PROTECTION OF THE EARTH AS A UNIQUE LIFE FORM: PHILOSOPHICAL AND LEGAL ANALYSIS IN THE CONTEXT OF THE PANDEMIC

Aleksey Anisimov & Anatoliy Ryzhenkov

ABSTRACT: The article presents a philosophical and legal analysis of the concept of the Earth as a living organism in the context of modern international environmental law. The article argues for the need for a fundamental rethinking of the environmental law concept in terms of the global environmental and pandemic crises on the basis of an in-depth study of the Gaia hypothesis of James Lovelock, the concepts of the biosphere and noosphere proposed by Vladimir Vernadsky as well as the ideas of Lynn Margulis, Dorion Sagan and other authors. The emphasis is placed on the philosophical aspects of international and national law related to the transition from the anthropocentric to the ecocentric paradigm. It is substantiated that it is necessary to recognize the Earth as a unique life form having its own interests and value that do not depend on man. The authors note that the coronavirus pandemic, the climate crisis and other global challenges require the international community to form a new philosophical and legal paradigm based on respect for the integrity of the biosphere and the understanding of the interdependence of man and nature.

KEYWORDS: Philosophy of law; Gaia; Biosphere; Noosphere; Ecocentrism; Rights of nature

1. INTRODUCTION

Modern philosophy increasingly often considers planet Earth as a unique living system rather than just a celestial body. Vladimir Vernadsky was one of the first to point this out. He believed that the presence of life gave the Earth's sphere (biosphere) an exceptional character, unique in the Universe, since living and non-living matter on the planet formed an inseparable whole (Vernadsky 1926). Later James Lovelock radicalized this approach by putting forward the Gaia hypothesis, according to which the entire set of organisms and the abiotic environment of the Earth form a single self-regulating organism on a planetary scale (Lovelock 1979). Therefore, for almost a hundred years now, philosophy has developed ideas of the Earth as a single living integral organism rather than just a "cosmic body" accidentally populated by living beings.

In the 2020s, the demand for these philosophical concepts increased significantly since humanity faced unprecedented environmental and social upheavals – from the growing environmental crisis (climate change, loss of biodiversity) to global pandemics. These phenomena showed the vulnerability of the modern world and the interdependence of man and nature. Many thinkers started speaking about the need for a new search for balance between philosophy, ethics and ecology because otherwise the consequences for humans will be dire (Gare 2018). Even official persons (for example, the Executive Director of the United Nations Environment Program Inger Andersen and Pope Francis) publicly expressed the opinion that human civilization had already gone too far in exploiting "Mother Earth", having received a response in the form of crises.

Although the metaphor of "Gaia's revenge" is still criticized as excessively personalizing nature (Litfin 2005), the pandemic forced us to recognize that the health of ecosystems and the health of humanity are inseparable. The depth of the modern crisis brings into question the anthropocentric paradigm of development and requires a fundamental rethinking of the philosophical and legal basis of the relations between man and the biosphere (Arling 2024) which must underlie new international and national environmental legislation. Based on the foregoing, this article is a detailed philosophical and legal analysis of the issue of protecting the Earth as a unique life form. The focus is on the philosophy of law and international legal aspects of the attitude towards planet Earth as an intrinsically valuable living entity. The first part of the article includes the study of the key intellectual prerequisites: the Gaia hypothesis of James Lovelock, the

concept of the biosphere (noosphere) proposed by Vladimir Vernadsky as well as the contribution of Lynn Margulis, Dorion Sagan and other scholars to the development of these ideas. In the second part, the authors analyze the negative consequences of the coronavirus pandemic and other diseases in the context of philosophical and legal ideas of the Earth as a special life form.

In the third part, the authors examine how these concepts have influenced the formation of new approaches in philosophy of law, including the concept of the rights of Nature, and what challenges they pose to traditional anthropocentric legislation.

The article interprets the mentioned ideas in the context of modern global crises (environmental and epidemiological) with the analysis of how legal science should rethink its principles and dogmas to harmonize the relations between man and nature.

2. GENERAL PHILOSOPHICAL CONCEPT OF THE EARTH AS A SPECIAL LIFE FORM

Gaia Hypothesis of James Lovelock

In the 1970s, British chemist James Lovelock, working on NASA space projects to search for life on Mars, put forward a bold idea which was later called the Gaia hypothesis. The notion is that Earth as a whole acts like a single living system maintaining homeostasis of conditions favorable for life. James Lovelock pointed out the anomalous chemical composition of the Earth's atmosphere: the large amounts of oxygen, methane, nitrogen and other gases, which under normal conditions quickly entered into chemical reactions and disappeared (Lovelock 1979).

The only explanation for this chemical disequilibrium can be the continuous exchange of matter of all organisms with the environment (Sagan 2023). Together with microbiologist Lynn Margulis, James Lovelock developed a theory that living beings (especially microorganisms) actively regulate the chemical and climatic parameters of the planet, adjusting them to the needs of the biosphere. By the end of the 1970s, the Gaia hypothesis had become well-known: the Earth began to be metaphorically called a superorganism comparable to a giant living being. Although the Gaia hypothesis was initially met with some skepticism, all

subsequent studies have shown that self-regulation can take place without a deliberate plan.

The Gaia theory was further substantiated in the 1980s. James Lovelock proved that the combined evolution of biota and the environment leads to the maintenance of stability favorable for the continuation of life (Lovelock 1988). In other words, the regulation of climate and the composition of the atmosphere is a characteristic of the entire "living plus non-living" system, emerging through natural selection at the level of the ecosphere. Due to this clarification, the Gaia theory fit into the mainstream of scientific ideas about biogeochemical cycles and became part of modern Earth science. The Gaia idea had considerable philosophical consequences. It shook the conventional division between the living and the non-living. James Lovelock proposed to consider the entire biosphere of the Earth, from whales to viruses and from oak trees to algae, as a single entity capable of regulating its own living environment. This highlighted the idea of the value of life as a whole, supramundane in relation to man. The first statements of James Lovelock contained the embryo of the ecocentric worldview: if the Earth is a single organism, man is only its part but not the "crown of creation". Later philosophers and sociologists (for example, Bruno Latour) noted that the significance of the Gaia theory was comparable to that of the Copernican Revolution.

