

Asphatronics: On the Way to the Global Security Theory

*Book Review by Eugene A. Vertlieb**

Book: Igor Fedorovich Kefeli. *Asphatronics: On the Way to the Global Security Theory*. St. Petersburg: The Russian Presidential Academy of National Economy and Public Administration, 2020. 228. ISBN 978-5-89781-676-7.

Abstract: The coronavirus pandemic has thrown the world into chaos and has revealed the unmanageability of the world order. The very existence of humanity itself is threatened. To resolve the deepest systemic crises, new tools, methods, theories, and methodologies are needed — the creation of a new scientific paradigm — to ensure the peaceful coexistence of peoples in the ecosystem of the planet. While security has traditionally been addressed mainly along separate, narrow disciplines, Professor Igor F. Kefeli, in his *Asphatronics: On the Way to the Global Security Theory*, summarizes the challenges and threats to the global security system of the sixth technological order, and, most importantly, provides a theoretical basis for achieving security in the face of *any* manifestation of global danger to humanity. As such, global risks (geopolitical, environmental, economic, social, technological) are countered by applying a kind of “restraining bridle” - a method that reduces them to an acceptable risk level by making use of NBICS (Nano-Bio-Info-Cogno-Socio) convergence, the concrete expression of which are critical technologies. This “taming of the recalcitrant electron” — constrained use of technology applied to global security — is a clear advance in systems science and security, and a step forward from cybernetics to asphatronics.

Keywords: Asphatronics, coronavirus, Igor F. Kefeli, global risks, NBICS, cybernetics.

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Professor Igor Fedorovich Kefeli, in his most recent book, *Asphatronics: On the Way to the Global Security Theory*,¹ deftly summarizes the challenges and threats to the global security system of the sixth technological order, and, most importantly, provides a theoretical basis for achieving security in the face of any manifestation of global danger to humanity.

As the world moves in the direction of a new technological order, there is a critical need to re-examine traditional approaches to global security problems. Dr. Kefeli’s “Asphatronics” calls for moving away from the traditional heavy reliance on international relations and other stove-piped approaches as tools for managing global risks, and asks

1 Kefeli, I. F. *Asphatronics: On the Way to the Global Security Theory* (St. Petersburg: North-Western Institute of Management, Russian Academy of National Economy and State Service under the President of the Russian Federation, 2020). Also rendered in English as *Asphatronics: Toward a Global Security Theory*. (In Russian): Кефели, И. ф. Асфатроники: На пути к теории глобальной безопасности (СПб.: Северо-Западный институт управления РАНХиГС, 2020).

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that we apply the very newest technologies to manage living, social, and technical systems. Cybernetics, viewed broadly, is the study of systems whether they are electrical, social, physical, mechanical, biological, or even psychological. Asphatronics, as an offshoot of cybernetics, aims to make use of NBICS (Nano-Bio-Info-Cogno-Socio) technologies to identify risk patterns in various systems, and to respond by using those technologies to counter the risks. Kefeli defines this generalized summation of global threats and the means for countering them as “asphatronics” — a term formed from Greek ασφάλεια - “security” and ηλεκτρόνιο - “electron” — whereby “electron” refers broadly to “technology.” The “security gene”² — a term also used by Dr. Kefeli in “Asphatronics” — then, might be viewed as a sort of blueprint for the mechanisms that would activate to detect and challenge global threats.

It is a well-known fact that the balance of power among the main geopolitical players is a core criterion both for assessing global security risks and for building practices of international relations. True, strategic parity does assure security, but it is one where parties must look over their shoulder for the inevitable retribution that will follow. With the collapse of the Soviet Union, the bipolar world model narrowed to a monocentric *Pax Americana* model. Now, the coronavirus pandemic has exacerbated the trend of global disorder. The planet is overrun by chaos, and the very existence of humanity itself is under threat. Resolution of this profoundly systemic crisis requires new means, methods, theories and methodologies. It calls for the creation of a new scientific paradigm to ensure peaceful coexistence of peoples within the planet’s ecosystem.

In January 2020, UN Secretary-General António Guterres compared the threats to the livelihood of Earth’s inhabitants with the Biblical-and-Durean “Four Horsemen of the Apocalypse,” the four threats now being geostrategic tensions, climate crisis, global mistrust, and the abuse of technologies (“the dark side of the digital world”). For Professor Kefeli, this “quartered quaternary”³ of the main threats to humanity serves as a semantic counterpoint in his reflections on the creation of a sixth technological order within the global security system. Broadly speaking, asphatronics refers to the comprehensive scientific domain that studies the application of critical technologies as tools for ensuring global security. It can be viewed as an offshoot of cybernetics — the science of communication and control in living organisms as well as social and technical systems of the Anthropocene. “We have reached the point where we need to create a theoretical framework that can underpin security in any and all of its manifestations,”

2 Kefeli, *Asphatronics*, 165. “Security gene” (in Russian, “ген безопасности”) refers to a set of regulatory mechanisms that would activate in response to risk situations just as genes are a set of instructions that determine what the organism is like, its appearance, how it survives, and how it behaves in its environment. (Translation of the original Russian text of this book review was done by D. T. Faleris.)

