-secular paradigm and the influence of religion in new medical biotechnologies, Zorica Ivanović considers, among other issues, governing biotechnologies: “Today, already extensive literature on various aspects of contemporary biopolitics points to the importance of new medical biotechnologies, which should be understood as ‘political technology invested in the body’. It is a ‘politics of life itself’, which differs from biopolitics from previous periods in that it enables us to control, manage, reshape and adjust ‘the very life capacities of human beings as living creatures.’” [33 p 855-856] “In any case, one of the important elements in the repertoire that states have developed to deal with the challenges of managing biosciences are bioethical bodies. These bodies represent advisory institutions of expertise appointed by state or international authorities, which have the task of considering morally and technically complex issues on behalf of the public with the aim of encouraging wider discussion and giving opinions and recommendations to award-ees.” [33 p 856] “In this way, the development of biosciences called into question not only the boundaries between living and non-living, between human and non-human, but also posed a challenge to the moral and political understanding of the very foun-

datations of democratic institutions in societies where religious freedoms are treated as the basis of individual freedom and human dignity.” [33 p856-7] “[...] the influence of religion on the processes of formulating public policies and passing laws in the field of bioethics can be diverse depending on specific situations and different religious traditions. This remark applies both to the elements and influences that constitute the landscape of actors and to the methodologies and influence of social authorities that create norms.” [33 p862]

According to Steven Lyon and Michael Fisher, the displacement of populations caused by natural disasters opens up a series of problems in urban planning, the solution of which requires a shorter or longer period of time. The authors believe that the most important contribution that anthropologists can make is the creation of a formal model of indigenous knowledge systems, derived from specific cultural systems, and the identification of ways to communicate with such systems. The creation of indigenous knowledge systems would imply a multidisciplinary approach that borrows knowledge from the development of AI and MAM (multi-agent modelling – design of multi-agent systems)⁴. Lyon and Fisher point out that these disciplines can play an important role in the long-term planning of the coexistence of relocated communities, if these knowledge systems are adequately informed by anthropological interpretations relating to communities that are relocated. [34 p40-53]

According to Steven Puff: “Anthropologists should explore machine learning anew in order to revitalize their understanding of the interconnected sociotechnical phenomena of machine learning, data science, and big data [...]. This would help foster new connections between anthropology and data science and within the qualitative/quantitative battlefield; this could help generate new connections with a newly rising perspective more potentially amicable to ethnography and other anthropological methods and modes of thinking.”⁵ Some authors believe that the association of anthropology, information science and artificial intelligence opens up the possibilities of a transdisciplinary activity that is able to shape and interpret human culture. An Ethnographic Semantic Data Modeling (EKSDM) approach is proposed because it combines ethnography with semantic data processing techniques to create systems of analysis that encompass broader contexts and explanatory possibilities.⁶

⁴ Agents and multi-agent systems represent software that has the ability to solve problems independently, without user intervention, and today they are mainly used to solve typical problems in the field of transportation and logistics, and serve to support decision-making

⁵ Puff, Stephen, The anthropology of machine learning , 39, 2018. <https://ethno-data.com/the-anthropology-of-machine-learning/> (accessed 12.03.2024)

⁶ Artz, Matt. From machine learning to machine knowing: a digital anthropology approach for the machine interpretation of cultures : 1-7, 2023. https://www.researchgate.net/publication/372336052_From_Machine_Learning_to_Machine_Knowing_A_Digital_Anthropology_Approach_for_the_Machine_Interpretation_of_Cultures (accessed 12.03.2024)

Conclusion

Social sciences, among them anthropology, are invited to consider the cultural aspects of society that are influenced by the increasingly rapid development of artificial intelligence and new technologies. Also, social sciences can indicate the directions in which the future of society can develop in accordance with the development of technologies, and, perhaps, influence the formation and standardization of future cultural aspects and models related to AI and new technologies.

