

## Towards Co-existence. Responsibility in the Anthropocene Debate

## W stronę koegzystencji. Odpowiedzialność w dyskusji o Antropocenie

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### Abstract

P. Crutzen and E. Stoermer's concept that humanity has entered a new geological epoch – the Anthropocene, in which the human species has become the leading geological force, is the subject of multidisciplinary scientific research. The debate on the Age of Man reconnects the sphere of facts and the normative sphere, while still continuing the eco-developmental concept oriented towards the search for new socio-economic solutions. One of the assumptions of the naturalistic narrative of the Anthropocene is the conviction that human action has the greatest impact on the environment and we are responsible for its condition. Often compared in literature to other great revolutions in science – Copernicus' and Darwin's theory – the paradigm shift in thinking in the Anthropocene forces us to rethink the key concepts of classical philosophy: human, nature, responsibility. The article presents an outline of the ethical debate on responsibility in the Anthropocene, considering its collective and individual aspects, and introduces a new concept of co-existence, which integrates ecosystems with the technosphere.

**Key words:** Anthropocene, human, nature, responsibility, ethics, technosphere

**Słowa kluczowe:** Antropocen, ludzie, przyroda, odpowiedzialność, etyka, technosfera

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### The Anthropocene

In the year 2000 the Nobel Prize winner – an atmospheric chemist – P. Crutzen and a biologist – E. Stoermer put forward a revolutionary theory that humanity has entered a new geological epoch – the Anthropocene. E. Stoermer introduced the term – the Anthropocene into literature as early as the 1990's but it was not until his collaboration with P. Crutzen that allowed to popularize the theory that humanity had become a geological force. The Anthropocene is an epoch, in which we observe an active human interference in the processes governing the geological evolution of the planet (Bińczyk, 2018). According to B. Latour *What makes the Anthropocene an excellent marker, a 'golden spike' clearly detectable beyond the frontier of stratigraphy, is that the name of this geohistorical period may become the most pertinent philosophical, religious, anthropological, and – as we shall soon see – political concept for beginning to turn away for good from the notions of 'Modern' and 'modernity'* (Latour, 2017). B. Stiegler comments the Anthropocene: The question that arises here is exceptional and extraordinary in every respect – and this extra-ordinariness is overwhelming: how can we live under the weight of a common protention that is potentially but massively negative on a worldwide scale?

However E. Bińczyk notes that the *Age of Man* is devoid of the tone of *victory over nature*.

At the end of the 19<sup>th</sup> century, the Swedish chemist and Nobel Laureate – S. Arrhenius put forward the hypothesis that industrialization could affect climate change within a few thousand years. In 1908, he corrected his calculations by predicting anthropogenic climate change within a few hundred years. After the Second World War, in W. Vogt's *Road to Survival* and H. Fairfield's *Our Plundered Planet*, human activity is presented as a threat to the environment, and the anthropos itself as the driving force of nature. In the second half of the 20<sup>th</sup> century, Ecophilosophy and humanistic ecology addressed the issue of responsibility for the environment and living conditions,

and along with technological progress enabling new ways of collecting data on ecosystems, these concepts became increasingly important within the concept of sustainable development. The dynamic development of earth sciences has in particular, allowed a new holistic view of the world and more precise monitoring of human activities. In 2015, the Intergovernmental Panel on Climate Change released a report which indicated a 95-100% probability that climate change was caused by human beings. The term the Anthropocene has gained four meanings on the ground of humanistic discourse:

