Lyudmyla Ryzhak

Sustainable development of humanity: joint responsibility for the future

The paper focuses on the new place of humans in the modern world: their technological power and the ensuing global environmental crisis. It recognizes sustainable development to be a strategy for humanizing the civilizational progress of humanity in the 21st century. It is revealed that the idea of sustainable development opens the prospect of constructing new models of a globalized world where self-organization of society will be based on real humanism. Enactment of models of balanced development is based on the ethics of responsibility for the life of both present and future generations. Evidence is provided that joint responsibility is in line with the strategy of sustainable development, demanding that technological progress should be environmentally friendly and socially equitable for contemporary and future generations.

Keywords: sustainable development, technoscience, principles of responsibility, discourse of responsibility, joint responsibility.

Сталий розвиток людства: солідарна відповідальність за майбутнє

Людмила Рижак

Розглянуто нове становище людини в сучасному світі: її технологічну могутність та спричинену нею глобальну екологічну кризу. Стратегією гуманізації цивілізаційного поступу людства на XXI ст. визнано сталий розвиток. З'ясовано, що ідея сталого розвитку відкриває перспективу побудови нових моделей глобалізованого світу, в якому принципом самоорганізації суспільства стане реальний гуманізм. Реалізація моделей збалансованого розвитку ґрунтується на етиці відповідальності за життя як нинішніх, так і прийдешніх поколінь. Обґрунтовано, що солідарна відповідальність суголосить стратегії сталого розвитку, вимагаючи, щоб технологічний поступ був екологічно безпечним та соціально справедливим для сучасних і наступних генерацій.

Ключові слова: сталий розвиток, технонаука, принцип відповідальності, дискурс відповідальності, солідарна відповідальність.

Problem statement

The technogenic civilization, created by the West and emulated by the entire world, has become a threat to humanity as a whole. It has sparked off a real crisis in humans' attitude to the environment. Due to intensive economic activity, the ecosystem of the Earth has already lost its balance. It is manifested in the fact that the biosphere cannot cope with the renewal of depleted resources, excessive waste and unrestrained environmental pollution. According to Albert Gore, former Vice President of the US, the relationship between humankind and the environment attests to the spiritual crisis in modern civilization based on emptiness at its center and the absence of a larger spiritual purpose[1].

Despite the obvious signs of socio-ecological destabilization, humanity goes on living in captivity of technological culture, reinforcing the value of technoculture and high technologies (NBIC-technologies). Undoubtedly, highly developed countries owe their welfare to science and technology. Their symbiosis contributed to the deepening of scientific research and application of its achievements for human benefit. However, collective practices based on cutting-edge technologies do not contain any restrictive obligations regarding their use. Therefore, the optimistic expectations that NBIC-technologies will provide solutions to socio-economic and environmental problems have proven to be premature.

It should be noted that technoscience, as well as high technologies, has radically changed man's place in the world. Rather than an observer who seeks to understand the laws of the evolution of the universe, man is turning into an architect who can technologically design the future at his own discretion, changing the environment, as well as his nature, essence and identity. The German philosopher Dietrich Böhler argues: "the threat humans pose to themselves has become the norm of our life practices"[2]. The threats produced by technoscience and NBIC-technologies apply for the present as well as for the future. Therefore, it is quite reasonable for intellectuals to voice their concerns as regards the civilizational advancement of humanity and ways to avoid devastating consequences.

Analysis of recent research and publications

Modelling of the global development of humankind and scientific forecasting of potential optimistic perspectives and unexpected threats was launched by members of the Club of Rome such as D. Meadows, D. Gabor, A. Peccei, E. Laszlo, and others. Their models substantiate the need for a spiritual revolution of humankind by establishing a culture of "global humanism". The crisis of human interaction with the environment and ways to overcome the environmental crisis are analyzed by A. Gore, L. Brown, E. Laszlo, I. Prigogine, I. Stengers, E. Toffler, and E. Fermiers. The idea of sustainable development and its conceptualization are developed by L. Gawor, Z.

