M. I. BOICHENKO[1*]

[1*]Taras Shevchenko National University of Kyiv (Kyiv, Ukraine), e-mail boychenko_m@univ.net.ua,
ORCID 0000-0003-1404-180X

Human Evolution: the Limits of Technocentrism

The purpose of this article is to define the limits of technocentrism through the analysis of the limiting opportunities of technique and technology from certain value positions. **Theoretical basis.** The philosophical anthropology of Helmut Plessner (the axiological direction in anthropology and neo-institutionalism) was the research methodology. **Originality.** The institutional use of technology gives it the character of a social phenomenon and turns it into technology. The ability of individuals, which is aimed at achieving a certain goal with the help of certain sustainable techniques, is not yet technology in itself but is only a certain author's technique. Such subjectively acquired technique can be turned into socially used technology, otherwise, it will be lost. Technology is a technique that has gained recognition and has been mastered by those who did not invent it but used the algorithm proposed by the inventor, a detailed and functionally sound explanation, a method of constructing this technique. But the main thing is that technology is a technique that has received an acceptable justification for society. **Conclusions.** Technology is not only a means of achieving the goal, it is a way for a human being to transform the world. As such, technology is a component of human himself/herself and changes human – more precisely, a human being changed himself/herself with the help of technologies that he/she creates. However, this creates certain limits of such transformations: technology cannot replace humans in their ability to self-reproduce. Technology is always an element of social communication: the success of communication is interdependent on the success of the technology. Social modernization includes new technologies, but a more important component of social modernization is the new values for which these new technologies are created. Human evolution generates the technocratism at a certain stage. But to the extent that technocracy begins to contradict the values of humans and society, it loses its source of development – human creativity.

Keywords: evolutionary anthropology; eccentricity of human nature; social modernization; dehumanization; technocracism; technology; values

Introduction

Technocracism appears as a strategy for solving all problems of humanity with the help of techniques and technologies, as well as the appropriate ideology that justifies and distributes this strategy in society. In one form or another, technocracism has existed for a long time, since technologies helped to win in the war, defend and take cities, as an example of Archimedes had shown. Victory in the wars contributed to the emerges of empires and civilizations of the winners. All civilizations arose thanks to technologies, although the successful introduction of technologies also required the emergence of new social institutions. American historian William McNeill (2011) convincingly demonstrated the relationship between them. The dependence of technologies from institutions and from the human genius was beyond dispute for almost the entire history of mankind, but the achievements initiated in the early modern period of social modernization had changed society and a person to an unknowable state. Already in the twentieth century, owing to the rapid development of science and technology, a new, opposite vision arose – from now on, a person and social institutions are being seen as subordinate to technology development. "It is largely by technology that contemporary society hangs together. It is hugely important not only as an economic force but also as a cultural force" (Franssen, Lokhorst, & Poel, 2018). Henceforth, more and more biological technologies determine the development of nature; social – the development of society; humanitarian aspire to master the

human development. Technocracism with the mindset of individual engineers and inventors of technologies turns into one of the mainstream ideologies in society and aspire to the status of a new picture of the world. Is it henceforth a person as a slave of the machine? Is technological progress a single and pacing factor of human evolution?

Purpose

The purpose of the article is to determine the limits of technocentrism due to the analysis of limitations in capabilities of technique and technologies from certain value positions.

Statement of basic materials

Humanistic and antihumanistic impact assessment of technologies

An axiological approach to techniques and technologies should be prioritized from the outset so as not to attract imperceptibly for oneself the assessment instead of rational arguments. Karl Jaspers (1986) at his time perceived the dual nature of technology: "Since the technique itself does not establish goals, it is on the other side of the good and evil or precedes them. It can serve for good or for evil. But in itself, it is neutral and opposed both. That is why it should be directed" (p. 137).

It is worthwhile to distinguish two oppositely corrected camps: techno-optimists and techno-skeptics (Vydra & Klievink, 2019; Wilson, 2017) or intend to be techno-positively and techno-negatively (Hanesova, Nelson, & Badley, 2017, p. 45). Some admit that the technique desires goodness, others – evil. At the same time, both camps can assume that a person remains a master above the technique, that is, techno-centrists. They can also consider a person to be critically dependent on contemporary technique.

