

## CYBORG AS A RESULT THE PROCESS OF HUMAN EVOLUTION

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*Submitted 2014, June 10*

**Abstract.** The article provided a philosophical analysis of the problem of existence and change human nature in the unfolding era of scientific and technological progress. It is believed that instead of human biological evolution, which has come to its limit, comes the technological evolution of man, and in which further changes occur. It is noted that at the moment a person is immersed in a virtual reality, loses the qualities that make him a man, and rolled down to the level of information technology gadget. Transformation of human cyborg future prospect is initiated nanotechnology. Emphasizes the danger of the processes, as they are able to destroy existing structures in existence, which are fragile and vulnerable to deformations and transformations of various kinds. The conclusion is that a person must keep his balance and not lose harmony with the world, turn to genuine way of being, it is supposed to appeal to higher spiritual values.

**Keywords:** nanotechnology; posthuman; virtual reality; gadget; cyborg; human technoevolution

### INTRODUCTION

Main peculiarity of modern attempts to change human corporeality from those committed previously, is that the current technology is really reached a level of development that is able to modify the actual person. So, today part of the population is a synthetic prostheses and implants: pacemakers, heart valves, knee joints, hip prostheses, etc. The rapid development of science generates new technological possibilities of transformation of biological organization of the human body. The next step in this direction would be a radical transformation of the person. Already outlines the prospect that the second half of the twenty-first century is quite commonplace for people to become more rapid acquisition feet ultrasound hearing ears, seeing eye radio and other artificial organs. This situation can be described as output per person per its own limits. There is every reason to believe that human evolution is entering a new phase related to its biological transformation by high technology.

#### 1. THE IDEA OF «IMPROVING» THE HUMAN BODY AND MIND IN PHILOSOPHY

If we look at the history of the human spirit searching for enlargement their limits, we can see that this topic has always troubled mankind. Human desire to overcome their physical and mental limitations, improve your body and mind are still present in the pre-scientific mythological worldview. Person-limited contrasted mythological hero (man-

infinite), endowed with special qualities and is able to break the physical laws of this world. The basis of the religious worldview is the idea that after death the soul, finding a new form of disembodied existence in another unreal world, bliss or suffering, received the reward for their deeds.

Renaissance characterized as the era of creative freedom and bold daring man, the era of new talented people, sought to God equality of human creativity. Thus, G. Pico della Mirandola one of the first in the European philosophical tradition expresses the idea of infinitely human nature. If the essence of all living beings, according to G. Pico della Mirandola, have their own nature, is responsible for their actions (the dog is the essence of a dog, a lion shows the essence of the lion), then the person is essentially a kind of «chameleon» that can manifest as angels, and demonic form. Man finds its essence in action, and it appears as an incomplete implementation of features such as self-adventure. Revealing the nature of man, his nature, it is appropriate to bring the metaphor is not «closed vessel» and «open door», further leading to another open door, again inviting on a long journey. To gain its essence a person must go through a number of routes to actualize its enormous range of possibilities, in which both represented as sublime and lowly. Because of this, a person has the opportunity to rise to the stars and angels, and so there is a risk of falling to the animal state. But what will be the place of man in the hierarchy of entities defined by themselves, their free and responsible choice [1].

Enlightenment marked the pathos of scientific and technological transformation of the world. Subject to improve the human body and its consciousness becomes instrumental, technocratic and scientific motives.

In the late nineteenth century in his theory of the founder of the philosophy of technology E. Kapp carries scale extrapolation of the human body to the outside world. Culture as a whole and technology, in particular, it is seen as an extension of the human body and mechanical imitation of his various organs: « All means of culture, whether they will be roughly the thinnest material or construction, are nothing more than a projection of human organs» [2, p. 24]. E. Kapp comes from anthropological criterion actually proclaiming human center of the universe, the starting point and ultimate goal of all achievements.

In the early twentieth century in the works of Russian cosmists (Vernadsky Kuprevich, Chizhevsky, Fyodorov, Tsiolkovsky) universe and man appear within a single system, evolving in space, which is subordinated to the common universal principles. Put forward the idea of active human evolution: a person must transform not only the external world, but also his own nature. Attracts special attention work «Philosophy of common cause» Fedorov. All his work is permeated with faith in the power of science and reason, in man's creative powers. Thinker has no doubt that science will reach a level of development when humanity will learn to collect the scattered molecules and atoms to «put them in the body of the fathers», overcome illness and achieve immortality [3].

In the late twentieth early twenty-first centuries topic tehnotransformatsii man finds design in the philosophical systems of transhumanists (Bolonkin, Vishev, Moravec, Reynolds, Fukuyama, Ettinger). In transhumanism improvement of the human body through the use of technological methods, going beyond the usual limits of human existence become targets. In transhumanist concepts approved by the idea that as a result of scientific and technological revolution to replace the man come postchelovek (man-modified), which will have a fundamentally new abilities. Among the means of becoming a posthuman mentioned: nanotechnology, genetic engineering, artificial intelligence, medicine for mood changes and memory enhancement, anti-aging therapy, embedded computing devices.