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[1] Gore A. *The Earth is in equilibrium. Ecology and human spirit*, Wyd. Kyiv: Intelsfera, 2001, s. 404.

[2] Böhler D. *Responsibility for the future from a global perspective. The urgency of the philosophy of Hans Jonas and the ethics of discourse,* Wyd. Kyiv: Stylos, 2014, s. 23.

Hull, L. Ryzhak and E. Semeniuk. Strategies for sustainable development are presented in works by R. Hokhliaytner, E. Semeniuk, Yu. Tunytsia, A. Ursul. Ethical problems of the technogenic civilization and search for imperatives for its humanization are discussed in work by German philosophers: K.-O. Apel, D. Böhler, V. Hösle, H. Jonas, K. Meyer-Abich. Numerous studies into sustainable development refer to environmental and economic problems and global threats to the existence of humanity. Given the implications of the advancement of technoscience and high technologies for current and future generations, it is necessary to understand the philosophical and ethical foundations of sustainable development.

The aim of the article is to analyze sustainable development as an alternative to the eschatological threat to humanity, to find out the technological dynamics of the civilization's progress, the prospects of its humanization in the context of the ethics of responsibility for the future of humankind.

Presentation of basic material

The UN Conference in Rio de Janeiro (1992), known as the Earth Summit, summed up the search for solutions to today's global challenges and humanization of civilizational development. It formulated the idea of sustainable development encompassing the principles of states' conduct as regards a fair global partnership for the conservation and restoration of the environment. The main idea of sustainable development is a fair arrangement of the social life of humanity in general and of each country in particular so that humanity could continue its advancement without destroying the environment. The idea of sustainable development opens the prospect of constructing new models of a globalized world, where self-organization of society will be based on the principle of real humanism.

Twenty-five years have lapsed since the Earth Summit, during which period the idea of sustainable development has gained some popularity as well as has been implemented in the concept of balanced development of many countries. It has already become *bon ton* to give emphasis to sustainable development strategies. D. Böhler argues that of course "nobody wants humankind to die, nobody wants a global catastrophe. However, the point is to put an end to the hegemony of activity aimed at the immediate interests of present generations"[3].

Acknowledging the urgency of limiting the consumer interests of present generations, A. Gore warns: "We keep pandering to the whims of our generation at the expense of all those who will come after us. We have accepted ourselves as a unit of ethical measurement, distinctly separate from the natural world as well as deprived of a sense of duty to others – not only to someone in future generations, but more and more to our contemporaries"[4].

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[3]   Böhler D. *Responsibility for the future from a global perspective. The urgency of the philosophy of Hans Jonas and the ethics of discourse,* Wyd. Kyiv: Stylos, 2014, s. 25.

[4]   Gore A. *The Earth is in equilibrium. Ecology and human spirit*, Wyd. Kyiv: Intelsfera, 2001, s. 241.

The excessive demands and risks that the high-tech civilization produces have encouraged intellectuals to initiate discussions about responsibility for the lives of not only present but also future generations. One of the first philosophers to note the devastating effects of high technologies as well as technical forms of life was the German and American Philosopher H. Jonas. It was Jonas who introduced the principle of responsibility and developed the ethics of responsibility in the 1970s. He believes that "the former ethics does not teach us the principles of *good* and *evil* that could fit entirely the new modalities of human power and its potential manifestations"[5].

Indeed, the classical ethics of duty referred to immediate human relationships, actions and consequences focused on the present. It did not consider indirect effects and possible consequences of long-term actions. Duty regulated relationships between people in the direct reality of interpersonal communication. According to the classical ethics, humans assumed responsibility to other people for their activity or inactivity. However, they did not feel any responsibility for the environment (nature, climate, cultural monuments, future generations, etc.). People interpreted responsibility as a duty to someone, but not for someone or for something.

