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ETHICAL RESPONSIBILITY FOR THE FUTURE GENERATIONS – GLOBAL SOCIETY IN THE PERSPECTIVE OF CLIMATIC CATASTROPHE IN THE CONTEXT OF THE GIDDENS PARADOX

Summary. The basic controversy of the contemporary global warming is a question about its natural or anthropogenic origin. According to Giddens paradox humanity will act passively unless climate change becomes obvious. This paradox is an example of the social trap occurring on a global scale.

Keywords: global warming, Giddens paradox, social trap, globalisation, ecology.

ETYCZNA ODPOWIEDZIALNOŚĆ ZA PRZYSZŁE POKOLENIA – SPOŁECZEŃSTWO GLOBALNE W PERSPEKTYWIE KLIMATYCZNEJ KATASTROFY W KONTEKŚCIE PARADOKSU GIDDENSA

Streszczenie. Zasadniczą kontrowersją dotyczącą współczesnego globalnego ocieplenia jest pytanie o jego naturalne lub antropogeniczne pochodzenie. Zgodnie z paradoksem Giddensa ludzkość zachowywać będzie się biernie, dopóki zmiana klimatyczna nie stanie się oczywista. Paradoks ten jest przykładem pułapki społecznej występującej w skali globalnej.

Słowa kluczowe: globalne ocieplenie, paradoks Giddensa, pułapka społeczna, globalizacja, ekologia.

1. Introduction

Global warming is one of the most important problems that humanity faces in the era of globalization. Since the beginning of the twentieth century, there has seen a continuous increase in the average temperature of the lower layers of the atmosphere. In the years 1906-

2005 it amounted to 0.74 ± 0.18°C. According to various scenarios it is predicted that by the end of the twenty-first century, the temperature will have risen even by 1,1-6,4°C[1]. At least in one respect the problem is typical for the contemporary times: it is, as the name suggests, a global problem. There is no place on Earth, nor is there a group of people who would not be threatened by global warming.

2. Global warming as a modern form of destruction of the natural environment

Global warming has yet another characteristic – it may turn out to be irreversible, as it is in the case of anthropogenic extinction of plants and animal species as well as in the case of exploitation of non-renewable mineral resources. The consequence of all these phenomena is that anthropogenic transformations accumulate, gradually changing the nature of geographical area in a sustainable manner. Climate, once radically changed, in accordance with the principles of the theory of deterministic chaos, may transform into a new quality and grow in a different way than it previously did. Such changes offer no way back to their initial state. A string of consecutive positive feedback intensifies adverse climate changes. Even the complete cessation of greenhouse gas emissions from a critical moment may not restore the climate to its baseline situation. Global warming is a factor which changes the living conditions of mankind (globally and permanently).

The history of mankind has witnessed many examples of local destruction of the natural environment. Palaeolithic groups of wanderers moving from Eurasia to the uninhabited continents destroyed many species of plants and animals, especially the late Pleistocene megafauna. An example of environment completely destroyed by humans may be the environment of Easter Island. J. Diamond believes that the island's ecological history may be an excellent model of what could become of the future of the entire Earth[2]. There are arguments in favour of the fact that in the history of mankind the destruction of the environment in different times and places has characteristics both common to all similar historical cases and the particular ones, only peculiar in a given situation.

Each stage of mankind history has its particular way of environment destruction. As people, being not only biological but also civilised creatures, are a "foreign body" in the ecosystem, all their activities cause abnormal changes in the ecosystem itself. The nature of these changes is not random, but associated with the culture and civilisational level of technical data societies, and therefore it is associated with the method of spatial coordinates.

[1] http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf/ A report of Working Group I of the Intergovernmental Panel on Climate Change. Summary for Policymakers. Dostęp 28.11.2014.

[2] Diamond J.: Upadek. Dlaczego niektóre społeczeństwa upadły, a innym się udało? Prószyński i S-ka, Warszawa 2008, p. 109.

Global warming is the destruction of the environment typical for the mankind era of the information revolution and of the global village formation, thus changing all such space. The destruction on such a large scale could not occur in the earlier stages of human development. It is a new phenomenon closely connected with the technological changes which had been taking place for over two hundred years since the times of the Industrial Revolution. Overpopulation, being a result of population explosion, whose origins are also associated with the industrial revolution, indirectly contributes to global warming.

