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RISK MANAGEMENT CONCEPT: PREDICTIVE ASSESSMENT IN TRANSHUMANISTIC SPACE

Abstract

At the present stage of realizing the transhumanistic concept, its reflection in various fields of scientific knowledge should be considered, considering the possible risks formed by the transhumanistic space. This concept provokes interest both for its direction and its contradictions. The article considers alternative concepts and tools different from transhumanism in their moral and ethical directionality and based on responsible decisions that take this aspect into account. The concept of risk management is presented based on the diagnostics of orienting indicators that outline the transhumanistic space according to the indicated risk zones. The diagnostic analysis is based on a predictive assessment of the development of the situation, which is formed as a result of using innovative technologies/biotechnologies from the point of transhumanism. Several exact directions for the assessment's development of the situation developing in the transhumanistic space are identified, conceptual decisions that develop such assessment are presented, and the interconnection between the blocks of the methodology for modelling future decisions to respond to emerging challenges of transhumanism is given.

Keywords: biotechnologies, bioethics, risk zone, concept, modelling, uncertainty, transhumanism, human nature, Russian cosmism, ethical principles.

Introduction

The study of the XXI century cultural flow has one big drawback: the Internet suggests a sea of information, and the spreading of data is such that it seems impossible to organize the data so that a complete picture adequately reflects the issue studies. Transhumanism is a cultural movement in a continuous flow and changes subject to global society fluctuations. At first sight, Transhumanism stands for using technologies to improve and overcome human nature (Monterde Ferrando, 2021a). On the other hand, there is the uncertainty of both ethical and political nature when using innovative technologies/biotechnologies, which require a long discussion in society. It is being created a powerful science that

contributes to the development of such technologies, a significant part of which is developed by private companies with private financing, which lets avoiding public control. The researched problem is that it is necessary to search for tools that allow managing science and technologies. Considering the social and political consequences of the changes that are declared by transhumanism supporters, it is necessary to focus on the process of forming various kinds of risks in the transhumanistic space, the predictive assessment of which will allow to remain within acceptable limits. This provides an opportunity to make responsible and proactive decisions to prevent the development of a situation which may lead to irreversible consequences.

Transhumanism: Modern Trajectory

Science is progressing exponentially with great acceleration. Progress is change, but not every change is associated with progress. The most pointed issue is the possibility of using progressive, innovative technologies to change human biological nature. Possible prospects for applying modern technologies to humans and understanding the role of technological innovations in the modern world are proposed by some scientists to be considered within the framework of transhumanism (Sandberg, 2012).

In modernity, human nature is reduced to empirically observable qualities, the human-machine, and humans' biological and mechanistic vision. It can be said that transhumanism is a new scene of old dispute (Postigo Solana, 2018), and posthumanism is nothing more than a return to the idea of a man-machine in a modern scientific and technical way.

According to M. More (1990), recognizing and anticipating radical changes in nature and the possibilities of life resulting from the development of science and technology make transhumanism different from humanism. Thus, transhumanism is considered an attempt to change people significantly by directly applying innovative technologies (Diéguez, 2017).

Antonio Diéguez, Doctor in Philosophy, professor at the University of Malaga, identifies two types of transhumanism adherents: moderate and radical. A moderate transhumanist is satisfied with gradual improvements that increase a person's intelligence, strength, life expectancy, etc. This is a so-called humanist who has not lost faith in progress and admits the opportunity that such improvements may eventually lead to the emergence of a new species. The radical transhumanist believes that the human era is coming to an end, and it makes no sense to prolong it. The radical transhumanist advocates the destruction of material, environmental and cultural conditions that hinder long-term existence. For this reason, adherents of radical transhumanism believe that quick disposal of the biological body

and the integration of human consciousness with a machine/computer are required (Diéguez, 2021). Both have the same direction of movement, but their amplitude is different.

Transhumanism carries the threat of alienating people from each other and their kind. Neural networks are algorithms that work independently of the used equipment, whether they are based on organic carbon units – like the human – or on inorganic silicon units – as a computer/cyborg. There will be different ways to get superintelligence. Among other things, as a result of the technical impact, a person may be used as a raw material to produce a superhuman. This kind of improvement requires a reassessment of all human values, especially those related to the protection of human dignity (Monterde Ferrando, 2021b). At the same time, intelligence is “should be”, and consciousness is “may be”. If a transition to a data-driven worldview occurs, and the power of people moves to algorithms, a person may lose their only trait, and the humanistic goals of health and happiness will be lost (Jordan, 2021).