According to H. Jonas, all human relations with the outside world, and hence with the entire area of *techne*, were ethically neutral, both in terms of the object and in terms of the subject of activity. Human craftsmanship was local and did not inflict long-term damage on natural objects. Regarding the subject, the scope of activity was rather small, the period of forecasting, goal setting and estimation of consequences was short, and control – depending on circumstances – was limited. Therefore, the effects on surrounding objects bore no ethical implications[6].

For thousands of years, nature was not the subject of human concern – it took care of itself, as well as of humans. Nature restored its resources and ecological potential by itself. This has fundamentally changed due to three scientific revolutions: quantum, bimolecular, and computer revolutions. They gave impetus to the rise of high tech (NBIC-technologies) and state-of-the-art equipment, which gave a new scale to human activity, directed it on a new type of objects, and produced new effects of a kind that cannot be understood within the limits of their former ethics.

H. Jonas emphasizes that the technological power acquired by modern man (technological man) requires an ethics that could curb this power by introducing new responsibilities. First of all, everyone is responsible for the consequences of the development of the technogenic civilization, because everyone taps into the enormous wealth of the benefits of modern life. In addition, D. Böhler believes that we are all co-responsible for the fate of humanity in the high-tech civilization of dangers, because we are in captivity of "immediate interests"[7] and their maximum satisfaction. However, the comfort and welfare that technogenic societies take pride in are achieved through destruction of the biosphere, the world of life and environmental changes that make it unfit for life. Consequently, H. Jonas argues that an essential principle of the ethics of responsibility is "the

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[5] Jonas H. *The principle of responsibility. In search of ethics for technological civilization,* Wyd. Kyiv: Libra, 2001, s. 7.

[6] Jonas H. *The principle of responsibility. In search of ethics for technological civilization,* Wyd. Kyiv: Libra, 2001, s. 17.

[7] Böhler D. *Responsibility for the future from a global perspective. The urgency of the philosophy of Hans Jonas and the ethics of discourse,* Wyd. Kyiv: Stylos, 2014, s. 25.

imperative that requires ensuring the existence of people in the future"[8]. Based on this imperative, H. Jonas formulated the ontological principle of responsibility. According to this principle, everyone must act in a way that makes the consequences of their actions consistent with the continuation of authentic human life on Earth.

Unfortunately, existing production and consumption systems lead to the ecological devastation of the Earth and exhaustion of its resources. The anthropogenic pressure on the natural systems of the Earth has reached a level where it is becoming more and more likely to cause increasingly less predictable problems. These difficulties cannot be overcome by simply responding to problems as they arise. Therefore, the contemporary German philosopher Vittorio Hösle seems to be right to say that there is no guarantee that mankind cannot destroy itself. "Of course, one cannot *a priori* rule out the fact that humanity can destroy itself. If its moral, political and spiritual degradation continues, if we do not put an end to the contamination of the natural and spiritual environment, if the substantive and moral concept of freedom ultimately gives way to its formal concept, the time of horrible disasters will certainly come, even self-destruction of mankind is possible"[9].

The difficulties faced by humankind today cannot be overcome by high technologies. Modern practices do not guarantee safe and sustainable development. However, according to E. Laszlo, humanity is not doomed to passively heading to the edge of the abyss. There is a crossroads on this way, where humanity can make a choice. Social reality involves many alternatives that can and must be revealed and analyzed to choose the best way of development[10].

It is important to understand that modern technogenic civilization lacks not only balance but also responsibility. Due to the lack of a moral-driven thinking, instrumental thinking that treats the environment as an object of domination comes to the forefront. Domination over nature without moral constraints has become an end in itself. According to K. Meyer-Abich, "we behave like hordes of interplanetary invaders who would like to live on this land for as long as possible and as comfortable as possible without considering it their homeland, and behaving as if they were going to go to the next planet after consuming everything there is to consume or making it unfit for consumption. Such behavior is based on the false self-understanding of man in the integrity of nature"[11].