While Galileo Galilei convinced humanity that the Earth is not the center of the Universe, James Lovelock showed that life is the central factor of the Earth itself, making our planet completely different from any other planets. Bruno Latour wrote that James Lovelock, looking at the Earth from space, and Lynn Margulis, from bacteria, came to the same discovery: Life, capital L, has managed to engineer its own conditions of existence (Watts 2020). This discovery is not fully realized by science and society but it has a considerable worldview significance.

Another important philosophical conclusion from the Gaia theory is the understanding that maintaining life on Earth does not guarantee the well-being of the human species. According to Lynn Margulis, the Gaia system has worked for billions of years and will outlive humans: Gaia has been just fine for three billion years without people and will continue to evolve long after people are

gone.[1] This is why humanity is not a central and irreplaceable element of the biosphere. The planet mercilessly destroys all those who violate the rules of life (Lovelock 2006). The ecological imbalance caused by humans will inevitably lead to a reaction from the Earth – climate change, epidemics, decline in biodiversity, which will not take into account human interests. From Gaia's perspective, species come and go, and the regulation of conditions (temperature, composition of the atmosphere) continues as long as any life exists. This "indifferent" position of planetary life poses a moral choice to humanity: either adapt its activities to the rules of Gaia or face its "wrath" (in the form of environmental disasters). This conclusion leads us directly to the question of how law must take into account the interests of both humans and the biosphere.

THE BIOSPHERE AND THE NOOSPHERE OF VLADIMIR VERNADSKY: LIFE AS A GEOLOGICAL FORCE

Back in the 1920s, Russian scientist Vladimir Vernadsky anticipated much of what Gaia's followers started talking about decades later. In his work titled "The Biosphere" (1926), Vladimir Vernadsky developed Eduard Suess's idea of the biosphere as the sphere of life, filling it with new content. He showed that living matter was a powerful geological factor transforming the appearance of the planet. According to Vladimir Vernadsky, living matter is the most powerful geological force determining the evolution of the earth surface, climate and chemical composition of the atmosphere. This assertion was based on numerous examples: the accumulation of oxygen in the atmosphere due to photosynthesis, the formation of sedimentary rocks with the participation of living organisms and the reproduction and dispersal of species changing landscapes. Vladimir Vernadsky pointed out that solar radiation caused the biosphere to take on properties unknown to lifeless planets and transform the face of the Earth, accumulating and redistributing energy.

The inseparability of living matter and the environment is a principal thesis of Vladimir Vernadsky. He asserted that living (biogenic) and non-living (inert) matter on Earth were closely interconnected and constantly exchanged elements and energy (Vernadsky 2013). Life draws chemical elements from the

[1] "Gaia is a tough bitch": Remembering Lynn Margulis, scientific pioneer In: https://ecologise.in/2017/12/01/lynn-margulis-1938-2011-gaia-tough-bitch/ (accessed April 30, 2025).

environment, creates new compounds, and after the death of organisms, these elements return to the abiotic background – and the cycle repeats endlessly. Due to life, the Earth is a unique cosmic body, very different from the Moon or Mars (Vernadsky 1991). This correlates with the later statements of Bruno Latour and James Lovelock on the special planet Earth, distinct from other ones since it is completely permeated with life. It can be said that Vladimir Vernadsky scientifically substantiated planetary biologism: the view according to which it is impossible to understand the geology and chemistry of the Earth in isolation from life. Subsequently, Vladimir Vernadsky developed the idea of the noosphere as a new stage of the biosphere development where human intelligence and activity would become the determining factor in the evolution of the planet (Serafin 1987). According to Vladimir Vernadsky, human impact (industry, agriculture, transport, change of landscapes) reached a geological scale already in the early 20th century. Humans ceased to be just a biological species. Humanity became a powerful geological force capable of changing the planet's biosphere due to scientific thought and technology (Vernadsky 2024). The concept of the noosphere reflected the anthropocentric optimism of Vladimir Vernadsky: he hoped that the unified scientific consciousness would direct this power for the benefit of the planet and make the noosphere a "thinking sphere" harmonizing the relations between man and nature. However, this is the fundamental difference with the Gaia hypothesis. While James Lovelock has an ecocentric view of Gaia, the planetary life itself is the main character and man is only its part, Vladimir Vernadsky's noosphere is a more anthropocentric concept placing emphasis on the special role of the human mind (Vernadsky 2013). Nevertheless, in our view, these ideas do not contradict but complement each other. In light of the modern data, this contrast is partially eliminated – Earth science integrates both approaches, recognizing the objective biogeochemical changes of Gaia and the role of man in them.

In the early 21st century, the concept of humanity as a geological force acquired a new meaning through the term "Anthropocene" proposed by Eugene Stoermer and Paul Crutzen. It is used to designate the modern geological era with human activity becoming the determining factor of changes on the planet (Paola and Jamieson 2018). The Anthropocene will change not only philosophical but also many legal ideas, for example, concerning the relationship between

anthropogenic activities and natural disasters (Stoa 2015). The Anthropocene actually develops Vladimir Vernadsky's theses on the noosphere since it poses the following question: will intelligent humanity be a constructive force capable of consciously supporting the biosphere or will its activity destroy the stability of planet Earth? Vladimir Vernadsky believed in the first scenario but we have doubts about his optimism.

CONTRIBUTION OF LYNN MARGULIS AND DORION SAGAN: SYMBIOSIS OF LIFE AND PHILOSOPHY

Lynn Margulis, a distinguished microbiologist and co-author of the Gaia theory, made a decisive contribution to the scientific substantiation of the ideas of the Earth as an integral living system (Margulis 2000). In her studies, she showed the enormous role that microorganisms and the interaction of species play in the evolution of life. She replaced this focus on the microworld to the planetary level, emphasizing that it is microorganisms that control the key biogeochemical cycles of Gaia. Lynn Margulis's works helped to identify the mechanisms through which bacteria and other microorganisms regulate the composition of the atmosphere (Margulis 1997). She managed to explain who at the microlevel is responsible for maintaining the stability of the atmosphere – many symbiotic communities of microorganisms in the soil, the ocean and even in the organisms of animals. Therefore, Lynn Margulis gave the Gaia hypothesis a solid empirical basis: Gaia is not a mystical goddess of Earth but the result of the co-evolution of millions of microbial and other communities, subtly intertwined cycles of matter and energy (Margulis 1982).