American researcher Steven Pinker is one of the greatest techno-optimists, he is a world-famous ardent defender of the Enlightenment Project. According to Pinker (2019), the human mind retains control over the development of mankind as a whole, including the development of technology. Among explicit techno-optimists, there is also an Israeli scientist and a popularizer of the science Yuval Noah Harari (2016), who claims that a modern man has generally taken on the role of God. Humanity has always directed its technical capabilities for the inhumane goals in much the same way as for humane ones. After all, hunger, plague, and war are increasingly less spontaneous and are more the result of false or sinister intentions from individual representatives of humankind**.**

It is worth listening to the voice of techno-skeptics. One of their indirect signs is the naming of techno-optimists as techno-utopians (Kim, 2014). More recently, there are more and more such persons: from those who stand against the certain disadvantages of using technology as a means to achieve certain human goals (the vast majority of them (Hanesova, Nelson, & Badley, 2017)) and those who do not see a positive perspective in the development of contemporary technology. They oppose the entire directions, such as the unimpeded development of artificial intelligence (Hao, 2020), development of the GM crop industry (Raman, 2017; C. Zhang, Wohlhueter, & H. Zhang, 2016), etc. However, the identification of the next anti-humanist results in the usage of individual technologies can not serve as a radical denial against technologies as such. Obviously, such a denial could be in the spirit of an American thinker Henry David Thoreau (2020): it is worth renouncing civilization in general. However, with regard to the population on the planet Earth, to renounce civilization would mean the rapid death of most

of humanity. It is possible, however, to make a correction – provided that the technologies fundamentally change and become more friendly to nature, renouncement of civilization will be unnecessary. That is, technologies, but already fundamentally others may become salvation from technologies.

Techno-optimists and techno-skeptics always point out only a part of objective data, which is exactly beneficial for them. This is the first drawback of the value-engaged view on technology. The second drawback is that technologies, due to their prejudicial assessment, are starting to be considered less objectively than at least partial, but still objective data about them allow this.

Scientific view at technologies

Technology, at first glance, appears like something similar to the exoskeleton of mankind: it expands and strengthens the human opportunities provided by nature. It must be sad, recent scientific discoveries and related technologies, in particular deciphering a human genome, cloning, genetic modifications and other interferences in the functioning of DNA have shown that humans (owing to technologies) change themselves not only outwardly. Since the beginning of the person's evolution, technology was a part of his/her body and mind, or rather, the body and mind were internally technological. Over time, humans began to direct their technologies not on themselves, but outward. Technologies have always changed a human. Some manifestations of technology impact were more obvious and easily fixed, others became noticeable later. In the end, nobody can guarantee that we know all consequences of technologies impact on a human. After all, besides the planned and designed, intended by creators impacts of technologies on people and their environment, the unexpected and not observed (both the immediate results of technology effect and remote and indirect ones) always exist, those that will manifest themselves not soon or the impact of which are not always easy or it is impossible to evaluate them at all.

Thus, research of technologies is always the research of a person. Another thing is that technocraticism strives to fix the center of human nature in technologies, while this center is fundamentally impossible to fix on something, in particular and on technologies. Man is an eccentric creature, as defined by the German anthropologist Helmuth Plessner (2017). In addition, if we are talking about the displacement of this center, then it is associated to a greater extent with the spiritual characteristics of a person than material ones. Technologies act as a means of uniting and mutual conditioning of spiritual and material, so they are more likely to demonstrate the results of the dynamics of human development than its causes. In support of this statement, the fact that humankind often postpones the usage of those technologies for a long-term, to the discovery of which it has already come. This is due to the need to work out the spiritual and institutional framework for legitimation and organization in the application of technology.

Man as a middle link between technology and culture

The connection of technology with the cultural sphere is obvious. At the same time, it is difficult to find out where and how culture is affected by technology, and where the affected entity of culture is the technology itself. After all, the emergence of new technology, and even more importantly – its recognition and distribution as a socio-cultural phenomenon, occurs not randomly. Technology not so much suggests itself in the context of cultural formation, as it is itself actively creates this context, creates a culture, but with the active participation of a person, more precisely, in the communication of people regarding culture, in culture, for culture. It is not

a close and first task of technology, but it is its main strategic appointment (Malivskyi & Khmil, 2019). Earlier, Rene Descartes quite clearly saw the future for a person to change himself, according to the Ukrainian researcher Anatoliy Malivskyi (2020): "Descartes' refutation of scepticism appears in the form of concern for the creation of favourable conditions for human self-development, which implies a restrained attitude to the spheres of morality and religion" (p. 152). Descartes perceived a long-term perspective of the person's rationalist improvement, including the technical elements of such an improvement (suffice it to recall his experiments in the field of optics).