This article is not the work in the field of geophysics. Its purpose, therefore, is not a presentation of the physical side of the problem, for example, the problem of mechanism of global warming origin. In order to become acquainted with the physical side of the global warming one has to refer to professional literature. The article is centred around the human condition in the era of the collapse of unlimited growth paradigm and its accompanying ethical issues.

3. Methodological aspects of the problem of global warming

Global warming is one of the most important challenges which modern civilization faces. It is a problem in the field of natural sciences of the Earth. However, the question of the truth or falsity of the thesis of anthropogenic (or to a large extent anthropogenic) origin of the warming of the lower layers of the atmosphere, and thus the increase in the average temperature at the Earth's surface, is committed not only to competent naturalists in this field, but also sociologists, methodologists of science, ethics, journalists, social activists, politicians and public opinion.

The polemics is an interesting material for sociology and philosophy of knowledge as well as ethics. These disciplines have faced problems not found in the current science. An example of a new and a foreign phenomenon to modern science, associated with global warming, may be the institutionalization of pseudoscience. Incompetent people, not being institutionally linked to climatology, were appointed to the positions of official experts on climate change, an example of which may be the case of professor of medicine Z. Jaworowski[3].

Scientific opinion on the causes of global warming is unequivocal - 97% of professional climatologists speak for its anthropogenic origin. Their views clash, however, with the opinions of pseudoscientists who misled the public opinion. In polemics with scientists, these latter circles use traditional eristic tricks, especially argumentum ad auditores (argument referring to the audience). Arthur Schopenhauer himself presenting this argument in his

[3] Shermer M.: Why People Believe Weird Thinks. Pseudoscience, Superstition, and Other Confusions of Our Time. W.F. Freeman and Company, New York 1997.

"Eristic" invoked the geophysical example (it was about the cause of granite crystallization)[4]. One party of the dispute, in order to prove the second party wrong (whose argument was simple and understandable even for the uneducated part of the audience) would have had to carry out a long and complicated lecture, which in the case of that discussion was not possible.

In contemporary climatological polemics argumentum ad auditores has gained importance once again. Opponents of antropogenic origin of the global warming have the eristic advantage resulting from the fact that their theories are less distant from what might be called the physics of common sense. Obviously, it is not about the fact that climatology examines reality being extremely difficult to describe, which we deal with, for example, in quantum mechanics, but about the fact that regularities examined by it are very complicated. Geophysical phenomena, especially climatic ones, are involved in complicated relationships with different elements of the natural environment of the Earth. The most common cause of misunderstandings is that laymen misinterpret different functions of the carbon dioxide and water vapour as greenhouse gases. It is difficult for an incompetent person in the field of the atmospheric sciences to understand why carbon dioxide (amounting to 0,038% in the atmosphere) causes (directly or indirectly) a much greater impact in terms of temperature growth in the lower atmospheric layers than water vapour which is much more abundant.

All this has resulted in an unprecedented situation in the science claiming that the truth of the climatological ideas is decided by a statistical survey of the specialist literature. The most famous example of such research can be "meta-analysis" of the climatological knowledge publications carried out by an American sociologist of the science, N. Oreskes[5]. Knowledge itself becomes an object of science, and the statistical research of the scientific publications decides which theory is true. Methodologists and sociologists of science seek authentic scientists by statistical methods and conscientiously try to separate them from the representatives of pseudoscience. We have to, therefore, deal with a new situation in science. The decisive argument in the scientific disputes should be the authority of science. Scientific opinions should be above the democratic rulings: for example, it is difficult to vote on whether the law of universal gravitation is true or not. The situation that occured, namely the introduction of pseudo-scientific opinions into science, resulted in the necessity of searching methods development being true for scientific theses, using statistical methods.

[4] Schopenhauer A.: Erystyka czyli sztuka prowadzenia sporów. Alma-Press, Warszawa 2000, p. 88-89.
[5] Oreskes N.: The scientific consensus on climate change. How do we know we're not wrong? [in:] DiMento J.F., Doughman P. (eds.): Climate Change. What it means for Us, our Children, and our Grandchildren. MIT Press, Cambridge Mass. 2007, p. 65-99.