According to Lynn Margulis, the idea of the Earth as fragile matter that needs human care reverses the reality: rather, humanity depends on the sustainability of planetary ecosystems.

She criticized the "zoocentrism" of many evolutionists (focusing on animals, however, leaving out microbes) and Western anthropocentrism, stating that our culture ignores three billion years of history of life that preceded humans (Margulis and Sagan 1986). She actually managed to pose a challenge to the Western worldview, suggesting instead of it an ecocentric picture of the world, where man is only one of the forms of life (Margulis and Sagan 2024). Dorion Sagan, as a writer and philosopher, helped to bring the Gaia and symbiosis ideas to a wider audience and associate them with humanitarian knowledge. According

to him, Earth is no more a rock with some life on it than you are a skeleton infested with cells. In other words, life is as inseparable from the Earth as cells are from our body. This vivid metaphor destroys the idea of the Earth as an inanimate body on which life arose. On the contrary, since the origin of life, the Earth has become a single body, where minerals, water, air and living things are intertwined into an inseparable whole. Dorion Sagan emphasized that in light of Gaia, the usual boundary between the organism and the environment was blurred: the Earth is not just an organism in the classical sense, it is a special type of planetary "living being", a kind of giant self-sustaining whole. Dorion Sagan and Lynn Margulis pointed out that Western science had to overcome the centuries-old mechanistic view of the Earth and recognize it as living nature (Margulis and Sagan 1997). The contribution of Lynn Margulis and Dorion Sagan is not limited to biology; their works were interdisciplinary and connected biological theory with philosophy and environmental ethics (Margulis 1995).

They showed an example of a new scientific humanism which focuses on respect for all living things. Their ideas paved the way also for modern international environmental law, which adequately defends the intrinsic value of the biosphere (International Environmental Law 2012). Due to the popular books of Lynn Margulis and Dorion Sagan, the Gaia concept spread beyond academic circles and influenced the environmental movement. Their work is a striking example of how a scientific hypothesis grew into a philosophical concept that challenged the foundations of legal systems: if the Earth is a living whole, what should be the international and national laws aimed at protecting it?

SCIENTIFIC SCHOOLS THAT CONTRIBUTED TO THE CONCEPT OF THE EARTH AS A LIVING PLANET

Along with the scholars who directly developed the concept of the Earth as a special form of life, substantiating changes of the political and legal vector of human development (from anthropocentrism to ecocentrism), many representatives of other scientific schools made an equally significant contribution to the formation of environmental philosophy as a new vector of research. This field was initiated by A. Leopold and A. Schweitzer (the latter is the author of one of the fundamental principles of environmental ethics, “reverence for life”) (Schweitzer 1992), and the term “deep ecology” itself was coined by A. Naess in

1973, who drew attention to the need for transformations in the area of values not only in the interests of humans but also in the interests of other forms of life. Afterwards these ideas were promoted by Terry Hoy, David Pepper, Joanna Macy, and in Russia by E.V. Barkova, N.V. Dmitrieva and others. Within the framework of this field of philosophy, there is a change in the ideas of humans about their own "I", they stop opposing themselves to nature and begin to speak on its behalf, merge and dissolve in it (Dmitrieva 2012).

As noted by A. Naess, every major ecological problem has a social and political aspect. It is clear that technological invention has practically no influence on the curve of increasing unsustainability. Whether the use of an ecologically salutary invention is adopted on an appropriate scale depends upon social and political factors. Unfortunately, these factors are neglected in research and development programs. Environment is conceived as something outside of humanity. Humans are clearly inside the ecological systems of the Earth, and the societies of humans have the same kind of need and right to be protected as societies of other living beings (Naess, Culture … 2005). The richness and diversity of forms of life have value in themselves and contribute to the flourishing of human and non-human life on Earth. Humans have no right to reduce this richness and diversity. The current interference of humans in the non-human world is excessive and the situation worsens rapidly. Policies must be changed in this area, including basic economic, technological and ideological structures. The resulting state of affairs will be deeply different from the present. The ideological change is that of appreciating life quality rather than adhering to an increasingly higher standard of living. The term "life" is used by A. Naess in a broad sense to refer also to what biologists classify as non-living: rivers, landscapes, cultures, ecosystems, the living earth. So-called simple, lower, or primitive species of plants and animals contribute essentially to richness and diversity of life. They have value-in-themselves and are not merely steps towards the so-called higher or rational life forms. It may validly be objected that if the present billions of humans deeply change their behavior in the direction of ecological responsibility, non-human life could flourish. People in the materially richest countries cannot be expected to reduce their excessive interference in nature overnight. Less interference does not imply that humans should not modify some ecosystems. Humans will modify the Earth, and at issue is the nature and extent of such interference (Naess, The Basics… 2005). As noted by other representatives of

ecophilosophy, it is long past time to treat our planet not as a dead body revolving around the Sun but as a living and rational organism capable of responding to thoughtless activity of the people inhabiting it. This complex organism is a self-regulating system, which manifests itself in the course of geological, geophysical, atmospheric and other processes. Nature is defined as a reality rational along with humans in many scientific works by modern ecophilosophers (Barkova 2016).

This circumstance is also noted by D.J. Willis (1992), stating that our planet is more like a living being, a self-regulating organic entity that maintains itself in a stable state contributing to continuation of life. Adaptation and evolution of individual beings becomes part of a single, larger process – adaptation and evolution of the planet itself. This gives rise to continuous symbiotic relations between living beings as well as geochemical processes ensuring the survival of man as a planetary organism. The conducted analysis shows that the idea of protecting not individual natural objects but large ecosystems including the whole planet Earth as one global ecosystem can be observed (although to a different extent) in the works of a large number of scholars of environmental philosophy as a new scientific field. Their ideas of "reverence for life" meaning the need to protect all forms of life including microorganisms match well the ideas of James Lovelock and other scholars who developed the Gaia theory.