Indeed, environmental resources are exploited without any regard to their preservation and restoration. This spawns unpredictable risks, with potentially irreversible consequences. The risk situation makes people assume responsibility for things existent and their continuation in the future. "According to H. Jonas, responsibility is a recognized duty to take *care* of another being that requires care because of its vulnerability"[12]. According to the author, humans should take care

[8]   Jonas H. *The principle of responsibility. In search of ethics for technological civilization,* Wyd. Kyiv: Libra, 2001, s. 7–8.
[9]   Hösle V. *Practical Philosophy in the modern world,* Wyd. Kyiv: Libra, 2003, s. 50.
[10] Laszlo E. *Age of bifurcation: comprehension of a changing world,* „Way", 1995, Vol 1, s. 35.
[11] Meyer-Abich K. *Rise to the protection of nature. From the environment to the world community,* Wyd. Kyiv: Libra, 2004, s. 9–10.
[12] Jonas H. *The principle of responsibility. In search of ethics for technological civilization,* Wyd. Kyiv: Libra, 2001, s. 339.

of the existing life and protect it from their own power for it to exist in the future. In the context of the dangers, sustainable development requires humanity to be responsible for the state of the environment and the lives of present and future generations.

Recognition of responsibility as an existential characteristic of man and humanity in the high-tech civilization of dangers does not guarantee its effectiveness. The thing is that technological changes are cumulative in nature and have unpredictable dynamics. Consequently, the effects of new technologies on humans and society are both difficult to estimate and fraught with unpredictable risks. At the same time, the experience accumulated by mankind cannot help to cope with them without scientific expertise. Indeed, H. Jonas argues that responsibility in today's high-tech world must be commensurate with scientific knowledge.

A new thing in the current situation of accelerated irreversible development is the increasingly greater role of science in the assessment and regulation of technology-generated hazards. It is only through science that we can calculate the risks and detect the threats and their scale. After all, science is in close connection with the most knowledge-intensive technologies that trigger these risks and threats. The production of such risks by science and their detection using science gives a new dimension to these risks. G. Behmann believes that science must deal with the consequences of its own activity[13].

Science is not neutral in terms of technological practices. Not only does it open up new prospects for the use of knowledge, it must also indicate the possible consequences, predict the permissible limits of technological change in the environment and in the human being, as the risks present a threat to life and humanity. According to H. Jonas, a new categorical imperative should contain the norm involving prediction and restriction of the freedom of technological man. The ability to avoid great technology-related risks is an indispensable condition for human life: for both present and future generations.

According to D. Böhler, this unconditional obligation of humankind as regards preservation of its existence encourages to pay unceasing attention to the possibility of responsibility and to respect the moral demands of future generations, that is, to create conditions for practicing our responsibility for the future. It is about preservation and improvement of the appropriate *personal* and *institutional* conditions – from material resources for life and the environmental preservation of the world of life to guaranteeing human and citizenship rights – which, in turn, will enable future generations to act responsibly[14].

Responsibility for the future primarily involves responsibility for decent human life in a man-made civilization. Although the imperative of the new ethics requires that future human existence be ensured, this requirement does not mean that humanity should assume a nihilistic attitude to the existing life. The present day must not be treated as a means for the

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[13] Bechmann G. *Modern society as a society of risk,* „Voprosy Filosofii", 2007, Vol 1, s. 32.
[14] Böhler D. *Responsibility for the future from a global perspective. The urgency of the philosophy of Hans Jonas and the ethics of discourse,* Wyd. Kyiv: Stylos, 2014, s. 81.

future – it has its own value. The new ethics demands that we undertake the duty to preserve what we have acquired. H. Jonas argues that this duty has a priority over all the requirements and desires to improve the world. Hence, the main thing is that "good" should not be expected in the future, since the existing world is already good, therefore the obvious scenario of a future loss of good is more plausible than a rather uncertain and significantly less reasonable prediction of future good. In response to accusations of "pessimism" related to the inclination to accept the scenario of "non-good", H. Jonas claimed that pessimists are rather those eager to accept the idea that the present world is bad or worthless and take risks for the sake of its probable improvement.