- 1) A proposal for a new geological epoch, which is currently being studied by the International Commission on Stratigraphy (ICS) and the International Union of Geological Sciences (IUGS). A special Anthropocene Working Group (AWG) of the ICS was formed in 2009 to address this issue (Ptaszyńska, 2017).
- 2) From a second perspective, the Anthropocene represents an emerging new scientific paradigm. The dynamic development of the earth sciences since the 1970's has provided a new perspective on the earth as a whole system of processes in the earth system. By observing carbon dioxide and greenhouse gases emissions, climatologists have shown that the temperature of the earth has been steadily rising since measurements began in the 19th century. In terms of earth sciences, man started to be treated as the driving force of nature, and the boundary between nature and civilization began to blur. Thus, the human being is no longer an *inhabitant* and nature is not an *environmental space*. We are gradually forced to redistribute entirely what had formerly been called natural and what had been called social or symbolic. (Latour, 2017). The Anthropocene discourse has its roots in natural sciences. The humanists of the turn of the 19th/20th century discussed the inevitable need for a post-anthropocentric turn, emphasizing the value of multispecies eco-justice within such disciplines as ecolinguistics, anthropology, animal studies, biohistory, environmental ethics, or science and technology studies (Bińczyk, 2017). The interdisciplinary science of the Anthropocene blurs the boundaries between the factual and the normative realms. Similarly to ancient thought, ethics arises from the observation and understanding of the natural world. J. Fressoz and C. Bonneuil note that the revolution which the new vision of man brings, may be met with resistance similar to the adoption of the theory of evolution. The view of the world and man which emerges in the Anthropocene forces us to confront difficult truths and calls for radical changes in behavior.
- 3) In the third, broadest sense, the Anthropocene is a general term describing human impact on the environment and landscape. wider conversation around humanity's place in the web of life – a conversation unfolding in the popular press, in activist circles, and across the Two Cultures of the human and natural science (Moore, 2017). In his *End of Nature*, B. McKibben argues that there is no area left on earth untouched by human activity. The first Nature that is the nature before man has been completely absorbed by the Second Nature produced by man. In this meaning of the word, the Anthropocene is a term connected with the notion of environmental crisis and the Sixth Great Extinction as human-induced civilizational threats.
- 4) In the fourth sense, the Anthropocen is a feeling, a state of mind which we experience while living under the influence of negative protention on a global scale. Eco-philosophy, which has introduced terms such as eco-anxiety, eco-grief or eco-guilt deals with the impact of environmental crisis. Rising temperatures, heat waves, floods, tornadoes, hurricanes, droughts, fires, loss of forest, and glaciers, along with disappearance of rivers and desertification, can directly and indirectly cause human pathologies that are physical and mental (Cianconi, 2020). The World Health Organization (WHO) estimates an increase of 250,000 excess deaths per year between 2030 and 2050 due to the *well understood impacts of climate change*. The expanding research literature on climate change and Mental health includes increasing evidence that extreme weather events – which are more frequent, intense, and complex under a changing climate – can trigger post-traumatic stress disorder (PTSD), major depressive disorder (MDD), anxiety, depression, complicated grief, survivor guilt, vicarious trauma, recovery fatigue, substance abuse, and suicidal ideation (Hayes, 2018).

The discussion around the Anthropocene has numerous references to the concept of sustainable development. Since the 1970's, scientists have been discussing the need to seek long-term solutions on a global scale that will maintain a balance of nature. As W. Tyburski rightly notes the progressive destruction of the world of nature, the impending and locally experienced ecological crisis forces us to intensify and integrate the organizational efforts of entire societies, to undertake systematic actions and to search for various ways to stop the adverse processes and repair what has been contaminated and devastated (Tyburski, 2006). The discussion is a continuation of consideration on the basis of eco-philosophy. It is characterized by an interdisciplinary character of research and a sense of mission in the face of civilization's environmental challenges. Significant new issues in the discussion include philosophical, social and ethical consequences of the formal proposal of a new geological epoch causing theoretical changes in philosophy and science related to the new way of understanding man and nature in the Anthropocene era.

### Environmental crisis

In the naturalistic view (Crutzen P., McNeill J., Zalasiewicz J., Chakrabarty D., Steffen W), the Anthropocene is an epoch in which humans became the dominant force of nature. The official grand narrative of the Anthropocene presents not only a unique view of Earth, of which we should all have the same representation, *from nowhere*, but