3. LESSONS FROM THE COVID-19 PANDEMIC: PLANETARY HEALTH

The first case of COVID-19 was registered on November 17, 2019: a resident in the province of Hubei in China got medical help. According to the World Health Organization, almost 777 million cases of the disease and over 7 million deaths have been officially confirmed since then (Kosenok 2024). Global economic losses from 2020 to 2023 amounted to a record $3.7 trillion.[2]

The COVID-19 coronavirus pandemic has become a clear example of how closely the global ecosystem and the world economy, law and politics are intertwined. On the one hand, the emergence of a new zoonotic infection is associated with environmental factors: human invasion of wild ecosystems, animal trade and the reduction of the biological barrier between species. On the

[2] IMF estimates global economic losses since the COVID pandemic at $3.7 trillion. In: https://www.rbc.ru/economics/06/10/2023/651f4cdf9a7947124f5ea79b?utm_source=chatgpt.com (accessed April 30, 2025).

other hand, the fight against the pandemic required unprecedented joint measures from all states. According to Bruno Latour, "humanity was locked in by Lovelock", having realized that it was impossible to escape to another planet, so it will have to learn to live within the confines of the Earth we have (Watts 2020). In philosophical terms, the coronavirus has brought us back to Earth: during the lockdown, people saw a clearer sky and wild animals returning to cities – an effect of respite for Gaia (Wang G. et al 2020). This gave rise to discussions about the need for "planetary health" – the concept admitting that human health depends on the health of ecosystems (Horton and Selina 2015). In the legal field, this approach encouraged the integration of environmental safety and healthcare standards and the strengthening of international regimes limiting environmental destruction (to prevent new pandemics). Moreover, the pandemic showed that a global emergency can make states rapidly restrict economic activity for the common good.

In fact, within several weeks, humanity managed to slow down the economy – something that seemed impossible for the sake of the environment became a reality for the sake of the fight against the coronavirus.[3] It was an awesome social experiment that proved that radical measures for the sake of the planet are possible if their urgency is realized. However, is the pandemic nature's revenge for man's violation of the established ecological balance? This point of view is viable, as well as the assertion that the coronavirus was not brought from space.

Coronaviruses had been known to humanity before, they have long been part of the Earth's biosphere. This is why, within the framework of the Gaia theory, it can be assumed that the threat comes from the very fabric of life and, consequently, salvation from this threat depends on success in rethinking the own place of man in nature. The pandemic can become a rehearsal for the mobilization of people in the face of an even more serious climate threat.

However, combating the climate crisis requires global trust in scientifically substantiated restrictions (the need to reduce emissions, ban on trade in wild animals, etc.). This means that international cooperation must be based on the ideas of planetary ethics: solidarity of all peoples in the face of common environmental threats. These risks had emerged long before the pandemic, this

[3] For example, China sharply reduced its use of coal-fired power stations and electricity generation

is why its consequences should be considered in the context of the previous stages of the influence of environmental pollution on human health. This regularity was first found in 1956 as a result of mercury pollution of the coastal sea in Minamata Bay of the Sea of Japan through the fault of a chemical factory. Then it affected 1500 people that consumed fish, clams and crustaceans, 200 people died. This disease was named "Minamata disease". Itai-itai disease is another well-known case of environmental disease. It emerged in the area of the Jinzu River basin in Toyama Prefecture, Japan (Sakamoto M. et al., 2025; Shimbun 2018). It is traditionally believed (according to the WHO's estimates) that pollution of the environment is the cause of human diseases in 30% of cases. However, the recent studies of Russian scientists, who proposed new methods for analysis of influence of various factors on the state of health, show that air pollution is to blame for deterioration of the health of the population in 40-43% of cases. According to other data, influence of ecology on human health comprises more than 45-50% of the totality of all factors affecting it (Mogilevskaya 2019).

Russian scientists also draw attention to the fact that active absorption of harmful substances is typical of lichens, radioactive cesium-137 was found in their samples in the amount that is thousands of times more than in their habitat. Consequently, elevated cesium concentrations are registered in the meat of deer that is used as food by humans, and this affects their health (Rozanov 2012). There was an increase in child mortality in Germany and Poland, which fell into the zone of radioactive contamination after the accident at the Chernobyl Nuclear Power Plant (the accident had even worse consequences for residents of adjacent territories, especially for firefighters and other liquidators of the accident) (Yablokov et al 2007; Bebeshko 2012).

Therefore, all modern medical studies indicate that the health of the population deteriorates as a result of pollution, though humans are adapted to products of combustion of wood and fossil fuel much better than other living organisms, because they always inhaled them in caves, dugouts and village huts, having mastered the culture of using fire in the very early stages of their existence.

Destruction of the human ecological niche affects health to a much greater extent. Since biological laws apply also to humans, it is not surprising that there is human genome decay as a result of cessation of functioning of the mechanisms that keep decay of the species at a particular level in the natural ecological niche.

The human genome decay is evidenced by the data about the increase in genetic diseases in developed countries, primarily mental illnesses and congenital disorders. Social consequences of this process require close attention, because they are probably connected with the spread of alcoholism and drug addiction, outbreaks of unprecedented cruelty in local conflicts, decrease in the immune status of the human body, emergence of new diseases, expansion of the circle of people affected by seemingly eradicated diseases (for example, cholera and malaria), violation of prohibitions and inhibiting processes. Therefore, something that is usually called "environmental" diseases and directly associated with environmental pollution is just the tip of an iceberg. Behind the "obvious" causes there are deep mechanisms leading to the human genome decay, they are much more dangerous but invisible and intangible like ionizing radiation (Gorshkov et al 1994). Biologists have no doubt that infections "moved" from animals to people repeatedly in the history of humanity. For example, the HIV, which moved to people from monkeys; the hepatitis C virus, which came to people from horses or from other animals; measles and mumps viruses, which obviously passed to people from ungulate animals or from bats; tick-borne encephalitis, Zika, dengue and West Nile viruses, etc. Various types of coronaviruses (atypical pneumonia, the Middle East respiratory syndrome coronaviruses and the current coronavirus) moved to people from bats three times for the past 20 years (Netesov 2020).

