
UPDATING COGNITIVE SECURITY IN A GLOBAL DIMENSION*

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The idea is substantiated that the advent of the Anthropocene epoch as a modern stage of global history and global evolution, in all its diversity of natural and socio-economic trends, has led to the aggravation of global risks (environmental, geopolitical, economic, social and technological) and the phenomenon of global security in all its manifestations (international, economic, food, military, information, spiritual, cognitive, etc.). The current situation necessitates the development of a theoretical and methodological basis for the study of global security in these areas, and the development of specific recommendations that are positioned in asphatronics as a theory of global security. Over the past two decades, risks associated with the development of artificial intelligence and the expansion of cognitive operations in the military and civilian spheres have been actively 'implanted' into the global risk group.

Special attention is paid to the actualization of the problem of countering cognitive operations, which has led to the emergence of a new, sixth, domain of hybrid warfare, namely cognitive. Cognitive warfare poses global risks of a purely technological and geopolitical, economic, socio-anthropological and existential order. Cognitive warfare is interpreted as a war of ideologies, and the essence is to take control of people, organizations, nations, and to manipulate a person's consciousness and subconscious.

The article substantiates the position that asphatronics, which claims to be a theory of global security, should be developed in close connection with cognitology (a system of cognitive sciences), one of the research areas of which is information, psychological and cognitive security.

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Introduction

In the interdisciplinary structure of globalism at the present stage of its development, the search for solutions to the problems of preventing global risks and ensuring global security is beginning to occupy an increasing share. Moreover, these searches are justified, firstly, by the methodology of global history, which, as Patrick O'Brien predicted, focuses on the development of two principles of the modern picture of the world: *connections* and *comparisons*, through which a global perspective of the historical process opens up (O'Brien 2006: 3–39). Secondly, it is necessary to identify the essence of the phenomenon of security in the processes of global evolutionism, whether it is the geological history of the Earth or cognitive processes at the 'peak of biological evolution' (Ilyin, Ursul A., and Ursul T. 2012: 282–313). Thus, the natural connection of the phenomenon of global security in all its manifestations (geopolitical, economic, social, technological, cognitive, *etc.*) with the Anthropocene seems explicable, since each of them (manifestations) is actualized as threats and global risks escalate, which determines the content of the '*era of insecurity*'. Moreover, a number of publications present ominous data on the critical state of the Earth's biosphere, characterizing the onset of a new geological epoch in global history – the Anthropocene (Grooten and Almond 2018; Laffoley and Baxter 2019; Pörtner *et al.* 2019).

The Davos Economic Club has been actively and systematically monitoring the dynamics of global risks (environmental, geopolitical, social, economic and technological), and since 2006 has published annual reports called the Global Risks Report. The latest one was released in January 2024, in which we meet serious warnings:

- 'environmental risks can reach the point of no return';
- 'technological risks remain uncontrollable';
- 'increasing geopolitical tensions combined with technology will create new security risks';
- 'the use of artificial intelligence technologies for military purposes'.

These risks (along with others) are expected to disrupt global stability in the next decade, and the uncontrolled, in many ways, development of artificial intelligence will pose a serious threat (WEF 2024). Therefore, the problem of ensuring global security implies not only the need to develop a theoretical and methodological basis for its research and the development of specific recommendations, as was proposed earlier in the work positioning asphatronics as a theoretical justification for global security (Kefeli 2020), but also to pay attention to the problem of ensuring information, psychological and cognitive security that has arisen in recent years.

Global Risks from the Perspective of the Anthropocene

Back in 1992, the American ecologist and journalist Andrew E. Revkin pathetically declared that humanity was entering an era 'which one day could be called, say, the Anthrocene. After all, this is the geological age of our creativity. Perhaps many readers ignored the minor linguistic difference and read the term as anthro(po)cene!' (Revkin 1992: 55). In 2000, the Nobel laureates (for their research on ozone holes in the atmosphere) Paul J. Crutzen and Eugene F. Stoermer, in a short note entitled 'The Anthro-

cene,’ unequivocally stated that human activity in the holocene epoch gradually developed into a significant geological force. They rightly pointed to the contribution of Vladimir I. Vernadsky, who recognized the growth of the power of humankind as part of the biosphere and, together with Pierre Teilhard de Chardin and Pierre Leroy, coined the term ‘noosphere’ in the course of their scientific discussions and suggested using the term ‘Anthropocene’ to denote the current geological epoch, the onset of which is associated with the first industrial revolution (Crutzen and Stoermer 2000: 17–18). In 2016, Martin Rees made

the darkest prognosis for the next millennium is that bio, cyber or environmental catastrophes could foreclose humanity’s immense potential, leaving a depleted biosphere... But there is an optimistic option... The dawn of the Anthropocene epoch would then mark a one-off transformation from a natural world to one where humans jumpstart the transition to electronic (and potentially immortal) entities, that transcend our limitations and eventually spread their influence far beyond the Earth... Anthropocene has begun... (Rees 2016).