also a humanity seen as biological entity and geological agent. The grand narrative of the Anthropocene becomes that of *the evolution of humans ... from hunter-gatherers to a global geophysical force* (Bonneuil, Fressoz, 2017). The most important assumption of the Anthropocene is: as a species man has achieved an influence similar to other natural forces that determine the functioning of the earth system (Bonneuil, 2017). In natural sciences the destabilization and the Sixth Great Extinction are treated as the consequences of land exploitation. W. Steffen and J. Rockstrom emphasize the destructive nature of the impact of human activity on the environment, which now threatens millions of animal and plant species. Researchers stress that continued growth of global economy must eventually reach an end. We live on a planet with limited natural resources, thus it is necessary to consider further development from the perspective of planetary boundaries – nine parameters on which environmental stability depends. Humanity has already exceeded four of them: climate change, biodiversity loss, biogeochemical disturbance, and chemical pollution. In 1922, over 1 700 independent scientists, including Nobel Prize laureates signed a letter entitled *Scientists of the World Warn Humanity*. They expressed their concern about the rapidly advancing changes on earth in terms of deforestation, dwindling drinking water supplies, changes in ocean life, loss of biodiversity, climate change and population growth. Twenty five years later, in 2017, in another letter, these scientists emphasized that the situation deteriorated significantly since 1992. We are jeopardizing our future by not reining in our intense but geographically and demographically uneven material consumption and by not perceiving continued rapid population growth as a primary driver behind many ecological and even societal threats (Ripple, 2017). The latest UN GEO-6 report predicts that humanity will exceed the 10 billion mark in less than 50 years. The forecasted population growth along with deteriorating living conditions will accelerate the ongoing migration crisis. In the report entitled *Future of the Human Climate Niche*, the authors stress that global warming may cause apparent temperature to increase to 7.5 °C by 2070, which means that living conditions on 19% of the earth will be unfavorable for nearly 3.5 billion people. The latest IPCC report already informs about nearly 30 million climate refugees. With varying, but high probability, the UN report warns that further climate destabilization may cause droughts, loss of access to drinking water in many parts of the world, deterioration of living conditions, as well as further extinction of species and animals, the rate of which can only be compared to the mass extinction 66 million years ago, when 3/4 of plant and animal species disappeared from the earth.

### **Towards a new ethics of the Anthropocene**

In modern science, the environmental crisis is the key challenge for humanity. As C. Hamilton notes, the return to the conditions of the Holocene has become impossible, currently we can only manage the crisis. E. Bińczyk draws attention to the fact that the effects of human activity in the Anthropocene force us to once again ask ourselves questions concerning reasons, responsibility and freedom. The possibility that Earth might be thrown out of the stable equilibrium of the Holocene questions the existing order of concepts, including the modernist axiological order (based on values such as linear progress, emancipation from the fatalism of nature, the assumption of the autonomy of nature, the Enlightenment hopes in science and technology, and the value of trust in the rational evaluation of gains and compensations of losses). We can even risk the thesis that the moral codes we have known to date, may not be adapted to the challenges of the crisis on a planetary scale, which is being discussed in the Anthropocene debate (Bińczyk, 2018).

In the humanist reception of the naturalistic concept of the Anthropocene, the beginning of the new geological era which naturalists have come to understand as the industrial revolution is arguable. The turn of the 18<sup>th</sup> and 19<sup>th</sup> century sees a rapid surge of environmental changes. Elements stored underground for millions of years are released into the atmosphere within two hundred years. A dynamic development of industry based on fossil fuels causes a significant increase in the emission of greenhouse gases, in particular carbon dioxide and methane. P. Crutzen accepts the invention of the steam engine as a symbolic turning point. J. Fressoz and C. Bonneuil point to the fact that the rapid emission we have to deal with, did not occur until after the Second World War. The authors of the *Shock of the Anthropocene* point out to the rise in social awareness of the negative impact of the human being on the environment. J. Moore insists that the period of the Euro-European conquest of South America and the beginning of expansive wasteful exploitation of resources, was the beginning of the Anthropocene. T. Morton notes that agrologistics – cultivation aimed at exploitation was present from the very beginning of agriculture and suggests the theory of early Anthropocene. The problem with the early Anthropocene concept, as with the Columbian exchange theory, is that there is no sufficient data proving significant human influence on climate in the period before the 19th century. Furthermore, as C. Hamilton rightly notes the adoption of an *early* beginning of the Anthropocene could justify the current situation – the environmental crisis as a *natural* consequence of the development of civilization and push back the sense of responsibility for the Sixth Great Extinction.

The very interdisciplinary dispute over the beginning of the Anthropocene reveals the key questions in the field of ethics on the basis of a new scientific paradigm. First of all, are we actually really responsible for the environmental crisis? Secondly, if we accept responsibility should we treat it as species-based or should we basing on analytical methods, pursue justice by identifying and obliging the guilty to act? Finally, through what course of action should we find a solution to the present situation? In *The Anthropocene Project: Virtue in the Age of Climate*

*Change B.* Williston notes that considerations proceed towards collective and individual responsibility. The potential for discussion is much broader, with humanists drawing attention to the need to discuss human rights, legal protection of living and inanimate entities, new economic and educational solutions and critical analysis of technology and production. In the remainder part of this article I will only elaborate on the issue of responsibility as the focal point of discussion and the transition from biocentrism to co-existence.