However, where did wild animals that infected people get the diseases? Can we assert that environmental pollution negatively affects not only the state of human health but also the state of health of wild animals? Is it possible to assert that environmental pollution affects different species of flora and fauna in a different way? This kind of research is still not enough today, though it can be observed a little more frequently in recent years (Zotova 2019; Bakhtinov 2012). The famous American environmental scientist B. Commoner summarized the basic laws of ecology as follows: everything is connected to everything else; everything must go somewhere; nature knows best; there is no such thing as a free lunch (Commoner 1974). Taking into account that in China initially snakes and other wild animals were infected (and the coronavirus passed from them to humans) as well as the fact that many epidemics (atypical pneumonia, avian influenza) also emerged in China, which is the center of world industry and one of the most polluted regions of the planet, it is logical to assume a close

relationship between the level of environmental pollution and “environmental diseases” of not only people but also animals.

To prevent new pandemics, it is important to take into account not only the interests of humans but also the interests of other living organisms in the national environmental policy. This is relevant not only to China but also to other countries including Russia. Therefore, the fact of the negative impact of environmental factors on human health is considered proven in medical science, which leads to the emergence of a separate group of "environmental diseases". Most national legislation acts clearly establish the right of citizens to the protection of their health from the negative impact of the environment (and there is corresponding judicial practice); however, the interests of many other living organisms are taken into account poorly or they are not considered at all within the framework of the institution of environmental quality control as well as a number of other environmental and legal institutions.

4. PHILOSOPHY OF LAW FOR THE LIVING PLANET: FROM ANTHROPOCENTRISM TO ECOCENTRISM

Crisis of the Anthropocentric Paradigm

Traditionally, law (especially international law) is based on deep anthropocentrism. Man is considered as the sole bearer of rights and nature is only an object of use. States establish the sovereign right to exploit their resources primarily on the basis of the interests of the people.

For example, in Russia, environmental quality standards reflect ideas about the safe quality of water and air for human health but not for other living beings; forests are ruthlessly cut down and the area of national parks is reduced to build stadiums and other Olympic facilities; funding for nature protection activities continues to decline while the area of solid household waste landfills grows. However, this paradigm demonstrates its inconsistency in terms of the global environmental crisis. Modern international environmental law is a mosaic canvas of individual agreements on the protection of certain components of nature (climate, bioresources, waste, etc.), which in essence reflects the atomistic thinking of nation states. According to Karen Litfin, international law is based on the division of the planet into sovereign territories and separate "problems" while

global environmental crises are a manifestation of the collision of humanity and the problem of the condition of Gaia (Litfin 2005). The anthropocentrism of law is also expressed in the fact that the value of nature is justified through the prism of its benefit for humans (the concepts of green economy and ecosystem services). As a result, legal mechanisms motivated by narrow human interests turn out to be weak and cannot prevent the rapid deterioration of the condition of nature in the whole world. Moreover, scholars point out that sustainable development is clearly now a central component of the neoliberal frame and is serving to block awareness of the severity of the problems we face and their causes (Gare 2017: 135).

In response to these threats, a new philosophical and legal paradigm, which can be called ecocentrism in law, emerges in the late 20th and early 21st centuries. It is based on the recognition of the intrinsic value of nature, independent of human benefit. The concept of the rights of Nature can be considered a particular expression of ecocentrism. Its essence is that not only people (and their associations) but also nature itself (its parts – ecosystems, species, even the planet as a whole) must be recognized as holders of rights protected by law.

From the philosophical point of view, this follows the ideas of James Lovelock, Lynn Margulis and Vladimir Vernadsky: if the Earth is a living whole, this whole has interests, its own "good", which requires respect. The key point is the transition from the idea of nature as an object (resource) to nature as a subject of law. This approach radically changes the basis of the legal order: it displaces man from the top of the legal pyramid, placing man next to other components of the Earth in the single legal system. According to Christopher D. Stone, the recognition of the rights of Nature will make it possible to file claims on behalf of trees and other "natural objects" and to demand compensation for damages that can be recovered in favor of these objects (Stone 1972). In its turn, Godofredo Stutzin believed that the development of law had reached the stage making the recognition of the rights of Nature an act of justice. In this way, law will confirm the special values inherent in the world of Nature and will leave behind the unforgivably anthropocentric idea of the Earth, according to which it and everything that exists on it are only an environment for humanity, having no value other than the usefulness to man (Stutzin 2002).

However, Thomas Berry went a step further, proposing the term "Earth

Jurisprudence" to name the philosophy of governance and law that is based on the primacy of the Earth rather than human interests (Tucker and Grim 2019). According to Thomas Berry, modern law is mistakenly constructed in such a way that all rights belong to humans and nature has no rights at all. He considered this system fundamentally flawed and called for its transformation based on the principles dictated by the Earth itself. His concept proceeds from the assertion that human laws must be consistent with the natural laws of the Earth – the ecosystem and evolutionary processes supporting life. Humans are just a part of the huge planet community including all living beings and components of the biosphere.

The task of humans is to take a humble place in this community, acting as "benevolent participants" of the Earth rather than as dominant predators. Thomas Berry pointed out that traditions of indigenous peoples revering the earth as animate and sacred can serve as inspiration for constructing a new jurisprudence that recognizes the inherent rights of the natural world.