Concerns about global risks was rather sharply voiced in the 50th anniversary report to the Club of Rome, ‘Come On!’, prepared by two former leaders, Ernst Ulrich von Weizsäcker and Anders Wijkman, who, following the recommendations of geologists and ecologists, recognized the Anthropocene as the beginning of the ‘era of human domination over all spheres (all aspects) of our planet, including its biogeochemical composition’ (Weizsäcker and Wijkman 2018: vii).

However, all expectations of a final resolution of the controversial issue of the recognition of the Anthropocene as the ‘official unit of the geological time scale’ ended in March 2024 with the adoption of a joint statement by the International Union of Geological Sciences (IUGS) and the International Commission on Stratigraphy (ICS), which reads as follows:

It is with the delegated authority of the IUGS President and Secretary General and on behalf of the International Commission on Stratigraphy (ICS) that the vote by the ICS Sub-commission on Quaternary Stratigraphy (SQS) to reject the proposal for an Anthropocene Epoch as a formal unit of the Geologic Time Scale is approved. The voting members of SQS have extensive experience and wide expertise in Quaternary stratigraphy and chronology. Their vote was approved by the ICS executive, and that approval was overwhelmingly supported by the chairs of the ICS sub-commissions. Despite its rejection as a formal unit of the Geologic Time Scale, the Anthropocene will nevertheless continue to be used not only by Earth and environmental scientists, but also by social scientists, politicians and economists, as well as by the public at large. It will remain an invaluable descriptor of human impact on the Earth system (Joint statement by the IUGS and ICS... 2024).

Such a correct attitude to the ‘unit of the geological timeline’, unrecognized by geologists, retained the right to use it in global discourse, as Jacques Grinevald pointed out, considering it necessary to distinguish between the concepts of the Anthropocene and the noosphere (Grinevald 1997: 20–32; Will *et al.* 2011: 842–867). In our case, the agreement of such respected organizations as the IUGS and the ICS that the Anthro-

cene should be used by ‘sociologists, politicians and economists, as well as the public in general’ to describe the human impact on the Earth system confirms the dominance of the integrative trend in the cumulative processes of global security. The information space of the Earth is a global information system for aerospace monitoring of the Earth (exploration of natural resources, control of man-made accidents and natural disasters, navigation and communication), the primary basis of which was the creation of the global space information and control system of the Russian Aerospace Defence (VKO), the theoretical, technological and structural foundations of which were laid in the 1960s–90s by Academician of the USSR Academy of Sciences Anatoly I. Savin.

Large-scale work in this field has determined the substantive part of one of the socio-economic trends of the Anthropocene – telecommunications (more broadly, computer science and communications) (Steffen *et al.* 2015: 81–98; Ian 2015). The phenomenon of cognitive security as one of the key areas of global security has a ‘kinship’ with the Anthropocene and its socio-economic roots, and cognitive warfare should be considered as a marker of the onset of the Anthropocene, embodying the ‘dark side’ of the digital world.

Cognitive Warfare as a Sign of the Beginning of the Anthropocene Epoch

In the early 20s of the twenty-first century, the issue of the formation of another area (domain) of military operations – cognitive warfare (a more accurate translation is cognitive operation, Cognitive Warfare) – began to be widely discussed in the NATO military analytic community. The technology of cognitive operations, sponsored and controlled by NATO as a ‘way to harm the brain,’ began to be developed in 2013 at the NATO Innovation Center (iHub, Norfolk, USA). The developers called it ‘cognitive war,’ the purpose of which is to harm not only military personnel, but also the civilian population. The possibility that civilians could be ‘sleeper cells,’ ‘fifth columns’ challenging the stability of ‘liberal Western democracies’ was identified as a potential threat. ‘Cognitive warfare,’ as the head of the aforementioned center, François Du Cluzel, put it

is a war of ideologies that seeks to undermine the faith [and trust] that holds any society together... In a world riddled with technology, cognitive warfare mobilizes a wider range of combat spaces than physical and information dimensions can do. Its very essence is to seize control over people (civil and military), organizations, nations, as well as ideas, psychology, especially behavioral, thoughts, as well as the environment (Du Cluzel 2020).