Alternative Tools and Concepts for Transhumanism

As an alternative to the transhumanistic concept, the concept of Russian cosmism can be considered, which, even in the most utopian ideas of N. F. Fedorov, is associated with mandatory spiritual and moral evolution. There is no spiritual principle or morality for consciousness on an electronic device. In essence, there is nothing human. A person's consciousness cannot be reduced to a written text or an electronic device.

A. Florensky explained the connection of knowledge with the memory of an experience in the changeable, sensual world by translating the Greek word “*αλεθεια*” (truth) as ‘the eternal memory of some Consciousness’. He believed that there is an ‘ideal kinship’ between the world and humans, their penetration into each other, and the interconnection. He relates the world and humans as macro- and microcosm, which is the

image and likeness of the Universe and carries everything in the world. Both the world and humans are equally complex and internally endless, so they can be considered parts of each other. The world is a biologically universal human body, a disclosure of a person, their projection. This is the essence of Florensky's cosmic-anthropological dualism. According to Florensky (1990), dualism can be overcome only in the Church, where the final result is the salvation of the whole world through the salvation of humans with the power of Christ and His Spirit. Salvation eliminates the conflict between humans and the world: that is the 'cosmic side of Christianity'.

Scientifically based evolutionary hypotheses are presented in the scientific direction of Russian cosmism. V. I. Vernadsky, who identified the process of evolutionary improvement of the nervous system and brain as one of the most critical empirical generalizations of science, believed that the human of the future would have more perfect both cognitive abilities and morality: he associated the stage of the noosphere with the spiritual and moral improvement of humanity. In Vernadsky's scientific worldview, life in space is primordial: it is the third principle, along with matter and energy. According to him, the biosphere is turning into a noosphere, which is created, first of all, by the growth of science, scientific understanding and, based on these, the social work of humanity. In addition, he emphasizes the inextricable connection of creating the noosphere with the growth of scientific thought, which is the first necessary prerequisite for this creation. Vernadsky defined the noosphere as the biosphere reworked by scientific thought. He believed that processes being prepared for many billions of years are not transient and cannot stop. It follows that the biosphere will inevitably pass into the noosphere. He also notes the destruction of previously obtained scientific achievements, which can be observed as a distinct 'regression' that captured large territories and physically destroyed entire civilizations –

with no inevitable reasons for this. Vernadsky talks about ideals going back in time and the emergence of a 'new' morality. He proves the need to save Christian morality, which was the basis of state morality in Christian countries (Vernadsky, 2003, 2017).

We talk about the importance of humanitarian expertise in scientific and technological projects, humanistic values and societal attitudes in an era of rapid high-tech development. The philosophy of Russian cosmism with the scale of problems' vision, based on the ideas of the cosmicity of life and the 'heart' as a particular psychophysical centre of a person, can contribute to solving the problem of high touching with innovative technologies.

The vast possibilities of the future human organism - the victory over space and time - were foreseen and understood differently by the Russian cosmists A. V. Sukhovo-Kobylin, N. K. and E. I. Roerich, etc. That is why the question about the eternal ethical analysis of human activity – the moral dimension, which is an integral part of human nature, is so important. Human actions can have unforeseen consequences and must be seriously evaluated before implementation. Institutions should be created that will be responsible for the results. This implies the possibility of effective control over the innovative technologies used: two extremes - complete permissiveness and complete prohibition - are equally undesirable (Diéguez, 2020).

Therefore, it is necessary to start from the essence of ethical actions for all technological interventions in the human body and act on the principle 'first, do no harm'. Prudential thinking, precaution, respect for the integrity and life of people, their dignity and freedom, justice and the common good should form responsibility to future generations for various kinds of technological interventions, and not only to the people who were subjected to them. In this regard, the authors propose a concept of risk management that may emerge due to implementing the concept of transhumanism.

Transhumanism Risk Management Concept

Innovative technologies and their influence will form the risk space of always existing danger of making an inadequate decision regarding their practical use. If we model the 'negative' results using risk-based parameters, this will allow us to outline the threat field, which is a manifestation of various challenges (anthropological, legal, technological, etc.) in the transhumanistic space. Forming the boundaries of the risk space, we should talk about risk zones. The maximum possible losses in each of the risk zones when using innovative technologies will be characterized by the following (Vorontsova, Arakelyan, & Baranov, 2020):

- risk-free zone - a safe intervention in the human body, acceptable from an ethical point of view;
- acceptable risk zone - use of innovative technologies with extended spectrum (while control in this area is reduced);
- critical risk zone - implementation of innovative technologies without taking into account the consequences of their use, what creates a threat to the vital activity of living organisms;
- catastrophic risk zone - global catastrophe, the consequence of which may be the destruction of civilization and man as a species.