Implementing the Concept of Ecocentrism: from Theory to Legal Practice

The transition to the ecocentric legal model gradually takes place in different countries and at the international level. For example, in 2008, Ecuador became the first country in the world to include the rights of nature (Mother Earth) in its Constitution.[4] Then similar changes followed in Bolivia. In some countries (New Zealand, India, Colombia), courts have granted rights to specific natural objects – rivers, forests and ecosystems. This ecocentric shift opens up new possibilities for environmental protection and implies change in the relations between the state, society and nature (Álvarez-Rondón 2025: 4-5). Nature is no longer the property of humans and exists not only to satisfy their purposes (Maldonado 2019: 13-15). Within the framework of these ideas, man is no longer considered as the highest form of existence but as just an element of Nature (Pacha Mama). All lives are interconnected and there is no separation between humanity and the environment (Cardozo D.E., Salles 2019: 34). At the UN level, regular reports of the UN Secretary-General "In Harmony with Nature" have been published since 2009. They propose changing the generally accepted terminology and mention "legal philosophy of the Earth" and the principles of "Earth-centred law". It

[4] Constitution of the Republic of Ecuador. Published in the Official Register, October 20, 2008.

should be noted that they use the new legal framework of "the Earth's right to a healthy environment" (the Earth but not a person or a state). In 2017, the Inter-American Court of Human Rights noted in its Advisory Opinion that the right to a healthy environment protected nature for its own sake and not just for the well-being of humans.

The 2022 Kunming-Montreal Global Biodiversity Framework explicitly mentions the need to achieve harmony with Mother Earth, which indicates the beginning of a paradigm shift in international law – from sovereignty and anthropocentrism towards an understanding of the planet as a whole having its value and rights. The rights of nature serve as one of the ways of implementing an ecocentric philosophy of law that establishes the inner value and the necessity of protecting nature regardless of its benefit for humans. The changes described above can be considered as the emergence of "geocentric" (planetocentric) law aimed at maintaining the integrity of the Earth. The term "Earth system law" can already be found in legal literature. It reflects the need for regulation based on planetary boundaries and the connectedness of ecological processes (Kim 2022). It is supposed that in the Anthropocene era, law should use categories of global systemic risks and the biosphere stability and take into account indices of planetary well-being (for example, the inadmissibility of exceeding particular levels of climate change, chemical pollution and species loss). This perspective is in tune with the image of Gaia: instead of narrow responses to individual environmental "irregularities", it is necessary to apply a systematic approach that considers the human economy, health and other aspects as subsystems of the larger living Earth system. Just as in the organism, a malfunction of one organ is treated with the consideration of the impact on the entire organism, global law must aim for holistic regulation that goes beyond national jurisdictions and short-term interests. This is why the sustainability of humanity is inseparable from the sustainability of the biosphere, which means that the rights of nature and human rights are not competitors but necessary complementary elements of one single system of values. This is a profound philosophical shift: law is intended to evolve from serving exclusively Homo sapiens to serving life as such.

Gaia in the Context of Modern Crises: Challenges to International Law

Climate change is often described in the spirit of the metaphor proposed by James

Lovelock as "Gaia's fever" – the reaction of the planetary organism to an irritant. The accumulation of greenhouse gases in the atmosphere due to human activity throws the system off balance and the Earth tries to establish a new balance that is not very compatible with the current civilization. In the book titled "The Revenge of Gaia", James Lovelock warns that if the temperature rises by a few degrees, the biosphere's regulatory mechanisms can switch to a different mode dangerous for humanity. From the perspective of philosophy of law, this raises the following question: do we have a moral right to break the rules of the planet? Gaia, in the words of James Lovelock, destroys violators – not out of malice but by virtue of natural laws. This raises the idea of the rights of future generations and the Earth itself to a favorable climate, on which the health of the Earth's biosphere as a whole, the health of wild animals and humans depends. This idea has already permeated international agreements (for example, the preamble of the 2015 Paris Agreement mentions "Mother Earth" and the climate as a common concern of humankind).

The issue of declaring ecocide (large-scale destruction of ecosystems) an international crime also gains supporters due to the realization that deliberate actions that "wound" Gaia must be punished on a global scale (Ruuska, Heikkurinen, Levasseur and Gare, 2024: 71).

The perception of the Gaia ideas manifests itself not only with respect to climate. The ideas of ecocentrism are already embedded in the 1971 Ramsar Convention, according to which it is necessary to protect wetlands as a whole, as a single ecosystem rather than swamps (separately) and waterfowl (separately). Many countries (for example, the Republic of Belarus) implement a new concept of specially protected natural areas, which means that not only "islands" of wild nature but also ecological corridors connecting them with other biocoenoses are subject to special protection. In Russia, the Federal Law "On Fauna" provides for a number of measures to protect the habitat of wild animals during various types of economic activities. China carries out a very progressive environmental policy, having proclaimed the construction of an ecological civilization.

The concept of ecological civilization focuses on creating the conditions for living beings, including humans, to flourish, developing their full potential to augment life, rather than maximizing profits or simply developing the forces of production (Kopytin and Gare 2023).

The transition to circular economy standards, which leads to reduction in the

amount of waste, can be observed in many countries around the world. The Universal Declaration of the Rights of Mother Earth and the Global Covenant on Environmental Protection are discussed at the international level. All these and many other legal initiatives are evidence that philosophy of law seeks to analyze the challenge posed by the Gaia hypothesis: how to include the non-human world in the space of law and morality. In addition, it is important to note that philosophical and legal ecocentrism does not radically oppose the interests of humanity to the interests of nature. On the contrary, there is a thought about their unity: the well-being of ecosystems is a condition for the well-being of people since the focus only on human interests leads to weak protection of nature and a dead end while the recognition of the rights of nature reflects an understanding of the interconnectedness of man and nature (Arling 2024).

It is this interconnectedness that is the central motif of the Gaia hypothesis and the concept of the biosphere. The modern world finally begins to take it seriously both in philosophy and in law. In addition, it is not important which legal path is taken to achieve this goal – through recognition of the rights of Nature or change of the legal regulation of its protection as a global ecosystem – an object of law. In this sense every country has the right to choose its own path, approving regulatory wordings in accordance with its customs and traditions.

The above arguments make it possible to conclude that the significance of environmental philosophy consists not in the fact that it regulates emissions and discharges of harmful substances, thus directly facilitating reduction of the negative human impact on nature. Its role is rather related to values and the worldview, it consists in the possibility of a comprehensive approach to environmental problems, explanation of their long-term consequences, which cannot be achieved by means of the methodology of legal or economic science. The main appeal of ecophilosophy is preservation of the stability of living nature and its ability to self-regulation (Shulga 2018). The ecophilosophical methodological program of action can help to resolve the environmental crisis, also by promoting facts about the threat of a planetary ecological disaster resulting from conscious human neglect of the valuable and unique nature of natural objects (Turchin 2011).