### **Responsibility in the discussion on the Anthropocene**

Historians C. Bonneuil and J. Fressoz stress that scientists have been warning humanity about the dangers of unsustainable human activity ever since World War II. Literature even points to W. Blake as a precursor in critical thinking about industrialization and progress. As A. Kiepas rightly observes, the changed nature of human activity is also manifested in the fact that many effects of these actions are of a cumulative nature today. They are the effect of the coupling of many activities and their consequences, and therefore it is not only the immediate effects that are most important, but often it is the secondary and long-term effects that are more important and have more significance. The shortsightedness of traditional ethics and its focus only on immediate consequences consequently led to losing sight of what today seems to be necessary and indispensable for the moral evaluation of these actions although at the same time difficult to do (Kiepas, 2000). The naturalistic trend in the discussion on the Anthropocene is based on the shift in perspective from an anthropocentric to a biocentric one, which is already adopted in ecological humanities, the acceptance of the value of life, perceived very broadly, also as living conditions (which enforces the protection of the stability of ecosystems), and interspecies and intergenerational justice. As early as in the 1970's H. Jonas outlined the concept of human responsibility for the environment. According to the author of the principle of responsibility, man has the driving force that allows him to make far-reaching, irreversible interference in the environment, threatening the future of the entire species. The preventive and biocentric ethics of H. Jonas is an example of the concept of responsibility developed in ecophilosophy. As H. Ciążela notes, the fundamental feature of the new ethics of Hans Jonas' approach is its negative character. Responsibility as a principle for a technical civilization is understood here as a principle leading to an absolute avoidance of risks that would expose the human being to the danger of undertaking actions that could result in irreversible changes that would shatter the achievements of evolution to date, which resulted in the creation of man both in the form of his extinction and the appearance of irreversible changes in human biology perceived as a premise for the development of a specifically human spirituality (Ciążela, 2006). Jonas' concept has shown the dangers of developing a civilization based on technology that is not subject to evaluation. Contemporary philosophy of technology and ecophilosophy emphasizes the need for a critical approach to the consequences and effects of technological development. In the discussion on the Anthropocene posthumanists and eco-modernists stand up for the technological possibilities of saving the environment. Eco-modernism, which postulates the possibility of technological correction of the climate, is politically attractive because it promises no changes in the world economy focused on further growth, but it has no support against the backdrop of the discussion on the Anthropocene, in which the problem is the depletion of natural resources and a simultaneous population growth while continuing a *business as usual* policy. C. Hamilton points to the fact that we should seek local solutions. C. Bonneuil, in turn, suggests eco-socialist solutions based on the idea of sharing and reducing consumption, a concept that has been in use for many years. The discussion on responsibility is closely linked to the reevaluation of the concept of freedom in the Anthropocene. Eco-catastrophic, naturalist, eco-feminist, humanist-teleological and eco-Marxist currents are against technological interference with the climate – geoengineering.

In the discussion on the Anthropocene humanists are increasingly turning to the data of the natural, social, and economic sciences in order to draw ethical implications on the basis of that data. Thinking about the Anthropocene means taking into account the data and models of the Earth system science that tells us with increasing precision about perturbations in the geological time scale which will radically change the conditions of human existence. It means taking the measure of the telluric force of industrialization and commodification, which has derailed the Earth beyond the stable parameters of the Holocene, and of the need to give our freedom different material foundation. (Bonneuil, Fressoz 2017). The responsibility of humanity in the Anthropocene is being fostered in two directions: collective and in-individual. The collective perspective primarily considers international legal solutions that oblige signatories to move towards a low-carbon economy and solutions that reduce carbon footprints. The individual perspective draws attention to how a person treats the world around them. The starting point for the discussion on the Anthropocene is the belief that the environmental crisis is linked to negative socio-economic consequences. Further overexploitation of the earth by human beings will lead to exceeding planetary boundaries and, as a result, weather anomalies will be inevitable, leading to catastrophic deterioration of living conditions for billions of people. Already now, according to the UN Geo-6 report, living conditions on 29% of land surface is described as dramatic for 3.2 billion people.