It is not necessary to understand technology too technically-narrowly. This leads to technocracism of thinking and culture, attempts to engineeringly comprehend the humanistic reality of public existence. On the other hand, it is no less dangerous to idealize technology too much, giving it an overly expanded humanitarian significance, when almost the entire culture is not so much the result of applying the technology stack, as it is directing technologies on randomly selected humanistic goals. It is between these Scylla and Charybdis, where the real significance of technology in society is located.

Furthermore, it is worth paying attention to the fact that most technologies are not the invention of "from nothing", but the human borrowing of schemes and techniques having been worked out in nature for millions of years of evolution. It can not be argued that these technologies are real, because they do not have their own creator. Also, it is not worth denying the fact that the natural mechanisms of adaptation (adaptation of species to the environment and their parallel accommodating conduct) can be technologized much easier than designed with pure human fantasy. The difference of natural prototechnologies from the created by a person is that a person consciously uses them as a tool, and, accordingly, can replace them with other tools. Simultaneously, animals and other living beings can not exist without "technology" inherent in this particular type. Admittedly, natural "technologies" are also the essence of concepts of ecosystems, symbiosis, food chain, circle of life. When a person includes into these technologies, they (technologies) from potential turns into actual ones, sometimes with the preservation of other species as their complicities of implementation. The success of Homo Sapiens depends on the success of other species. It is also not worth forgetting about it. Then one can avoid the most environmentally problematic consequences of using technology by humans.

As an idea, technology originates when a person begins to use some tools for the manufacture of others. Usually, this is called technique. Indeed, turning the objects of their environment to an instrument, a person narrows, specializes their usage. What could be used in many different ways, henceforth it can be used as the best exactly in a certain man-based manner. All other methods are revealed to be either completely impossible or less effective. The modern Austrian philosopher Hans-Dieter Bahr notes:

> However, only those opportunities that, as we already know, can be implemented in the process of usage are called technique. This means that the openness of the capabilities of technical means is concealed by the concept of means as a medium and center, through which the subject that establishes the purpose and implements the purpose mediates himself as

the beginning-center-end and, therefore, understands himself from the

very beginning as Master above technology. (Bahr, 2016, p. 16)

Another circumstance should be taken into account: in addition to the engineering limitations in the usage of things, there is also institutional constraint – prohibitions or recommendations, recipes and algorithms. The multiplicity of applying techniques is also limited by social institutions, which include it in technologies legitimated by societyciety. This is the second stage of narrowing: it can even more narrow the opportunities that the technique provides or change the corridor of the opportunities that the technique offers. In the latter case, it is necessary to return to the first, technical stage and clarification, if it is possible to provide value requests with technical means. Is it impossible in general or is partially possible. Technology may not arise or its use may be postponed until sufficient coordination between technical means (due to their development) and value requests are agreed.

When the technique is called individual mechanisms, devices, and other material objects created by a person as complex tools using to achieve a specific goal, it means the result of the embodiment of the technique-skill, the design on its basis. Without such a technique-skill, there will be no techniques as material objects, because the latter must be produced, maintained, repaired, and replaced by someone with other techniques. Particular techniques-skills with the development of civilization were complicated, combined and they formed the entire technical complexes. Explaining the principle of their functioning is called technology. However, the basis of the technology is not automation as the vertex of its perfection, but those social values that justify certain technique and convince people to see the technique as not enemy and competitor, but the friend and assistant.

Some researchers, in particular, representatives of communicative philosophy (the German philosopher Karl-Otto Apel and the Ukrainian philosopher Anatolii Yermolenko) believe that the values and institutions that embody these values are the ones that still need further legitimation by discourse: "Institutions themselves must be legitimized by a higher authority, which is the meta-institute of discourse" (Yermolenko, 2020, p. 115). However, firstly, discourse includes not only a rational but also irrational, for example, an emotional component. Secondly, not only the discourse may be the meta-institute, but other authorities. Institutes and values can be legitimated with tradition, public opinion, mainstream morality, a person's conscience, etc. The Austrian law theorist Reinhold Zippelius (2000) wrote about this in detail, when analyzed sources of regulatory value (pp. 28-48). However, it is no use denying the need for a certain meta-institute or the higher upon institutions source of their legitimation. In any case, this source will have anthropological, not technological nature.