The interaction between ecophilosophy and law consists in the fact that content of any regulatory act inevitably depends on the worldview attitudes of its

authors, the degree of their awareness of the need to find harmony between nature and society. Changing the philosophical understanding of the Earth means also a new perception of its pollution. Even if the above evidence of the "particular life form" of the Earth is not considered sufficient, the very fact of close interconnection and interinfluence of all components of the natural environment (land, water, subsurface, etc.) as well as human activity is beyond doubt. Hence it follows that the Earth responds to the anthropogenic activity associated with pollution of ecosystems, which is proved by the fact of global climate change recognized by the world community. In this regard, our hypothesis is that, in addition to climate change, the response of Nature to human activity can manifest itself in another way, in particular, in the form of repeated pandemics, which become more and more dangerous each time. To reduce these threats, it is necessary to revise not only philosophical but also legal approaches to the protection of nature.

CONCLUSION

The philosophical and legal analysis of the Gaia hypothesis of James Lovelock, the biosphere doctrine of Vladimir Vernadsky, works of Lynn Margulis, Dorion Sagan and other scholars shows that we deal with the expansion of a new paradigm of perception of the Earth. The planet appears to be a unique living being with its own value and rights rather than an aggregate of economically valuable mineral resources. This requires fundamental reorientation of international law – from serving exclusively man to serving the entire earth community of life. For the first time in its history, law faced the need to include the entire planet as a subject in its normative horizon. International law, formed in the era of sovereign states and anthropocentrism, must adapt to the reality of the Anthropocene-Gaia, where national borders are secondary in relation to the integrity of the biosphere. The ideas of James Lovelock and other scholars, which previously seemed bold scientific hypotheses, are taken further today in philosophical and legal terms: they are associated with the concepts of the rights of nature, Earth Jurisprudence and planetary health. In the context of the climate crisis and pandemics, these ideas are no longer abstract – they become the basis for specific steps to reform law, international and national policies. Today, the protection of the Earth as a unique form of life is a question of preserving the basis of existence for all living beings including humans rather than a special

environmental issue.

Philosophy of law is aimed at analyzing new subjects (Gaia, the biosphere), new values (the intrinsic value of nature) and new duties (careful coexistence of humans and other forms of life within the Earth). International law, in its turn, must evolve to the level of a planetary guardian – the custodian of the conditions necessary for the continuation of life on Earth. Perhaps in the future, historians will speak about the early 21st century as the time of the second Copernican revolution – when humans stopped considering themselves the legal center of the world and recognized the supremacy of life on Earth.

The change of the philosophical and legal paradigm in the relations between humanity and the Earth will not only reduce anthropogenic pressure on the Earth's ecosystems but also mitigate the Earth's response in the form of earthquakes, floods, climate change and pandemics, which affect not only people but also wild animals. Although there is still no sufficient clear evidence of the negative impact of a polluted environment on the health of fauna, the available studies confirm the relevance of this hypothesis, as well as the fact that various biological species die out every year. To prevent the emergence of new pandemics, humanity must move from the anthropocentric concept to the ecocentric one, which involves the reduction of the impact on the environment.

Aleksey Anisimov,
Professor of Department of Criminal Law and Public Law Disciplines, Don State Technical University, Russia, doctor of juridical sciences, e-mail: anisimovap@mail.ru
Anatoliy Ryzhenkov,
Professor of Department of Civil Law and Procedure, Kalmyk State University, Russia, doctor of juridical sciences, e-mail: 4077778@list.ru

BIBLIOGRAPHY

Álvarez-Rondón, C.C. «Derechos de la naturaleza en Colombia: dispositivos e instrumentos de gestión ambiental de la administración pública desde una perspectiva de innovación» *DIXI*, 27, 2025, 1-16.

Arling, H. «International Rights of Nature – a Paradigm Shift in International Law»

https://ecojurisprudence.org/international-rights-of-nature-a-paradigm-shift-in-international-law/

Bakhtinov, A.P. «Influence of the environment on the health of people and animals and their reproduction» *Yearbook of the Research Institute of Fundamental and Applied Research*, 3, 2012, 92-93.

Barkova, E.V. «Ecophilosophical picture of the world in the problematic field of modern knowledge» *Bulletin of Plekhanov Russian University of Economics*, 4, 2016, 180-186.

Bebeshko, V.G. et al. «Radiological and medical consequences of the Chernobyl disaster» *Radiation hygiene*, 5-1, 2012, 5-12.

Cardozo, D.E., Salles, A.A. «Animal Rights Theory from the Legal and Bioethical Perspectives» *Derecho Animal (Forum of Animal Law Studies)*, 10/3, 2019, 30-46.

Commoner, B. «The closing circle: nature, man, technology» *Leningrad: Hydrometeoizdat*, 1974.

Dmitrieva, N.V. «Current state of the issue of the nature – human – society relationship: socio-philosophical analysis» *Bulletin of Saratov State Technical University*, 1-1, 2012, 170-175.

Gare, A. «Ethics, Philosophy and the Environment» *Cosmos and History*, 14, 3, 2018, 219-240.

Gare, A. «From 'Sustainable Development' to 'Ecological Civilization': Winning the War for Survival» *Cosmos and History: The Journal of Natural and Social Philosophy*, 13, 3, 2017, 130-153.

Gorshkov V.G. et al. «Environment: from new technologies to new thinking» *Green world*, 19, 1994, 1-27.

Horton, R., Selina, L. «Planetary Health: A new science for exceptional action» *The Lancet*, 386, 10007, 2015.

International Environmental Law: Textbook / Managing Editor R.M. Valeev. Moscow: Statut, 2012.

Kim, R.E. «Taming Gaia 2.0: Earth system law in the ruptured Anthropocene» *The Anthropocene Review*, 9, 3, 2022, 299-590.

Kopytin, A., Gare, A. «Ecopoiesis: A Manifesto for Ecological Civilization» *Ecopoiesis: eco-human theory and practice*, 4, 1, 2023, 6-17.