In the same year, another NATO document was released, prepared in collaboration with a team of authors from Johns Hopkins University, in the form of a kind of guide to action with the remarkable title (‘Cognitive Warfare: An Attack on truth and Thought’), which openly states that cognitive warfare ‘pursues two separate but complementary goals: destabilization and influence... The targets of cognitive warfare attacks can range from entire populations to individual leaders in politics, economics, religion, and academia.’ Here we are talking about criteria for recognizing cognitive threats, proposals to amend the UN Charter, for which NATO and its allies should identify acts of cognitive (non-kinetic) warfare and create ‘cognitive organizations within their law enforcement and military organizations with communication channels operating throughout the Alliance, the armed forces and between the government and local law enforcement agencies’ (Bernal *et al.* 2020: 11, 19–20). The main provisions defining the goals, opportuni-

ties, and conditions for the implementation of cognitive warfare, as proposed by Du Cluzel and his colleagues, and expressing the official position of the military and political leadership of the North Atlantic Alliance, are presented as follows:

1. According to the concept of ‘cognitive warfare,’ another dimension of combat appears on the modern battlefield – the cognitive dimension, which complements the physical (land, sea, air, space) and information dimensions. In a world full of NBICS technologies (nano-, bio-, info-, cognitive and social technologies), Kluzel clarifies, war in the cognitive field mobilizes a wider range of hostilities, exercising control over people, social institutions and peoples, over public and individual consciousness, mass psychology and the environment.

2. The implementation of the concept of ‘cognitive warfare’ requires knowledge not only of the natural and technical sciences, but, to the full extent, of the humanities – philosophy and psychology, philology and ethnology. Neuroscientific methods can be used for both medical and non-medical (educational, professional, life, military) purposes, and brain science itself is divided into both fundamental and applied, which is particularly attractive for use in the field of security, intelligence and military operations.

3. In this case, the study of the cognitive domain focused on a person is a new serious task that is necessary for any military strategy related to the formation of combat power in the future. In the armed forces, the author argues, knowledge in the fields of anthropology, ethnography, history, psychology, among other fields, will be more necessary than ever for cooperation with the armed forces, for example, to obtain a qualitative understanding from quantitative data. In other words, if pointing to a modern battlefield proclaims a new meaning for man, then it is more about rethinking the interaction between the exact and social sciences.

Du Cluzel approaches the disclosure of the content of his project by stating that in the twenty-first century, the strategic advantage will be how to interact with people, understand them and gain access to political, economic, cultural and social networks in order to achieve a relative advantage that complements a single military force. These interactions are not limited to the physical boundaries of land, air, sea, cyberspace and space, which tend to focus on geography and terrain characteristics. These same interactions represent a network of networks that define power and interests in an interconnected world. The participant who best understands the local context and builds a network around relations that take advantage of local opportunities is more likely to win. ‘Victory will be determined more from the point of view of capturing psychocultural rather than geographical heights. Understanding and empathy will become an important weapon of cognitive warfare’ (Du Cluzel: 2020: 28). The aim of cognitive warfare is to harm not only the military, but also the whole society (opponent, rival, enemy), and this type of war resembles actions ‘in the gray zone,’ where influence becomes the main weapon. As a result, the author gives a number of recommendations and assurances to the NATO leaders:

- Cognitive warfare, which blurs the line between peace and war, includes NBICS technologies for use in specific operations to provide ‘a reliable way of military superiority in the near future’ (Du Cluzel 2020: 33);

- NATO can play a role in promoting the creation of an international legal framework that meets the ethical standards of NATO countries (Du Cluzel 2020: 34, 35).

– Tactical and operational victories can be achieved in the first five domains; only in the human domain is it possible to achieve a final and complete victory.

Cognitive operations represent the sixth domain of hybrid warfare, so they are generally grouped under the single concept of ‘cognitive warfare,’ waged in the most vulnerable place – the human brain. Cognitive operations are subject to human consciousness, its spiritual world, values, and worldview at the substrate and functional levels.