## 2.2. GADGETS INFORMATION TECHNOLOGY

However, the transformation of man into a cyborg is a perspective view of the future. Consider changes associated with the technical development

of civilization, already taking place in society. Unfolding processes of informatization and computerization changed socio-cultural reality, significantly affected the area of scientific knowledge, in particular, initiated introduction of the concept «virtual reality» in science and its general use in scientific discourse. Currently, a virtual component is already inscribed in a single scientific picture of the world [4]. Virtual reality is formed as a procedural interaction between humans and artificially created some technical means its environment [5]. Scope phenomena, termed the virtual reality finds its total distribution: the number of people keen on the virtual world, already in the millions. Deserves close attention and careful philosophical understanding of scientific work J. Lanier «You Are Not a Gadget», released in light of three years ago. This event is very significant, because it belongs to J. Lanier coining the term «virtual reality» (virtual reality), it is considered to be perhaps the main promoter of computer technology, producing virtual reality [6].

In addition, J. Lanier presents his vision of the noosphere idea, the concept of «noosphere», which is interpreted as a collective consciousness, to link the users on the Internet, he suggests about «computing clouds», a large amount of computational resources available on the web and located in computer power elite. One consequence of this is that the information cloud substantially change the financial market, the commercial success of projects is not due to their actual content is often provided to deceive people and manipulation of information clouds.

J. Lanier reveals processes of depersonalization spiritual person in the virtual world. If we continue to move forward without making any radical changes, society will come to an end. The origins of the problem, according to J. Lanier, come from laboratories to create artificial intelligence, it is there expressed dogma, which later finds its spread further: «All of reality, including humans, is one big information system [6, p. 21]. Human life in this context is defined and given meaning, it is ordained mission to ensure the functioning of all higher "levels of description" of the system (function at ever-higher «levels of description). Levels of description are marked clearly. For example, you can give a simplified diagram: Description of one letter lower than the level of description of a web page. Further, the human brain is a higher level of description than a web page. It is now heard the opinion that the network is a higher level of description than the human brain. In this scheme, a person does not take any special provisions. Further development of the technology will lead to greater complexity and in-

formational content web, but a man will be assigned the role of information technology gadget.

### 2.3. CYBORGS NANOTECHNOLOGY

In recent years, the immense scale acquire development related to nanotechnology. Nanotechnology is currently one of the most important and priority areas of modern science. In scientific discussions nanotechnology are considered as the basis of a new technological revolution that will lead to fundamental changes in all spheres of society, a change in its quality of life and, as a consequence, the social aspects. Although for most people the term «nanotechnology» is an abstraction, but today nanotechnology becoming key orientation of science and technology.

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Study nanoscale phenomena of recent years have proved their value and appeal. In fact, the basic principles of nanotechnology research assume the character of an interdisciplinary methodology, the main application area where physics, chemistry, biology. Establishment of a new paradigm in science, technology and engineering, the development of defined nanokontseptsii raises human subjects tehnotransformatsii at an unprecedented level. We can say that now unfolds nanotechnology boom, there are specific areas of scientific and practical research as nanobiology and nanomedicine.

In nanobiotechnology research programs involved a growing number of scientists. So, one of its destinations is to create special molecular devices for the detection of certain substances present in the human body to detect specific nucleotide sequences, indicating a change in the genetic material of cells and mutations and body. Practical tasks Nanomedicine is the application of high technology for the treatment of human and rejuvenation. Experimental studies in this area are associated with the use of nano-sized particles, which in human blood can pass to any body even under the most narrow capillaries. Known for the development of: a robot repairman mechanical «surgeon» in the circulatory system, «assembly» – a device to repair living organisms. Currently, research is underway to create microdevices are capable of functioning

within the body. It can be expected that the yield on a commercial biotechnology market for new systems that enhance human abilities to happen in the foreseeable time for us.

Affirms the thesis that replaces human biological evolution, which has come to its limit, comes the technological evolution of man, in which further changes occur in the human side of his transformation into a cybernetic organism. As a result of these transformations person receives a cybernetic body. It is worth emphasizing that it will not have anything to do with the awkward robot body, stuffed with wires, buttons and rosettes. Scientific studies in recent years show that much more effective and easier to «grow» human organs in the laboratory than to invent and create their mechanical counterparts. People acquire living, biological and heavy-duty bodies, will also experience the fullness of all the senses and emotions. Ideally, such a body would not be subject to aging, his physical abilities will also be commensurate with human features. Intelligence and memory postchelovek be many times the human by its parameters. As a cybernetic organism is to some extent a result of the application of certain technologies, then it will have specifications.