Kosenok A. «Five Years of COVID-19: the Harm Caused by the Pandemic» https://www.vedomosti.ru/society/articles/2024/11/17/1075417-kak-navredila-pandemiya-i-borba-s-nei?utm_source=chatgpt.com

Litfin, K. «Gaia Theory: Intimations for Global Environmental Politics» *Handbook of Global Environmental Politics. Editor: P. Dauvergne. Elgaronline*, 2005, 502-517.

Lovelock, J.E. «Gaia: A New Look at Life on Earth» *Oxford University Press*, 1979.

Lovelock, J. «The Age of Gaia A biography Our Living Earth» *New York; London: Norton, Cop.*, 1988.

Lovelock, J. «The Revenge of Gaia: Earth's climate in crisis and the fate of humanity» *New York: Basic Books*, 2006.

Maldonado, D.B. «El constitucionalismo radical ambiental y la diversidad cultural en América Latina. Los derechos de la naturaleza y el buen vivir en Ecuador y Bolivia *Revista Derecho del Estado*, 42, 2019, 3-23.

Margulis, L. «Early Life» *Science Books International*, 1982.

Margulis, L. «Microcosmos: Four Billion Years of Microbial Evolution» *University of California Press*, 1997.

Margulis, L. «Symbiotic planet: a new look at evolution» *New York: Basic Books*, 2000.

Margulis, L., Sagan, D. «Microcosmos: four billion years of evolution from our microbial Ancestors» *New York: Summit Books*, 1986.

Margulis, L., Sagan, D. «Gala and Philosophy» *Silver Press*, 2024.

Margulis, L., Sagan, D. «Slanted Truths. Essays on Gaia, Symbiosis and Evolution» *Copernicus*, 1997.

Margulis, L., Sagan, D., Niles, E. «What is life?» *New York: Simon & Schuster*, 1995.

Mogilevskaya T.E. et al. «Influence of ecology on human health as an urgent issue of modern times» *The youth and science*, 12, 2019, 19-24.

Naess, A. «Culture and Environment» *Trumpeter*, 21-1, 2005, 53-56.

Naess, A. «The Basics of Deep Ecology» *Trumpeter*, 21-1, 2005, 68-70.

Netesov, S. «Coronavirus of CoViD-19: where it comes from and what to expect from it» *Kommersant, 24.03.2020*.

Paola, M.D., Jamieson, D. «Climate Change and the Challenges to Democracy» *University of Miami Law Review*, 72, 2018, 369-424.

Rozanov, L.L. «Subject-object essence of medical geoecology» *Scientific dialog*, 7, 2012, 20-24.

Ruuska, T., Heikkurinen, P., Levasseur, T., Gare, A. «Redefining Violence for the Anthropocene: From Ecocide to Ecological Civilization» *Cosmos and History: The Journal of Natural and Social Philosophy*, 20, 2, 2024, 56-76.

Sagan, D. «James Lovelock, Gaia, and the Remembering of Biological Being» https://technophany.philosophyandtechnology.network/announcement/view/158#:~:text=thermodynamic%20system%20away%20from%20chemical,there%2C%20replenishing%20its%20reactive%20compounds

Sakamoto M. et al. «Assessing the role of selenium in Minamata disease through reanalysis of historical samples» *Environment International.* 195, 2025, 109242.

Schweitzer, A. «A reverence for life» Moscow: Progress, 1992.

Serafin, R. «Vernadsky's Biosphere, Teilhard's Noosphere, and Lovelock's Gaia: Perspectives on Human Intervention in Global Biogeochemical Cycles» *IIASA Working Paper. IIASA, LLaxenburg, Austria*, 1987.

Shimbun, M. «50 years of official recognition of itai-itai disease» https://inosmi.ru/history/20180512/242204685.html

Shulga, E.N. «Ecophilosophy and the symbolic world of nature: the issue of interpretation» *Logos et Praxis*, 17, 1, 2018, 22-31.

Stoa, R. «Droughts, Floods, and Wildfires: Paleo Perspectives on Disaster Law in the Anthropocene» *Georgetown International Environmental Law Review*, 27, 2015, 393-446.

Stone, C.D. «Should Trees Have Standing? Toward Legal Rights for Natural Objects» *Southern California Law Review*, 45, 2, 1972, 450-501.

Stutzin, G. «Nature's Rights: Justice Requires that Nature Be Recognised as a Legal Entity» *Resurgence & Ecologist,* 210, 2002.

Tucker, M.E., Grim, J. «Thomas Berry and the Rights of Nature» *Kosmos,* 19, 4, 2019.

Turchin, M.B. «Ecophilosophical methodology as a constructing factor of the radical ecologism school» *Humanitarian Newsletter of the Zaporizhzhya State Engineering Academy*, 47, 2011, 105-113.

Vernadsky, V.I. «Biosphere: monograph» *Leningrad: Scientific Chemical Technological Publishing House*, 1926.

Vernadsky, V.I. «Philosophical Thoughts of a Naturalist» *Moscow: Academic Project*, 2024.

Vernadsky, V.I. «Scientific Thought as a Planetary Phenomenon» *Moscow: Nauka*, 1991.

Vernadsky, V.I. «The Biosphere and the Noosphere» *Moscow: Airis-Press*, 2013.

Wang G. et al. «Mitigate the effects of home confinement on children during the COVID-19 outbreak» *Lancet*, 395, 2020, 945-947.

Watts, J. «Bruno Latour: 'This is a global catastrophe that has come from within» *The Guardian*, 2020, 6 Jun.

Willis, D.J. «Ecophilosophy and Natural Law» *Journal of Energy, Natural Resources & Environmental Law*, 12, 2, 1992, 419-452.

Yablokov, A.V., Nesterenko, V.B., Nesterenko, A.V. «Chernobyl: consequences of the disaster for man and nature» *Saint Petersburg: Nauka*, 2007.

Zotova, E.M. «Influence of climate change on infectious diseases of animals» In: Current issues of infectious pathology and biotechnology: proceedings of the 12th International Student Scientific Conference *Ulyanovsk: Ulyanovsk State Agrarian University*, 2019.