It is also reasonable to talk about a transdisciplinary approach to assessing the hidden risks behind the use of technological bio innovations while implementing the concept of transhumanism and the tools corresponding to this approach that influence these risks level (Postigo Solana & Vorontsova, 2019). One of these tools is bioethics (Vásquez Del Aguila & Postigo Solana, 2015), whose impact on the risk level related to biotechnologies is limited to an acceptable risk zone. Also, actions related to the transformation of a person must be evaluated from the perspective of their impact on upcoming events, realizing the consequences that they entail in the long term.

The boundary between the zones of acceptable and critical risks is very slight, and it is erased at all with a transhumanistic approach. That is why it is essential to follow moral and ethical principles when using and especially when implementing innovative technologies (Ortega y Gasset, 2004). However, a person who is not guided by Christian values can consider the moral aspect in different ways: what society does not accept today will be accepted tomorrow; it is only necessary to present a 'reasonable' explanation (open a discussion on this issue) and fix in people's minds that this is normal while focusing on the advantages of the innovative technologies used.

Nick Bostrom (2014), in his book 'Superintelligence: Paths, Dangers, Strategies' writes about the risks of superintelligent machines' emergence as the last problem that humanity has ever faced – the risks involved are enormous, and it is necessary to be very serious to security issues: "The AI pioneers, for the most part, did not countenance the possibility that their enterprise might involve risk. They gave no lip service - let alone serious thought - to any safety concern or ethical qualm related to creating artificial minds and potential computer overlords: a lacuna that astonishes even against the background of the era's not-so-impressive standards of critical technology assessment" (p. 5).

This process requires serious assessment, especially in the uncontrolled use of biotechnologies at the experimental stage. There are also objections to using biotechnologies for the human existence radical transformation, to which the extreme sector of transhumanism is aimed, and it does not care about the consequences of such interference. Therefore, it is important to use effective tools that allow, firstly, to determine the boundaries of each risk zone clearly and secondly, to identify existing tools that will allow predictive analysis within each zone.

The need to overcome the difficulties caused by transhumanistic risks became a reason for forming actual directions to develop the assess

ment of the situation in the transhumanistic space (Table). The authors formulated the most significant conceptual decisions within the framework of the indicated directions. These decisions are presented as a tree graph which simultaneously reflects their structure and the logical sequence of development (Fig. 1).

Conceptual decisions in the area of developing the assessment of the situation in the transhumanistic space represent, as a whole, a new vector of development of the theory and practice of transhumanistic risk management. The tips of

the main branches of the conceptual decisions tree graph form the formulated tasks in this area:

1. specifying and describing the possibilities, boundaries and criteria for the expediency of applying different approaches to assessing the situation;
2. developing the assessment methodology;
3. developing the concept and principles of assessment based on the diagnostics of the situation developing in the transhumanistic space, according to specified risk zones.

Table. Actual Directions to Develop the Assessment of the Situation in the Transhumanistic Space (compiled by authors)

Criteria	Directions to develop the assessment
Instability	1. Increasing speed and timeliness of the assessment. 2. The transition to prospective assessment; to identifying trends that make it possible to develop preventive measures.
Uncertainty, risk	3. Systematization of risk factors assessment. 4. Achieving the timeliness of risk factors assessment.
The explosive growth of information	3. Increasing the accessibility of assessment for perception in theoretical and methodological terms. 4. Increasing the representativeness of the information used, achieving the necessary and sufficient volume. 5. Rationalizing the information used in the assessment.
Increasing the importance of the social factor	6. Achieving the versatility of assessment by referring to information characterized by both quantitative and qualitative indicators.
Building the capacity of modern IT tools and solutions	7. Applying new information technologies (including highly efficient expert systems) in the assessment.

Diagnostics is the process of operational investigation of the condition and development of the situation in order to identify the distinguishing features; of a set of events and factors that most characterize the relevant risk zone for the most accurate specifying its boundaries. Consid-

ering this aspect, it will be possible to calculate the time lag for taking proactive measures to avoid falling into the critical risk zone and, even more, into the catastrophic risk zone, the exit of which will be in the practice of solving the tasks from the 'theory of catastrophes'.