3 This proprietary term of Dr. Eugene Vertlieb’s is used to express bitter irony over “dismembered” divine design of human realization. The Quaternary is a subdivision of geological time which covers the last 2.6 million years up to the present day.

said the scientist at the presentation of his “Asphatronics” monograph at the North-West Institute of Management of the Russian Academy of National Economy and Public Administration on June 30, 2020.

Professor Kefeli’s comprehensive work addressing the challenges and counteraction to global threats also summarizes his prior writings that have been published in his journal *Geopolitics and Security*⁴ as well as in other research and academic resources. Global risks (geopolitical, environmental, economic, social, and technological) are, figuratively speaking, functionally “bridled” using methods aimed at reducing them to admissible risk levels. These methods are based on NBICS technology convergence as explicitly expressed in critical technologies. This “Kefeli-ism” of “taming a shrew of an electron” represents progress made by science and security system engineers along the path from cybernetics to asphatronics. It requires making use of converged technologies to manage global risks, all the while containing those technologies to prevent the adverse effects that could arise if they were applied unchecked.

The Eurasian perspective it offers informationally captures the Russian deep cosmism with its humanistic idea at the core: The author advocates anthropocentrism rather than a chip-and-machine-based and artificial intelligence-driven conscience, and promotes cognitive technologies for human beings rather than having humanoids replace them. Cyberneticist Norbert Wiener anticipated the threat of a rapidly rising “psychological level” of machine consciousness, and clearly in Professor Kefeli’s view, this is exactly where it is all going: The human genome structure and the neural depths of the human brain are being assaulted by NBICS technologies. An impending digital dictatorship is rapidly taking shape — one which “hacks” humans, and in so doing, undermines the very essence of their freedom. As futurologist historian and philosopher Yuval Noah Harari suggests, technologies can destroy not only human economy, politics, and philosophy, but human biology — our physical make-up and behavior — as well.⁵

The coming decades, then, will see artificial intelligence and biotechnology providing us with seemingly “divine” abilities to reengineer or even create entirely new forms of life. After four billion years of organic life based on natural selection, we are entering a new era of non-organic life — one which is not created by God’s design. In this new paradigm, decision-making will gradually — and with self-generated, suspect justification — be delegated by humans to algorithms. Professor Kefeli, the scientist, humanist, and the founder of asphatronics, is clearly and loudly sounding the alarm: Steps must be taken to avoid the transformation of human beings into technological artifacts, and mathematics

4 The journal *Geopolitics and Security* was published by the Baltic State Technical University ‘Voenmekh’ Publishing House, St. Petersburg. Unfortunately, the journal was “optimized” to its demise in 2017.

5 Tovah Lazaroff, “The human mind is in danger of being hacked, warns Israeli author Harari,” *The Jerusalem Post*, January 22, 2020, <https://www.jpost.com/jpost-tech/how-will-a-technological-arms-race-shape-our-future-614785>.

into predominantly a weapon of mass destruction.

As a follower of Russian philosopher V. S. Stepin, Kefeli is convinced of the practical necessity of “being aware of the bans on some interaction strategies potentially implying catastrophic consequences.”⁶ Our security theorist insists on the necessity of humanistic measurement of the “human dimensionality” of any objects of natural or social being (as encouraged by Stepin), thus re-interpreting Protagoras’ famous thesis: “Of all things the measure is Man, of the things that are, that they are, and of the things that are not, that they are not.”⁷ “The things that are not” are exactly those explicit and yet unidentified threats, risks, and dangers that require humanistic reflection and “measurement.” Moreover, the very knowledge of the phenomenology of security has been torn into pieces of narrowly-defined, “self-contained independences” and scattered across the theories of international relations (national security or international security, which is often interpreted as global security), life security (personal safety, security of society and state), information security, and the like.

Professor Kefeli’s unique asphatronics system of “electron-based security” reduces all the various fragments of knowledge relating to a global security to a common denominator. It would be quite interesting, in fact, to see the newly discovered Kefeli “security gene” incorporated into the National Security Strategy of Russia, which is now regularly updated,⁸ or into that of the United States, or any other state, for that matter. As cybernetics correlates with the theory of power (“politics in its own sense is the very art of managing and choosing in each case what can and should be done, the science of statesmen”), so does asphatronics with the system of sciences on managing global security processes.