4. The Giddens Paradox as a contemporary "social trap"

The article, however, focuses on other ethical problems, on the moral responsibility for the fate of the future generations, which is the essence of the Giddens paradox. Understandably, this does not mean that the introduction of the pseudo-science elements into the science has nothing to do with the latter issue. As it will turn out, it is quite the opposite. As the name suggests, it was a famous British sociologist Anthony Giddens who drew people's attention to the paradox. In his work, *The Politics of Climate Change*, in the English version first published in 2009, he called it his own name.

What is "the Giddens paradox" then? The author explains it in the "Introduction" to his work: *since the dangers posed by global warming aren't tangible, immediate or visible, many will sit on their hands and do nothing of a concrete nature about them. Yet waiting until they become visible and acute before being stirred to serious action will, by definition, be too late*[6].

The same idea is expressed by the English sociologist in other places of his work[7]. Especially noteworthy are the words *by definition, be too late*. They describe the threat of the irreversible transition to another climate reality. From a certain point it will be too late, due to the physical reasons it will not be possible to return to the baseline situation.

The Giddens paradox is an example showing that human consciousness does not keep pace with the growth of the problems that humanity has to face. The open question is whether this is a problem of people's bad will, and therefore ethical. It may be a result of feeling accustomed or of people's insufficient knowledge. However, the lack of knowledge about the causes of environmental threats and disasters may be caused deliberately. This in turn connects the paradox with another ethical issue already mentioned - the dissemination of climate lies and the institutionalization of the pseudoscience.

People usually do not appreciate the dangers they cannot imagine. They surrender to illusions which make minor and major threats impossible to distinguish. Global warming is not a sudden and spectacular event when compared to a violent volcanic eruption, earthquake, tsunami, nuclear plant disaster or sinking of a large ship. People, in contrast, pay their attention mostly to such threats and react in a particular way. There is no coincidence that the development of the modern environmental movement was shaped by the events such as the oil tanker *Torrey Canyon* disaster which took place in 1967 off the coast of Cornwall[8]. One can "get used to" a threat which is constantly discussed and which is not experienced in a tangible way.

What are, however, the boundaries of "tangible" reality? In the discussed case, one can assume that the time limit of such reality is the lifespan of a contemporary generation. People

[6] Giddens A.: Klimatyczna katastrofa. Prószyński i S-ka, Warszawa 2010, p. 10.
[7] Ibidem, p. 116-117.
[8] Macnaghten P., Urry J.: Alternatywne przyrody. Nowe myślenie o przyrodzie i społeczeństwie. Scholar, Warszawa 2005, p. 73-74.

are primarily interested in what takes place during their life, they are occupied with the threats they can come across. The Giddens paradox therefore concerns the relations between successive generations. Global warming does not directly apply to *us*, this is not us who will experience nor feel its effects. At least such is the impression that we get. Climate changes, however, are so rapid that there is not enough time to develop in us a sense of responsibility for the future generations, similar to what we traditionally have in relation to the present generation, our own nation or family.

The unfavourable situation is complicated by the fact that any two successive generations develop different mutual relations. The differences between generations grow during the processes related to the information revolution and the development of the global society. However, technological changes are faster than the cultural ones. Alongside postmodern changes of a society, the "thickening" of social and environmental issues follows, the gradient of progress as well as the level of chaos increase. All this makes the future less and less recognizable.

Contemporary humanity has found itself at the stage of the global village development. People enter a qualitatively new reality with ethics and consciousness deriving from other eras – the reality badly suited to take global issues. The maladjustment does not always, however, result - as one might think – from the inherited local particularism, from being accustomed to thinking in the "micro" categories where one would be expected to reason in the global ones. It often seems quite the opposite: people are not able to extend the "micro" category to the whole of humanity, they cannot treat the entire geographical space as a place of their existence which does not significantly differ from other places that they happened to exist.

The nature of the incoming threats is connected with the fact that the reality which we enter has a different structure than the preceding periods. The reality is, using the phrase of the Canadian sociologist M. McLuhan, the global village[9]. We are not accustomed to thinking and acting in terms of the global village, nor are we able to describe it by our own categories which described the bygone reality. In a historical process, it emerges as a new posthistoric geographical structure with the localized society. We are used to the fact that even if global structures do exist, they are distant and do not concern us directly. Meanwhile, in the process of the globalization, the Earth, or more precisely the entire geographical space, becomes one, and also the only place. If so, it should be treated like any other place.