C. Hamilton notes that without a discussion on responsibility in the Anthropocene, an effective management of the environmental crisis will not be possible. In the postnaturalist view (Latour B., Morton T., Stenger I.), escape from responsibility is impossible insofar as we ourselves have become the leading force of nature and we can no longer refer to the space we live in, as nature. We live in a post naturalist environment where the mass of plastic

is greater than the biomass of animals, and the mass of buildings and infrastructure is greater than the biomass of trees and shrubs. Nature is shaped by economic strategies, political and legal decisions, as well as technology. As T. Morton notes every time we start our engine we contribute to the Sixth Great Extinction of animals and plants. Statistically, our actions may seem insignificant, but on a global scale we are talking about hundreds of billions of tons of carbon dioxide released into the atmosphere. In *The Age of Man* – E. Bińczyk puts forward a thesis that we have found ourselves in a situation of environmental stagnation. On one hand, we are well informed about the risks of contemporary science and on the other hand, in order to achieve the goals of the Paris Agreement we should stop extracting coal and oil straight away. C. Hamilton believes that we should not wait for international legal solutions, but undertake action immediately to support local communities, moving away from the global economy. As early as in the 1990's D. Jamieson suggested the most radical criticism, putting forwards a theory that the environmental crisis is as a matter of fact a crisis of values as lack of moderation and greed are the direct cause of the environmental crisis. In turn, J. Moore emphasizes that the responsibility should be borne by countries and corporations with the largest carbon footprint, pointing to the direct connection between environmental damage and immoderate capitalistic consumption. Instead of the Anthropocene, he proposes the term – the Capitalocene. According to eco-Marxists, the environmental crisis will only further deepen social inequality. H. Kempf in *How the Rich Are Destroying the Earth* points to the fact that just 1% of the richest people own 48% of the world's wealth while half of humanity owns a total of 1%. As A. Hornborg notes as of 2008, less than 20% of humanity has emitted more than 70% of the carbon dioxide since 1850. The average citizen of the United States produces 500 times more carbon dioxide than the citizens of some African or Asian countries. According to B. McKibben, the management of oil industry companies and the politicians who support their further development are to blame. In turn, S. Gardiner points out that the discussion on responsibility has so far been dominated by the conviction that the developed countries should take responsibility, while the developing countries should be exempt from restrictions. However, such solutions have proved ineffective when trying to implement international agreements. Gardiner considers individual-level solutions to be more important. H. Shue proposes to strive to reduce global emissions while legislating the right to minimum necessary emissions. This concept reflects the existing solutions suggested within the framework of sustainable development. J. Rockstrom notes that any collective change will limit freedom and will entail a socio-economic revolution that will not happen as long as the major emitters have an economic interest in further exploitation of fossil fuels.

Accountability is also considered on the individual level. As E. Bińczyk notes after B. Latour every day we deny the reality of climate destabilization processes by not taking countermeasures. Climate change denial has a diverse background. K. Norgard believes that it is the scale of the global problem that man has to face that deprives him of the ability to act. The perspective of a catastrophe and helplessness leads to apathy and denial of the problem. N. Oreskes in the *Merchants of Doubt* puts forward the thesis that much more could be done to protect the climate if the scientific consensus on the anthropogenic origin of climate change was not undermined for ideological reasons. B. Latour stresses that the theory of climate change is one of the best documented phenomenon in the history of science. In *Facing Gaia*, he argues that the problem is the very notion of nature itself. In the philosopher's opinion the stagnation humanity finds itself in, is caused by the fact that we mistakenly imagine nature conservation as an opportunity to return to *wilderness*. We use the mythical-religious concept of pure and primordial nature, untouched by man, which we have lost through the development of civilization. Thus, civilization is perceived negatively, as the direct cause of the crisis and we are forced to function in it, but are unable to return to the pre-industrialization era. According to S. Vogel, so far the subject of interest of ecologists and environmental ethicists has been everything which is natural and alive. Eco-philosophy has made a turn from anthropocentrism to biocentrism, but in the opinion of the author of *Thinking like a Mall* we live in a world where the boundary between technology and nature has been blurred and we should also include artifacts, as well as elements of the technosphere in environmental considerations. This way of thinking is often called a flat ontology, because on its basis both humans and other beings (animals, things, minerals, plants, etc.) exist in the same way, they have an equal ontological status (Marzec, 2019). Our perception of objects was constituted by the tradition of thought adopted from Aristotle, who considered artifacts to be intentional works of man, inferior in their nature to natural entities. Environmental philosophy continues Aristotle's divisions, however many currents of the philosophy of technology, numerous researchers using the actor-network theory (ANT) and supporters of the Object-Oriented-ontology do not value entities/beings on the basis of their naturalness. According to B. Latour objects construct what is social. The world surrounding us is full of hybrid connections. Instead of talking about society, we should be talking about a community which is made up of non-humans in addition to humans. As E. Bińczyk aptly comments – thanks to the coupling of the spectacular practical success of laboratories, industry, globalization processes and market conditions, we have created a new form of risk. In 1986, Ulrich Beck 1986 called it a modern systemic risk: invisible, supranational, and threatening to destabilize the world as we know it (ecologically, financially, and politically). Thus, as Latour emphasizes, it is not human society itself that should be saved from risk but the collective – the area of people and non-human factors (Bińczyk, 2013). The reductionist thinking to date has marginalized the dependence of man on the objects he creates, whereas the discussion on the Anthropocene draws attention to the coexistence with non-humans. In *Dark Ecology* T. Morton argues that the human being has always