This means that current generations are responsible both for their lives and for the future generations' chance to live at all. Everyone's moral creed should be based on the requirement: "Act so that the consequences of your activity should be compatible with the maintenance of genuine human life on Earth". This imperative testifies to the fact that every person can risk his own life, but he does not have the right to risk the life of humankind. Similarly, humanity has no right to opt for non-existence of future generations for the benefit of the present ones or even risk it. Therefore, H. Jonas believes that the axiomatic principle of global justice must be defined as follows: the future must be.

The principle of justice for future generations is fundamental not only to the ethics of responsibility, but also to the strategy of sustainable development of humankind. It is promoted within the ethics of discourse developed by K.-O. Apel and D. Böhler. The modern German philosopher Karl-Otto Apel suggested some principles of the dialogue ethics of shared responsibility. Given the global threat, humanity must take on a shared responsibility for the consequences of its collective action on a planetary scale[15]. Sustainable development strategies are in line with the discursive ethics by Dietrich Böhler, demanding that technological progress be environmentally, socially and friendly-minded with regard to future generations[16].

At the same time, D. Böhler rightly inquires: is it possible to intersubjectively substantiate the duty of responsibility for the future and, hence, the principle of collective responsibility? In his opinion, within the discourse on the moral situation of mankind and the spiritual situation of the epoch, it is possible to achieve true awareness of people with different interests as regards both the situation itself and the correct (reasonable and mandatory) practical attitude[17], in order to achieve the greatest possible result. Consequently, both present and future generations, while striving for sustainable development, must substantiate the universally valid duty of co-responsibility for the Earth, for the future world and for man himself in discursive terms.

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[15] Apel K.-O. *The human situation as an ethical problem,* [w:] Yermolenko A.M. *Communicative Practical Philosophy,* Wyd. Kyiv: Libra, 1999, s. 231.

[16] Böhler D. *Responsibility for the future from a global perspective. The urgency of the philosophy of Hans Jonas and the ethics of discourse,* Wyd. Kyiv: Stylos, 2014, s. 22.

[17] Böhler D. *Responsibility for the future from a global perspective. The urgency of the philosophy of Hans Jonas and the ethics of discourse,* Wyd. Kyiv: Stylos, 2014, s. 24.

To substantiate the global ethics of responsibility in the context of the global crisis of humanity, K.-O. Apel is looking for an answer to Kant's question: what should I do? and transforms it into the question: what should we do? The philosopher reveals the constraints of monologic individual ethics, completing it with the social ethics of responsibility. Its principles are substantiated in the discourse of an unbounded transcendental (ideal) communicative community[18]. Such a community of all people as equal partners is a prerequisite for a possible consensus on moral standards. "Argumentative discourse of all possible participants is the perfect instance of justifying and legitimizing all the issues that have become problematic"[19].

According to K.-O. Apel, the principles of the ethics of common responsibility are constituted based on the discursive mind. The imperative he proposed is as follows: "Act only in accordance with the maxim whereby based on the real consensus of the participants or their representatives or (instead) based on the relevant mental experiment, you can assume that direct and indirect effects of satisfaction of the interests of each individual participant expected based on the general observance of these maxims, can be non-forcibly accepted by all"[20]. Therefore, it refers to reaching a consensus regarding responsibility for the consequences of everybody's actions and the consequences of collective action in general.

K.-O. Apel goes beyond the traditional and conventional understanding of responsibility whereby man is capable of assuming and does assume responsibility as a member of a particular group, following traditions, or performing role functions within the state system of "law and order". The philosopher argues that this hinders the possibility of moral responsibility for collective actions. It is traditionally believed that it is possible to rationalize the individual's responsibility for the observance of certain rules. Instead, it is impossible to rationalize responsibility as regards the individual's involvement in the public process of shared responsibility for institutions and, consequently, for the effects of collective action. K.-O. Apel believes that such rationalization is possible if based on consensual and communicative rationality founded on rules or standards *a priori* transcending individuals' egocentric self-interests[21].