Scientists, among them anthropologists, should try to interpret this phenomenon with their active involvement. Their goal is to provide a multitude of possible visions of humanity's future, to point out the advantages, disadvantages and dangers brought by access to modern technology, which is increasingly based on artificial intelligence. Scientists should seek to provide answers as to how to live with AI and how it affects the formation of new value systems and transforms humans themselves. In a way, AI can be considered, especially from the perspective of the wider population and some scientists, among them anthropologists, as an opportunity to achieve the utopian dream of objectivity of results and methods in a broader sense, free from the influence of politics, ideology and power structures. AI may serve as a tool to break free from the control of political and economic power centres. Also, according to some scientists, AI can ensure privacy and gradually lead to the transformation of existing models of political and economic order.

On the other hand, transhumanism and the ideas it advocates are being scrutinized by some scientists precisely because it gives the possibility of using AI as a tool of biopolitics. A part of the wider population, a part of the scientific community and pseudoscientific circles, in some media-dominated societies, which are prone to conspiracy theories and technophobia, voice their concerns that artificial intelligence may become a tool of global control or, even, the realization of the fear that autonomous technology might clash with humanity at its ultimate evolutionary stage. Such fears are observable as a motif in literature and film art. Also, religious people and those with a somewhat more traditional value system believe that the development of technology and the growing attachment of man to it, and the inadequate attitude towards it, leads to alienation, changes in relations between people and the collapse of value systems which were considered "desirable" in a long historical period. Therefore, fear of the unknown dominates among these people and the anxiety that if too much freedom is allowed in the process of constantly overcoming previously set civilizational and technological boundaries, the existence and role of man in the modern world may become meaningless.

The development of AI certainly leads to transformations of human society and the individual in it. They can be fast, undesirable, and sometimes society cannot keep pace with such transformations. On the other hand, they can contribute to progress in the sphere of science, health, education, economic and infrastructural development, help in solving population crises, enable the extension and facilitation of human life, etc. Given the multitude of possible scenarios when it comes to the question of direc-

tions in which the development of AI can lead humanity, only time will tell to which destination this development will take us.

It seems that a moderate path is always the best solution when decisions need to be made regarding dilemmas related to the relationship between artificial intelligence and human beings. According to our opinion, it implies the use of AI for the benefit of humanity, and preserving a relationship with technology in which human would not lose personal identity, unique physical, psychological and intellectual properties, the ability to develop and progress in all possible aspects, through personal work and achievements, and the interaction with the world in which lives. AI technologies and humans can and must co-exist in a modern society, and for this co-existence, sometimes, it is necessary to set limits determining the extent to which artificial intelligence can replace or permeate the human entity.

Rezime

Istraživači iz sfere društvenih nauka mogu svojim aktivnim angažmanom pokušati da interpretiraju ovaj fenomen u nastojanju da daju mnoštvo mogućih vizija budućnosti čovečanstva, da ukažu na prednosti, mane i opasnosti vezane za pristup modernoj tehnologiji, u čijoj je osnovi sve više veštačka inteligencija, kako se sa njom živi i kako ona utiče na formiranje novih sistema vrednosti i transformiše samog čoveka. Na neki način, AI se može smatrati, pogotovo iz vizure šire populacije i pojedinih naučnika, među njima i antropologa, mogućnošću da se ostvari utopijski san o objektivnosti rezultata i metoda u širem smislu, lišenih uticaja politike, ideologije i struktura moći. AI može poslužiti kao sredstvo za oslobađanje od kontrole političkih i ekonomskih centara moći. Takođe, prema pojedinim naučnicima, AI može obezbediti privatnost i postepeno dovesti do transformacije postojećih modela političkog i ekonomskog poretka. Razvoj AI svakako dovodi do transformacija ljudskog društva i pojedinca u njemu. One mogu biti brze, nepoželjne, a društvo ih nekad ne može ispratiti na adekvatan način. S druge strane, one mogu doprineti napretku u sferi nauke, zdravstva, školstva, ekonomskog i infrastrukturnog razvoja, pomoći u rešavanju populacionih kriza, omogućiti produženje i olakšanje ljudskog života i sl. S obzirom na mnoštvo mogućih scenarija kad je reč o pitanju kojim putem razvoj AI može povesti čovečanstvo, samo ostaje da vreme pokaže do kojeg odredišta će nas taj razvoj odvesti.

Ključne reči: veštačka inteligencija, antropologija, tehnologija, društvene nauke, transhumanizam, biopolitika, antropologija veštačke inteligencije, antropološke studije tehnologije

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