been associated with *non-humans* – objects on which our daily lives depend. Only an Anthropocentric perspective of the world, allows us to regard objects as incomplete, inferior, or subordinable. Only an Anthropocentric perspective of the world allows us to perceive an object as incomplete, inferior, or subordinable. Being human, based on community, kindness, solidarity, friendship, and symbiosis, is possible only by connecting with what is non-human (Marzec, 2018). In the view of environmental philosophy, objects have so far been marginalized, sometimes even regarded as a manifestation of the harmful activity of human-beings. Meanwhile, we have no way to dispose of man-made objects; we are forced to function in a world full of waste and toxic substances. What is more, opening up to a world of *non-humans* allows us to move beyond a simple profit and loss account. Ecological awareness that abandons the notion of *Nature* assumes that man is no longer the measure of all things, but also of all the most important earthly events. From the perspective of flat ontology, the existence of a paper cup is as meaningful and mysterious as human existence. In this context, our view of a given thing is not as flawless – what it actually is and how it presents itself to us (Marzec, 2019). We need a new ecological awareness that allows us to connect current decisions, especially those concerning consumption, with distant consequences in time and space, to combine thinking about the technosphere and the biosphere, taking care of the entire post-natural environment. Responsibility should be based on linking the current carbon footprint to the burning out forests for crops, rising sea and ocean levels or desertification. According to B. Williston, the new environmental awareness which guides us in our daily choices should be based on emotional conditioning of desired attitudes through social *shaming* of self-centered people who do not respect the environment as a common good. Furthermore, we can achieve a sense of solidarity by strengthening *environmental honor*, because taking care of the environment now comes down to following unwritten social rules.

C. Hamilton is critical of the departure from the Anthropocentric view of the world proposed by postnaturalists. According to the author of the *Defiant Earth*, our specific place in the structure of the world lies in the fact that we are a telluric force which is aware of its actions and the consequences of our actions. A drift from anthropocentrism could be an escape from responsibility. In eco-catastrophic terms, the environmental catastrophe has already occurred and it is necessary to manage the crisis effectively. Similarly, to the naturalist movement, which emphasizes the duty of science to take a leading role in finding effective solutions and informing the public of the danger we have found ourselves in. C. Hamilton believes that the most important thing is to criticize the neoliberal concept of freedom, because further excessive consumption in the face of depleting natural resources, on which the world economy is currently based, must eventually lead to an escalation of the environmental and socio-economic crisis.

## Conclusions

With the advent of environmental philosophy, there is a shift from anthropocentric to biocentric thinking. Due to the growing human impact on the environment, the need to change was postulated on the basis of philosophy of sustainable development. Researchers emphasized the value of life and the conditions for life, pointing out the consequences of disturbing the stability of ecosystems. In the Anthropocene epoch there is a further shift towards co-existence of both animate and manufactured elements of the environment. As the boundary between civilization and nature is blurred, the technosphere has become the subject of interest of researchers engaged in the ethical-environmental aspects of the Anthropocene. Co-existence is based on a new broad ecological awareness, in which responsibility examined on a collective and individual level is also linked to man-made objects.

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