In his book “Asphatronics,” Kefeli weighs the risks associated with the sixth technological era, the industrial revolution 4.0, and natural disasters, the latter being brought about by the depleted potential of positive interconnectedness between humans and the Earth. The planet’s ecosystem responds to this asymmetrically with, for example, a global pestilence in the form of the coronavirus pandemic. Since everything in nature is interconnected, a comprehensive, holistic risk assessment should be organic and exhaustive. To this end, Professor Kefeli addresses the entire range of global security systems in his book. Just as Norbert Wiener generated an impulse for the creation of cybernetics having sensed an analogy between missile guidance systems and motion control processes in the nervous system, Kefeli’s asphatronics encourages the improvement of the alpha and omega of the Russian state’s sovereignty — its national security system. The “hybrid war” claimed by

6 Kefeli, *Asphatronics*, 11.

7 Plato’s dialogue “Protagoras” involves a fictional, yet realistic, conversation between the sophist and Socrates. Another Plato dialogue is named after a young boy named Theaetetus and involves a discussion between him, Socrates, and Theodorus, who was a friend of Protagoras.

8 In fact, it would then be quite fitting to award the author of the idea, Professor Kefeli, for his significant contribution to strengthening the security of the Russian Federation by reinstating him as Editor of the journal *Geopolitics and Security*.

some to be going on between the United States and Russia⁹ is one being further whipped up by fear-mongering the hopelessness of the coronavirus. Extremely alarming is the simultaneous proliferation of conspiracy theories playing upon this hopelessness. For example, one popular — and ungrounded — theory ties the alleged emerging need for total anti-coronavirus control over the population to prevent the spread of the disease with the purported immediate patenting of a chip designed exactly for this purpose by Bill Gates of the “The Good Club.”¹⁰

It is a curious coincidence. At the same time, then, that Gates is purportedly advocating for a questionable application of chip technology and that society is now being controlled by government requirements to wear a mask or alter behavior in other ways, an irreconcilable opposing side — Russia — is relentlessly ranting about “color revolutions”¹¹ and the “rancorous whirlwinds” that are being stirred up everywhere around the world. So then for the Russian state to be secure in the face of these threats, there is, it is claimed, a real need to implement regulatory methods to managing a “stirred-up” society — methods that employ more sophisticated technologies — a symbiosis of cybernetics (“general theory of communication and control in technologies, living organisms and societies”) and synergy (“theory of self-organization”). There is, of course, always a danger that such an approach could be taken too far.

On balance, as concerns the application of newer technologies, without a toolkit synthesized from these “human measurement systems” it would be impossible to model reflective processes, learn the algorithmic essence of a human being, create metamodels, or perform a comprehensive system-integrated wide analysis of “computational algorithms” for controlling the human masses and managing the state. Multi-domain security analytics is in high demand: In October 2020, for example, the Scientific Society of Young Researchers of the National Security Department of the Russian Presidential Academy of National Economy and Public Administration is slated to hold a meeting titled “Analytical Prototyping of Noospheric Geopolitics: From the Philosophy of A. E. Snesarev to the Ontology of N. F. Fedorov.”

There is no doubt: Professor Kefeli’s research work is current and relevant. It fits extremely well into the entire range of key 21st century security concepts. The book is

9 The crisis over Ukraine has resulted in a hybrid war essentially between Russia and the United States over the issue of the world order. Hybrid warfare refers to the use of unconventional methods as part of a multi-domain warfighting approach aimed at disrupting and disabling an opponent’s actions without engaging in open hostilities.

10 The “Club of Good People” refers to a small global elite of billionaire philanthropists who, in May 2009, met in response to the global economic downturn and numerous health and environmental crises that are plaguing the globe. The meeting was convened by Bill Gates, among others.

11 “Color Revolution” is a term that has been used to describe movements that developed in several countries of the former Soviet Union, People’s Republic of China, and the Balkans during the early 2000s. For further information, see, for example, Cordesman, Anthony H., Russia and the “Color Revolution: A Russian Military View of a World Destabilized by the US and the West.” *Center for Strategic and International Studies*, May 28, 2014, <https://www.csis.org/analysis/russia-and-color-revolution>.”

a useful reference for anyone interested in an updated look at global security. It is well organized, with the first half devoted to a full range of both expected and unforeseen global risks, and the second half exploring an array of global security issues. Interestingly, one chapter is devoted to a discussion of geopolitical concerns surrounding Russia's "Eurasia Project" — an initiative to create a Greater Eurasia as the framework for promoting various cooperation projects in the region.¹² For these and other reasons, the book deserves to be translated into the major languages of the world, and is worthy of a global response. Security is the only undeniable prerequisite of life for each and every one of us.

12 For further information, see David Lewis, "Strategic Culture and Russia's 'Pivot to the East:' Russia, China, and 'Greater Eurasia,'" *George C. Marshall European Center for Security Studies*, July 2019 Number 034, <https://www.marshallcenter.org/en/publications/security-insights/strategic-culture-and-russias-pivot-east-russia-china-and-greater-eurasia-0>.