The global environmental threat requires that each individual assume responsibility for future scientific, technological, political and economic implications and consequences of any collective action. However, as regards individuals, such a requirement may seem paradoxical and therefore unacceptable. Indeed, an individual as an agent of collective action cannot control the results of his collective activity and therefore take on responsibility for it. According to K.-O. Apel, a way to tackle this problem may involve coordination of activities based on collective responsibility. This implies arrangements and agreements regarding rules or standards

[18] Apel K.-O. *The orientation of Anglo-American «communitarism» in the light of discursive ethics,* [w:] Yermolenko A.M. *Communicative Practical Philosophy,* Wyd. Kyiv: Libra, 1999, s. 381.

[19] Apel K.-O. *The human situation as an ethical problem,* [w:] Yermolenko A.M. *Communicative Practical Philosophy,* Wyd. Kyiv: Libra, 1999, s. 235.

[20] Yermolenko A. *Communicative Practical Philosophy,* Wyd. Kyiv: Libra, 1999, s. 73.

[21] Apel K.-O. *The human situation as an ethical problem,* [w:] Yermolenko A.M. *Communicative Practical Philosophy,* Wyd. Kyiv: Libra, 1999, s. 245.

of activity to be followed on the basis of sanctions, specifically sanctions of a law-governed state. In present-day conditions, the problem is to substantiate and prove the possibility and reasonableness of moral responsibility of all people (consistent with their competence and influence) for institutions, including the institution of a law-governed state[22].

Within the communicative turn, K.-O. Apel substantiated the ethics of responsibility for the future. Communicative philosophy is the most influential current within contemporary philosophy, which emerged in the 1960s and includes K.-O. Apel, J. Habermas, D. Böhler, V. Kulman, P. Ulrich. The main creed of communicative philosophy was formulated by K.-O. Apel: communication is the last foundation of consciousness as well as cognition and social existence. He substantiates the assumption of "*a priori* communication", which necessarily accompanies any human experience. He arrives at a simple idea: every communicative act of a person involves communicativeness as such, that is, people are always after mutual understanding and mutual openness to others (the "communicative community"), always transcendentally strive for perceiving all possible counterarguments and for an equal respondent. By means of its performance, communication implies a "perfect communicative community", the existence of which reflects the principle of "*a priori* communication".

K.-O. Apel explores "*a priori* communication" as an *a priori* existing moral standard – i.e. existing prior to any particular relationship respect for the person the individual is to communicate with. No communication should be initiated without the universal "desire" to see another person as an interlocutor and achieve mutual understanding with him.

Sharing the views of H. Jonas, he argues that the categorical imperative proposed by the scholar refers to the requirements of the actual ethics of responsibility but they are not sufficient for a universal ethics of justice and decency. According to K.-O. Apel, it does not mean that an individual must independently assume metaphysical responsibility for the future. Instead, every person, based on his competence, has to think about how he can *contribute to the arrangement of collective responsibility*. This arrangement of collective responsibility (through involvement of everyone in relevant practically meaningful discourses) is actually carried out at the institutional and informal organizational levels.

Settlement of global problems and establishment of sustainable human development is inconceivable beyond the framework of communication performed based of the principles of freedom. D. Böhler insists on the interrelation of freedom of communication and "our ability to ask critical questions, what is more, our ability to have information... necessary for verification of responsibility"[23] for scientific and technological or socio-economic projects, including, the project of socio-ecological sustainable development. The philosopher argues that no responsibility for the future is possible without responsibility for unrestrained communicative freedom.

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[22] Apel K.-O. *Ecological crisis as a challenge to discursive ethics*, [w:] Yermolenko A.M. *Communicative Practical Philosophy,* Wyd. Kyiv: Libra, 1999, s. 419.