"Global structure" in fact means "the only structure" which there is no alternative to. "Localisation" becomes total and covers all aspects of human existence. If the geographical space becomes one and the only place, there is no escape from it nor is there ability to move to another place. At the economic level, Wallerstein's argument in favour of the end of capitalism can be recalled. For the first time in history, a capitalist has no possibility to transfer a factory into a place where labour is cheaper. One can escape and move the factory

[9] McLuhan M.: Zrozumieć media. Przedłużenia człowieka. Wydawnictwa Naukowo-Techniczne, Warszawa 2004, p. 458.

from Europe to China, from China to Cambodia, but a moment will come when no further escape is possible.

We should treat the geographical area as a place where we think and act like in any other "small" place. However, we still think in the "macro" categories where we should think in place categories, the "micro" ones. We associate the direct responsibility with the care of the nearest surroundings. Meanwhile, the process of globalization has increased the range of human responsibility, both in time and space. Contemporarily, the responsibility for others affects not only the people from the nearest environment but also the people living in other parts of the world and the people of the future generations.

The Giddens paradox has its anticipations in the historical concepts dealing with similar dilemmas but at another level, the "micro" level (microeconomic and microsociologic). The need to anticipate the negative consequences of technical and economic activities were discussed by the classics of philosophical risk theory, such as U. Beck and H. Jonas. Beck argues that the development of technology leads to the risk emergence which is impossible to estimate. Modern society is a society of risk[10]. Jonas calls for the introduction of a new version of ethics, ethics of the future, with a new moral imperative. Ethical act is the act that in the present activites takes the human future into account[11].

One of the most important microeconomic as well as sociological concepts that anticipate the Giddens's considerations is *the tragedy of the commons*, an example of which has been described by G. Hardin. It resembles other *social traps* that have also been considered in the "micro" scale: the free rider effect, the prisoner's dilemma, the missing hero trap[12]. Hardin describes the social trap in which the users of the common good (pasture) lead to its destruction unless they comply with the accepted rules of its use. Global warming resembles the microeconomic "tragedy of the commons" occurring on a global scale. The participants of the game are particular countries whereas the environment, its atmosphere to be more specific, is the "pasture". As long as all the participants of the game do not understand that the negative effects of over-exploitation of the environment apply to everyone, that in this case there will not be any non-victims, the tragedy of climate destruction will deepen[13].

[10] Beck U.: Społeczeństwo ryzyka. W drodze do innej nowoczesności. Scholar, Warszawa 2004.
[11] Jonas H.: Zasada odpowiedzialności. Etyka dla cywilizacji technologicznej. Platan, Kraków 1996, p. 21-40.
[12] Platt J.: Social traps. „American Psychologist", 28 (8), (August 1973), pp. 641-651.
[13] Hardin G.: The Tragedy of Commons. "Science", Vol. 162, No. 3859 (December 13, 1968), pp. 1243-1248.

5. Great and small "polluters": The problem of the spatial distribution of responsibility

Who are the participants in the game that violate its rules the most? In terms of greenhouse gas emissions, both total and per capita, it is hard to detect greater regularities amongst the countries from the list. The biggest "polluters" in this respect in 2010 were the following countries (percent of global greenhouse gas emissions, taking into account the countries emitting more than 1%, was put in brackets): China (22,7), USA (15,6), India (5,7), Japan (2,9), Brazil (2,6), Germany (2,1), Indonesia (1,9), Canada (1,7), Iran (1,6), South Korea (1,6), Australia (1,3), Saudi Arabia (1,2). In the case of the European Union (28 countries), this ratio was 10,9, in the case of Poland it was 0,9[14]. The table is arranged otherwise when it comes to greenhouse gas emissions per capita. On top there are small countries associated with the extraction and processing of crude oil (Qatar, United Arab Emirates , Kuwait). Due to a large number of people (in both cases, more than one billion), China and India take further places than in the absolute classification. However, their share in global greenhouse gas emission is growing rapidly.