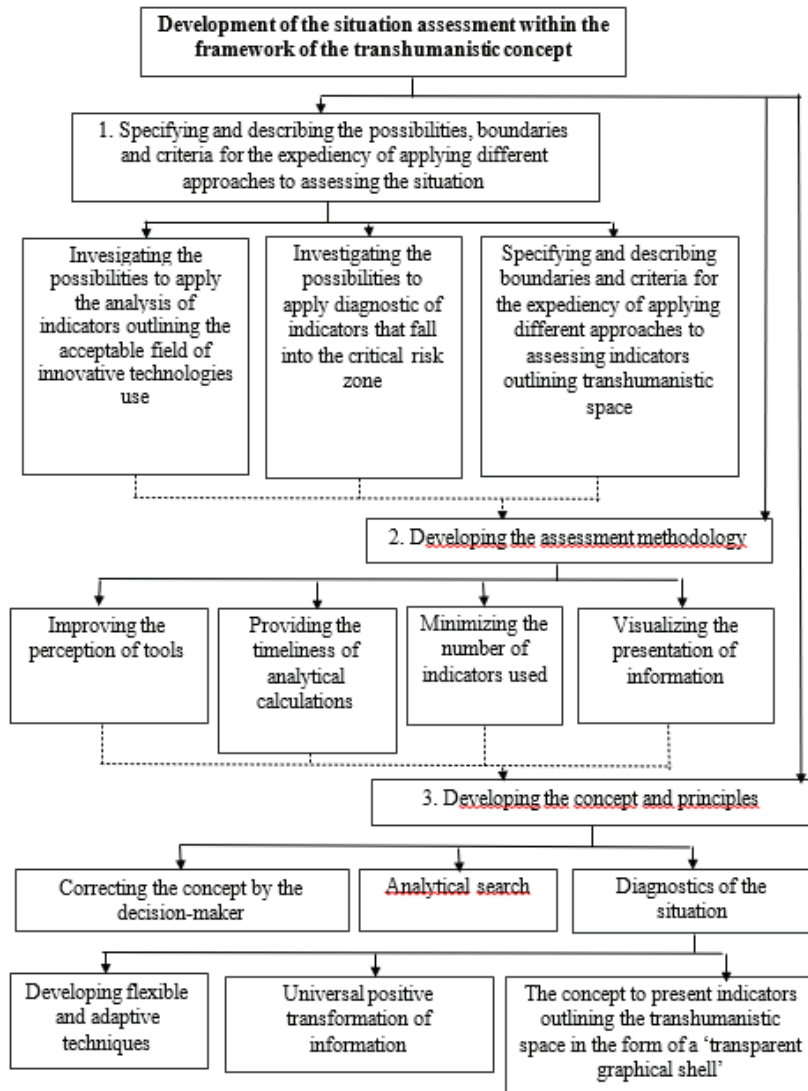


Figure 1. The Tree Graph of Conceptual Decisions that Develop the Assessment of the Situation in the Transhumanistic Space (compiled by authors).

The developed concept must meet the following requirements:

1. Objectivity and sufficient completeness of the study.
2. Accuracy and necessary reliability of the information used.
3. Flexibility and adaptability of diagnostics.
4. Accessibility of diagnostic tools for perception and understanding by decision makers.
5. Minimum resource costs.
6. Timeliness of the results obtained.
7. The possibility of iterative adjustment of algorithms for realizing diagnostic procedures of

indicators characterizing the transhumanistic space (by risk zones).

Next, it is supposed to determine the composition of the diagnosed indicators, which will be included in the developed methodology, presented in this study in the form of blocks (modules):

1. Identifying key (orienting) indicators, the value of which will characterize the relevant risk zone.
2. Clarifying the orienting indicators used in diagnostics of the situation developing in the transhumanistic space.
3. Diagnostic calculations of the risk level of the

- situation developing in the transhumanistic space. The content of this block investigates the values of the selected orienting indicators, including in dynamics.
4. Modelling.
 5. Specifying, assessing and modelling risk factors.
 6. Visual representing intermediate and final

results.

7. Improving methodological provisions based on the experience of using the diagnostic system in risk management practice.

The scheme of the interconnections between these blocks in the diagnostic process is presented in Fig. 2.