### 2.4. EFFECTS OF CHANGES IN THE NATURE OF MAN AND BEING THE NEWEST TECHNOLOGIES

The main problem is that the person does not have time to adapt to change. Science and technology are developed in a very short time so fast that a person does not even have time for a rational understanding of what is happening. New technologies can lead to quite unexpected results. When introducing technological innovations in the first place are economic efficiency, social risks and the possible ethical implications of such introductions almost nobody miscalculate. On many social and ethical implications of people do not even realize. Technological innovations are always presented first person as a «thing in itself», but also predictability horizon recedes as their complications. Possible scenario, when a group of posthuman, having the opportunity to transform their mental and physical abilities, acquire dominion over those who upgrade to this will not be enough funds.

Risk of ongoing processes of transformation of life for each person is that they are able to destroy his existing structure of human existence, many of which are inherently fragile and vulnerable to various kinds of deformations. New technologies have a huge impact on a person, but even experiencing transformation of his life, a man must keep his balance and not lose harmony with the world.

### 3. CONCLUSION

Modern technology has reached a level of development that is able to modify the actual person.

Radical idea to «improve» the functioning of the human body and consciousness present in the culture at all times and found its ultimate design in transhumanist concepts.

Unfolding process of informatization and computerization has changed the socio-cultural reality. There are fears that the situation in the further development of technology users already experiencing abnormal cravings for unhealthy virtual world will be satisfied with the role of information technology gadget.

Nanotechnologies developed to replace human biological evolution, technological evolution of man comes, in which further changes occur in the human side of his transformation into a cybernetic organism.

New technologies can lead to quite unexpected results. Possible negative social consequences of the technological evolution of man.

Man must maintain balance and not lose harmony with the world in the unfolding of scientific and technical progress.

### REFERENCES

1. **Пико делла Мирандола Дж.** Речь о достоинстве человека / Пер. с лат. Л. М. Брагиной // История эстетики. Памятники мировой эстетической мысли. В 5 тт. Т. 1. М., 1962. С. 506–514. [ J. Pico della Mirandola, "It's about human dignity" in *Istoriya estetiki. Pamyatniki mirovoy esteticheskoy mysli*. Moscow, 1962, vol. 1, pp. 506-514. ]
2. **Капп Э.** Происхождение орудия [Электрон. ресурс] URL: <http://www.philsci.univ.kiev.ua/biblio/Kapp/index.html> (дата обращения: 05.04.2014). [ E. Kapp, *The origin of the instrument* [Online] Available: <http://www.philsci.univ.kiev.ua/biblio/Kapp/index.html> ]
3. **Федоров Н. Ф.** Философия общего дела. М., 2008. 752 с. [ N. F. Fedorov, *Philosophy of the common cause*. Moscow, 2008. ]
4. **Кудряшев А. Ф., Елхова О. И.** Общенаучная картина мира: старое в новом одеянии // Вестник Башкирского государственного университета. 2013, Т. 18, № 4. С. 1255–1259. [ A. F. Kudryashev, O. I. Elkhova, "General scientific picture of the world: the old in a new garb" in *Vestnik of Bashkir State University*, vol. 18, no. 4, pp. 1255-1259, 2013. ]
5. **Елхова О. И.** Онтологическое содержание виртуальной реальности: дис. ... д-ра филос. наук. Уфа, 2011. 330 с. [ O. I. Elkhova, *Ontological content of virtual reality*: Dr. philos. sci. dissertation. Ufa, 2011. ]
6. **Lanier J.** *You Are Not a Gadget*. N. Y.: Alfred A. Knopf, 2010. 209 p.

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### МЕТАДАННЫЕ

**Название:** Киборг как результат технологической эволюции человека.

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**Источник:** Вестник УГАТУ. 2014. Т. 18, № 5 (66). С. 118–121, ISSN 2225-2789 (Online), ISSN 1992-6502 (Print).

**Аннотация:** В статье осуществляется философский анализ проблемы изменения бытия и природы человека в эпоху разворачивающегося научно-технического прогресса. Полагается, что на смену биологической эволюции человека, которая подошла к своему пределу, приходит технологическая эволюция человека, в рамках которой и происходят дальнейшие изменения. Отмечается, что в настоящее время человек, погруженный в виртуальную реальность, уже теряет те качества, которые и делают его человеком, и скатывается до уровня гаджета информационных технологий. Трансформация человека в киборга является перспективой будущего, инициированного нанотехнологиями. Подчеркивается опасность происходящих процессов, поскольку они способны разрушить уже имеющиеся у структуры бытия, которые хрупки и уязвимы перед деформациями и трансформациями различного рода. Делается вывод, что человек должен сохранить равновесие и не потерять гармонию с миром, обратиться к подлинному способу бытия, предполагающему обращение к высшим духовным ценностям.

**Ключевые слова:** нанотехнологии; постчеловек; виртуальная реальность; гаджет; киборг; техноэволюция человека.

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