All this convinces us that cognitive warfare involves global risks not only of a purely technological order, but also of a geopolitical, economic, socio-anthropological and existential order, which is confirmed by the above-mentioned ‘Global Risks Report for 2024,’ the conclusion of which sounds rather optimistic: the world is undergoing many long-term structural transformations: the development of artificial intelligence, climate change, a shift in the geopolitical distribution of power and demographic transitions. These structural forces are global, pervasive, and charged with momentum. Against this background, it is necessary to mitigate known risks and be prepared to manage emerging risks (WEF 2024: 92).

A seemingly fleeting and non-binding phrase about mitigating already known risks found a response only last year in the analytical work of the NATO scientific community. The report, published by the NATO STO HFM Exploratory Team in March 2023 and presented to the NATO leadership, was entitled ‘Mitigating and Responding to Cognitive Warfare,’ and according to the authors, ‘science and technology needed to mitigate the effects of cognitive warfare and protect against it’ (Masakowski and Blatny 2023). According to the authors of the report, CogWar (as in the text of the report), based on the convergence of cognitive technologies, bio- and neurotechnologies, artificial intelligence technologies and big data processing has become a powerful means of spreading disinformation. CogWar poses a threat to national and global stability and security at the economic, geopolitical, social and cultural levels, as it targets the vulnerability of people as a means of creating chaos and confusion in the mass consciousness of different countries and within the armed forces. CogWar does not focus on ‘information,’ but on ‘cognition,’ i.e. on what the brain does with information. Therefore, the report focuses on the issue of CogWar protection:

We must anticipate the impact of new technologies and the intersection of scientific fields in order to be effective in our CogWar protection strategy... Countries (members of NATO – I. K., R. V., O. P.) should consider protection from CogWar as an imperative of national and global security. CogWar is a weapon in the enemy's arsenal used to achieve their goals, shift our attention, change the human understanding of events, provoke civil unrest, undermine democracy and change the geopolitical and economic environment in the interests of their country. Education should also play a key role in the development of future critical thinkers (Masakowski and Blatny 2023: 73).

Conclusions

Focusing on the actualization of cognitive security in the global dimension, the authors concentrated on identifying the internal links between the global risks discussed above and those that have filled the global information space due to the development of artificial intelligence, the technological capabilities of big data analysis and the intensive use of achievements in cognitive sciences and technologies. This primarily involves the use of cognitive psychology and linguistics, neurobiology and cognitive anthropology, socio-

logical and cultural practices, that is, the entire range of natural sciences and humanities in military science and methods of conducting cognitive warfare. The response to these acts consists in the development of theoretical and methodological foundations for cognitive security, a set of cognitive technologies and practices, the publication of scientific and educational literature, the training of scientific personnel, the organization of research centers and laboratories for conducting multidisciplinary activities. It is always difficult to get started, but the first steps are already being taken (Kefeli and Yusupov 2017; Kefeli 2023).

Nevertheless, the main intellectual link in the connection between asphatronics and cognitology should be recognized as globalism, a global style of thinking, which was pointed out quite specifically by the above-mentioned Anatoly Ivanovich Savin:

It was necessary to replace earthly thinking with cosmic one, ...this is already global thinking... The system should be global, because it is necessary to control all the space near the Earth. The transition to a global type of consciousness is very difficult for anyone. A person is used to thinking concretely, but at present this is not enough. I have managed to overcome this barrier... (Kefeli 2020: 87).

It must be assumed that the claims of asphatronics to the status of a theory of global and cognitive security, revealing many secrets of the Anthropocene, including the 'dark side of the digital world' (Antonio Guterres), are not without reason. A promising part of it should be that part of cognitive science, which is devoted to the whole range of problems of ensuring information, psychological and cognitive security. The 'Statement by the Council of the Parliamentary Assembly of the Collective Security Treaty Organization in connection with the development of artificial intelligence technologies,' adopted on June 3, 2024, was quite timely, not only recognizing that artificial intelligence technologies can be widely used to achieve sustainable development goals and solve global problems, but also calling for 'strengthening information and cognitive security' (Statement by the CSTO PA Council... 2024). In August 2024, the European Union's regulation on Artificial Intelligence (The AI Act) came into force, which is based on an awareness of the risks associated with the use of artificial intelligence-based systems.

NOTE

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