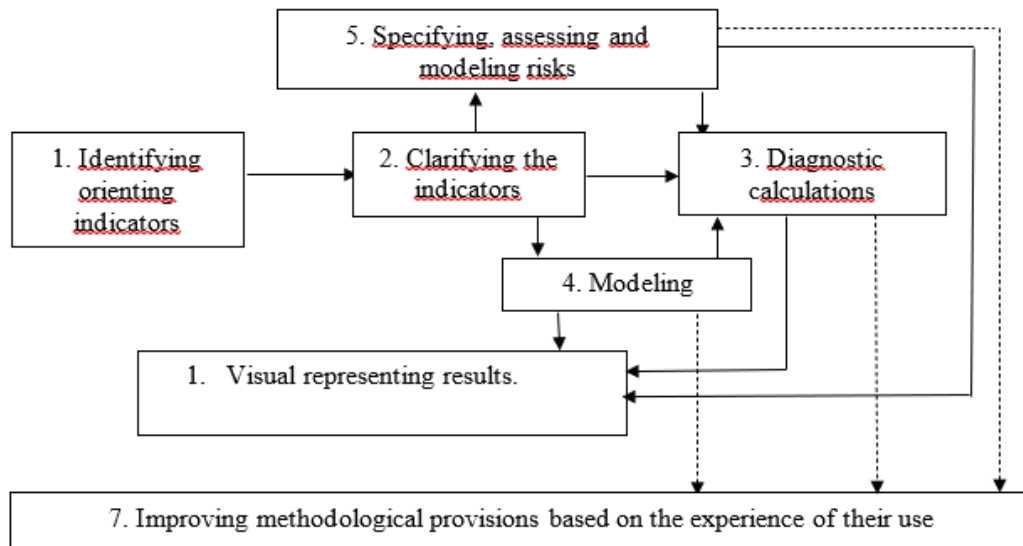


Figure 2. The Interconnections between Blocks in the Methodology of Risks Diagnostic in the Transhumanistic Space (by Zones) (compiled by authors).

Analytical and diagnostic search allows to develop and select the most favourable alternatives for the situation development forming in the transhumanistic space. The authors recommend using the situation tension indicator (1), which characterizes the value and number of possible refusals (starting from the experimental level) by risk zones. This indicator is necessary to monitor deviations in the values of orienting indicators used:

$$S_t = \sum_{k=1}^M |I_k - I_k^{stand}| / I_k^{stand}, \quad (1)$$

where S_t – the tension of the situation at t – moment;

I_k^{stand} и I_k – respectively, normative and actual values of orienting indicator of the k - the name, $k=1, \dots, M$; $k \in K_t$;

K_t - the field of orienting indicators characterizing the situation at t – moment.

Improving the efficiency of operational management is provided by minimizing the tension (2) per unit of the selected time interval of investigating:

$$S_t / \Delta t \rightarrow \min, \quad (2)$$

Where Δt – the time interval of investigating the situation, forecasted both at the tactical and strategic level.

The formulated concept and analytical and diagnostic searches are the basis for further development of scientific and methodological provisions and practical recommendations for diagnosing the situation developing in the transhumanistic space (for each risk zone).

Discussion

The scientific novelty of the authors' research consists in the formation of the management concept of risks that emerge in implementing the transhumanistic idea. The concept is based on a predictive assessment of the development of the situation, which is formed as a result of using innovative technologies/biotechnologies from the point of transhumanism.

The authors identified several actual directions for the development of the assessment of the situation forming in the transhumanistic space; the tree graph of conceptual decisions that develop this assessment is presented, and the interconnection between blocks of risk diagnostics methodology for modelling future decisions in order to respond to emerging challenges of transhumanism is given.

Conclusion

Substituting the natural with the technical, transhumanism does not give a complete picture of the world, a synthesis of scientific knowledge and religious and moral insights. Any attempt to reduce a person's abilities to narrowly cognitive ones puts a person below artificial intelligence. For many representatives of Russian cosmism, technology is no more than a temporary crutch, no more than a temporary transfer of their potential to external, artificial assistants. Russian cosmism is a modern direction of philosophy that welcomes scientific and technological development but does not reject the traditional experience of accumulating spiritual knowledge. This direction synthesizes scientific, religious, philosophical and artistic knowledge, paying particular attention to the moral and ethical aspects of their application.

It should not be too optimistic about modern technology, even if it has great potential. Instead of the prospect of achieving immortality, which remains an impossible and dangerous dream for people, it is necessary to set realistic and balanced goals. It is necessary to focus on responsi-

ble decisions that consider the moral aspect and be careful of the opportunities provided by new technologies and the risks associated with implementing these technologies, thus taking care of future generations. Moving in this direction, it is possible to save human nature from doubtful attempts of improvement and, at the same time, to prolong the life of a person filled with deep meaning.