The case of China is significant. The country has a relatively small oil and natural gas deposits. Chinese electricity production is based on coal, the most environmentally arduous fuel, although the country is also developing a system of renewable energy production, especially hydro energy. Chinese hydropower plants, however, are also arduous to the environment. An example could be the world's largest, in terms of hydroelectric power, dam named Three Gorges Dam on the Yangtze River. Its annual production of electricity, 85 TWh, corresponds to 60% of the annual electricity production of Poland. The development of energy-intensive and polluting industry in China is reflected in the amazing quantitative production indicators. For example, in 2011, China produced 57% of cement in the world (India - 6%, was the second) and 50% of coal (the United States - 14%, were the second)[15]. China, after two centuries, regains the position of the global economic leader. For many years, economic relations between China and Europe have interested the economic historians.

After the period of "European miracle", whose culminating events were the Age of Discovery and the Industrial Revolution, the Asian countries with China and India as

[14] http://cait2.wri.org/ Climate Analysis Indicators Tool (CAIT) Version 2.0. (Washington, D.C.: World Resources Institute, 2014). Dostęp 29.11.2014.

[15] Rocznik Statystyczny Rzeczpospolitej Polskiej 2012. Główny Urząd Statystyczny, Warszawa 2012, p. 832, 841.

spearheads return to the lost place of economic leaders[16]. However, can the status of the returning leader be an argument in favour of preferential treatment of China in the contemporary ecological world situation if one takes into account the fact that the country's economy can absorb more victims than "great massacres" typical for the history of China (the Opium War, the Taiping uprising, Grand March, the Cultural Revolution) especially if the victims in this case will not only be the residents of China? The country has exceeded all acceptable standards in the use of common pastures which are the Earth's natural resources and, therefore, there is no excuse for Chinese behaviour.

How can one oppose the Chinese expansion then? Perhaps the most reasonable solution is to show an example to China. One of the common complaints about the rigorous climate policy is the accusation that countries like China emit such large amounts of carbon dioxide to the atmosphere that restrictions concerning us as small "polluters" are pointless. Is it possible to, despite this fact, forward arguments to limit carbon dioxide emissions? Such views may include the following arguments: even a small reduction of temperature rise is better than nothing; preparation of ready technologies for such countries that will finally join the producers of "clean energy" (one can make a profit on the sale of these technologies); preparation of ready technologies in case there are other than the global warming reasons for their implementation (for example, depletion of energy resources).

6. Conclusion

The problem of global warming is the biggest call of the contemporary humanity. It has questioned the model of unlimited economic growth and, and indirectly, the principles of capitalist economy. It has also pointed out that there is the need for greater integration and coordination of the actions of the particular countries. Ecological reasons were among those, which for I. Wallerstein decides about the change of the social-economic order. Giddens himself is critical about the idea of unrestricted market economy and calls for a return to planning[17]. Global warming and the fight against it can thus significantly lead to a world transformation.

[16] Needham J.: Wiekie miareczkowanie: nauka i społeczeństwo w Chinach i na Zachodzie. PIW, Warszawa 1984.
[17] Giddens A.: op.cit., p. 101-139.

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15. http://cait2.wri.org/ Climate Analysis Indicators Tool (CAIT) Version 2.0. (Washington, D.C.: World Resources Institute, 2014). Dostęp 29.11.2014.

Omówienie

Globalne ocieplenie polega na stałym wzroście średniej temperatury powierzchni Ziemi. Problem ten angażuje dziennikarzy, polityków, przyrodników i przedstawicieli nauk społecznych. Artykuł nie dotyczy problemu fizycznego mechanizmu zmiany klimatu, ale jego społecznego i politycznego tła. Analizując ten problem, swoją opinię wyraził słynny brytyjski socjolog A. Giddens, znany z teorii strukturacji i holistycznego postrzegania współczesnego społeczeństwa. W swojej książce opublikowanej w 2009 roku „The Politics of Climate Change" przedstawił tzw. paradoks Giddensa. Jego istota polega na tym, że ludzie nic nie robią dopóki niebezpieczeństwo nie stanie się widoczne. Paradoks Giddensa jest przykładem problemu współzależności między różnymi pokoleniami i odpowiedzialności za przyszłość ludzkości.