[23] Böhler D. *Responsibility for the future from a global perspective. The urgency of the philosophy of Hans Jonas and the ethics of discourse,* Wyd. Kyiv: Stylos, 2014, s. 53.

Communication is a universal heritage of humankind and a universal reality of common existence. True communication exists for all without exception. No social affair of public significance is possible without its collective – i.e. communicative, mediated through public discussion – recognition, that is, without its legitimation. A democratically organized community can reach a consensus through discourse. Discourse is a practice of communicative relationships aimed at harmonization and achieving social consensus. Discourse concerning the rules and values of coexistence is the supreme authority of social life. Such universal discourse on sustainable development was launched at the Earth Summit. Its participants (delegations from 168 states) adopted a number of regulatory documents that establish joint responsibility for the fate of humanity. They refer to social justice in meeting the needs of both present and future generations and imposing environmental constraints for the preservation and rehabilitation of the environment. These principles require a discursive ethics of co-partnership and taking into account of common interests. According to D. Böhler, "we are no more important than those who will live after us, and they, in turn, are no more important than we are. The decisive factor is which interests of future generations are compared to which interests of today's generations"[24], in relation to which solidarity is possible and necessary.

K.-O. Apel believes that only an ethics substantiated through transcendental and pragmatic reflection on the basis of the rights and obligations of all members of the ideal communicative community can validate solidarity through equal rights and co-responsibility of all members of the ideal communicative community. Since the environmental crisis has a planetary impact, humanity as a whole is interested in settling it, and, therefore, it is the ideal communicative community within which a consensus should be sought. This means that it is necessary to follow the main requirement of the ethics of discourse: all ethically significant problems in principle must be resolved through the practical discourse of *all those affected* so that all the stakeholders could have the opportunity to resolve the issue through consensus.

According to K.-O. Apel, "for the first time in the history of the human race, people faced the task of assuming joint responsibility for the consequences of their activity on a planetary scale. Let us hope that this compulsion to joint responsibility will be consistent with the intersubjective significance of the standards or at least the basic principle of the ethics of responsibility"[25].

The practical discourse launched in Rio de Janeiro and at subsequent summits expresses the consent of the international community to ecologize the civilization's progress through the implementation of a sustainable development strategy. The international consensus reached requires joint effort of peoples and states that will assume joint responsibility for the implementation of the sustainable development strategy. According to C. Meyer-Abich, humanity should lay the foundation for international solidarity, which, in contrast to national egoisms, will give precedence

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[24] Böhler D. *Responsibility for the future from a global perspective. The urgency of the philosophy of Hans Jonas and the ethics of discourse,* Wyd. Kiev: Stylos, 2014, s. 75.

[25] Böhler D. *Responsibility for the future from a global perspective. The urgency of the philosophy of Hans Jonas and the ethics of discourse,* Wyd. Kyiv: Stylos, 2014, s. 16.

to the common interests of mankind, establish responsibility for entire humanity rather than only for the immediate surroundings or the common good of their country[26].

Conclusion

The strategy of human development in the 21st century has accepted sustainable development based on the optimization of all activities of humanity in its interaction with the environment. Sustainable development as an alternative to risky, environmentally hazardous human activities implies a comprehensive balance of social development. By introducing NBIC-technologies in all spheres of life, the technogenic society has to use technology more efficiently and responsibly, following the principle of environmental constraints. Classical ethics did not take into account the global human anthropogenic impact on the environment, which is dangerous for humans themselves. Instead, the ethics of responsibility and its principles require humanizing and curbing the technological power of mankind, taking care of the environment in order to preserve the existence of humanity now and in the future.

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[26] Meyer-Abich K. *Rise to the protection of nature. From the environment to the world community*, Wyd. Kyiv: Libra, 2004, s. 81.

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12. Yermolenko A. *Communicative Practical Philosophy,* Wyd. Kyiv: Libra, 1999, 488 s. (in Ukrainian).