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References

- Bostrom, N. (2014). *Superintelligence: Paths, dangers, strategies*. Oxford: Oxford University Press.
- Diéguez, A. (2017). *Transhumanismo. La búsqueda tecnológica del mejoramiento humano* (Transhumanism. The technological search for human improvement, in Spanish). Barcelona: Herder.
- Diéguez, A. (2020). La función ideológica del transhumanismo y algunos de sus presupuestos (The ideological function of transhumanism and some of its presuppositions, in Spanish). *Isegoria (Isegoria, in Spanish)*, 63, 367-386.
- Diéguez, A. (2021). *Cuerpos inadecuados. El desafío transhumanista a la filosofía* (Inadequate bodies. The transhumanist challenge to philosophy, in Spanish). Barcelona: Herder.
- Florensky, P. (1990). *Stolp i utverzhdenie instiny* (The Pillar and Ground of the Truth, in Russian). Moscow: Pravda.
- Jordan, W. (2021). Zur Beziehungsgestaltung

- mit Künstlicher emotionaler Intelligenz – vom „Hier und Jetzt“ zum „Dort und Dann“ (For relationship design with artificial emotional intelligence - from “here and now” to “there and then”, in German). *Psychiatrische Praxis*, 48(S01), S51-S57.
- Monterde Ferrando, R. (2021a). *El ocaso de la humanidad: la singularidad tecnológica como fin de la historia* (The twilight of humanity: the technological singularity as the end of history, in Spanish). (Doctoral Thesis, Universidad Católica de Valencia). Retrieved April 5, 2022, from <https://riucv.ucv.es/handle/20.500.12466/1926>
- Monterde Ferrando, R. (2021b). *Génesis Histórica del Transhumanismo. Un análisis filosófico* (The Historical Genesis of Transhumanism. A philosophical analysis, in Spanish). [Video lección]. Retrieved April 1, 2022, from <https://youtu.be/GCvvdPY9Z1Y>
- More, M. (1990). Transhumanism: Toward a futurist philosophy. *Extropy*, 6, 6-11.
- Ortega y Gasset, J. (2004). *Obras Completas* (Complete Works, in Spanish). Madrid, España: Revista de Occidente.
- Postigo Solana, E. & Vorontsova, Yu. (2019). *Priroda cheloveka, transgumanizm i cifrovaya transformaciya* (Human nature, transhumanism and digital transformation, in Russian). *E-Management*, 2(3), 58-63. doi:10.26425/2658-3445-2019-3-58-63
- Postigo Solana, E. (2018). *Transhumanismo, la nueva escena de un viejo argumento* (Transhumanism, the new scene of an old argument, in Spanish). Retrieved March 25, 2022, from https://www.academia.edu/38378554/Transhumanismo_la_nueva_escena_de_un_viejo_argumento.doc?fs=rwc
- Sandberg, A. (2012, February 18). Gf 2045: Anders Sandberg. [Video message]. Retrieved March 28, 2022, from <https://yandex.ru/video/preview/?filmId=17430528808860786390&filmId=12974653496765993043&noreask=1&path=wizard&source=share&text=%D0%90%D0%BD%D0%B4%D0%B5%D1%80%D1%81+%D1%81%D0%B0%D0%BD%D0%B4%D0%B1%D0%B5%D1%80%D0%B3&ts=1573843519052>
- Vásquez Del Aguila, J. W., & Postigo Solana, E. (2015) Transhumanismo, neuroética y persona (Transhumanism, neuroethics and the person, in Spanish). *Revista de Bioética (Journal of Bioethics, in Spanish)*. Retrieved March 20, 2022, from https://www.academia.edu/38378808/Transhumanismo_neuroética_y_persona.pdf
- Vernadsky, V. (2003). *Biosfera* (Biosphere, in Russian). In V. I. Vernadsky, *Biosfera i noosfera (Biosphere and noosphere, in Russian)* (pp. 32-82). Moscow: Ayris-Press.
- Vernadsky, V. (2017). *Filosofiya nauki. Izbrannye proizvedeniya* (Philosophy of science. Selected Works, in Russian). Moscow: Yurite.
- Vorontsova, Yu., Arakelyan, A., & Baranov, V. (2020). Smart technologies: Unique opportunities or the global challenges of transhumanism. *WISDOM*, 2(15), 68-75. <https://doi.org/10.24234/wisdom.v15i2.335>