People, not techniques create and set values on which the use of techniques is based. Technology appears as an important component of human culture, the manifestation of humanity in the world, as a way to domesticate the world by a person. Therefore, it is worth asserting not about the techno-centric essence of a person, but about the anthropocentric nature of technologies.

Originality

The creation of techniques, simple or complicated, is just the beginning, the birth of technology because technology becomes the social phenomenon only when it attains institutional

use and the nature of technology. As a skill, albeit is often applied, certain stable techniques and means of achieving a goal are not yet actually a technology, but only an author's technique that can be technologized, and can be lost, without passing to other people, including descendants. Only when the technique acquires the character of the algorithm that other people can take and adopt, it becomes technology for the first time. To do this, it is necessary to explain the technique, understand all its components, allocate the specific function of each of them, as well as the principle of mutual addition of these functions and their linkage into a single whole. It is necessary to be able to explain how this or that technique works and teach this technique to others. But the main thing is to give an excuse for a technique acceptable to a person.

Conclusions

Technology appears as a human path in the transformation of the world and, at the same time as a component of the person himself. Recent achievements in the field of technologies change not only the human environment but also people. However, this does not mean the transformation of a person to a cyborg, and social modernization – on technological revolutions. On the contrary, the success of technologies depends on their effective involvement as an element of social communication. Therefore, technologies appear only as one of the components of social modernization, and technocraticism – as a false interpretation in the essence of human evolution due to exaggeration of the significance of one of the means in achieving purely human goals. Technocracism is only one of the components of human evolution, and only at a certain stage of its formation. Technologies have always been important elements of human evolution. In the modern age, their role increased as the role of science in the implementation of social modernization increases. However, this role has never been, is not, and will not be the only and priority for social modernization.

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М. І. БОЙЧЕНКО[1*]

[1*]Київський національний університет імені Тараса Шевченка (Київ, Україна), ел. пошта boychenko_m@univ.net.ua, ORCID 0000-0003-1404-180X

Еволюція людини: межі технократизму

Мета. Визначити межі техноцентризму завдяки аналізу обмеження можливостей техніки і технологій з певних ціннісних позицій. **Теоретичний базис.** Методологію дослідження визначили: філософська антропологія Гельмута Плеснера, аксіологічний напрям в антропології та неоінституціоналізм. **Наукова новизна.** Інституційне використання техніки надає їй характеру соціального феномену і перетворює на технологію. Уміння окремих індивідів, яке спрямоване на досягнення мети за допомогою деяких сталих прийомів, ще не є власне технологією, а лише певною авторською технікою. Таку суб'єктивно набуту техніку можна перетворити на соціально використовувану технологію, інакше її буде втрачено. Технологія – це техніка, яка набула визнання та яку опанували ті, хто її не винаходив, але використовував запропонований винахідником алгоритм, розгорнуте і функціонально обґрунтоване пояснення, спосіб конструювання цієї техніки. Однак, головним є те, що технологія – це техніка, яка отримала прийнятне для суспільства виправдання. **Висновки.** Технологія є не лише засобом досягнення мети, вона – шлях людини у перетворенні світу. В такій якості технологія є складовою самої людини й змінює людину – точніше людина змінює себе за допомогою технологій, які сама розробляє. Однак, це створює певні межі для таких перетворень: технологія не може підміняти людину у її здатності до самовідтворення. Технології завжди є елементом соціальної комунікації: успіх комунікації є залежним від успіху технології. Соціальна модернізація містить у собі нові технології. Більш важливою складовою соціальної модернізації є нові цінності, заради яких і створюють нові технології. Еволюція людини породжує на певному етапі технократизм. Однак, коли технократія починає суперечити цінностям людини і суспільства, вона втрачає своє джерело розвитку – людську творчість.

Ключові слова: еволюційна антропологія; ексцентричність людської природи; соціальна модернізація; дегуманізація; технократизм; технологія; цінності