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MAN AND TECHNOSCIENCE IN THE CONTEXT OF NOOSPHERE PARADIGM

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The prospects of formation of information civilization through the logical interrelationship of concepts "Biosphere – Technosphere – Noosphere" have been examined. It is shown that only humanveasured directed technosphere, technoscience can ensure the process of entering the biosphere into the noosphere through the harmonious synthesis of natural and artificial aspects, human and technology. The thesis that the ecocentric nature of the biosphere to the noosphere through technosphere crucially determines the man himself is substantiated.

Keywords: biosphere, technosphere, noosphere, technoscience, globalization, coevolution, Information Society.

Today the mankind having integrated intelligence as a planetary phenomenon is experiencing the acceleration of its evolution. It must lead the mankind to the level of conscious and harmonious management of natural and anthropogenic processes. Speculating metaphysically, systemic global crisis from the standpoint of noospheregenezis appears to be not the sign of apocalyptic final, but the test being programmed by the nature to check the maturity of mankind civilization, verify compliance with its intellectual and technical potential of the moral and spiritual foundations of culture. In this context, at the turn of the centuries, we observe the unique picture of environmental and technological disasters increasing, accompanied by awakening of the feeling in the need of co-evolution of its own vitality with the demands of collective intelligence of the planet in some part of the mankind: the environmental movement, the search for ethical alternatives ecopedagogics, the motion for a new corporeity, naturopathic nutrition, various meditation techniques, noospheric settlement. The contradictory nature of global development shows that the noosphere, having reached its optimal complexity, reveals the capacity for self-organization. But one must remember that the self-organization of the noosphere occurs in multivariate bifurcation points, which does not guarantee the fact that the human civilization will be in the trend of sustainable development and therefore will survive.

The questions are where does the noosphere intelligence that unites all the mankind move, what is implemented in technical, informational and cultural phenomena? According to analysts, considering systematic planetary crisis, the mankind must prepare for the different scenarios of noospheregenezis. The first option is apocalyptic one and it has been described in the prophecies

existing in many cultures. In this scenario, the noosphere as the scope of reason does not justify its program mission, intelligence degrades and destroys itself. Regarding the second option, on the basis of spiritual revolution, the possibility of harmonious symbiosis of all types of material systems of the man and nature, the natural and the artificial, man and technology, their co-evolution as the expression ecocentric worldview raises. In the view of aforesaid this worldview man's responsibility, for understanding the limits of technocratic activities, the actions of people which pose a threat to the survival of the human species grows incredibly. In this case, ensuring controllability of noosphere processes is gaining a decisive role.

German engineering researcher G. Ropol figuring out the problem of anthropogenic impact limits on the nature offers a solution to the environmental crisis by using the same tools which caused such a crisis. In his view, the government should make ecotehnic coup as "the revolutionary rise of inventive art of a man ... the care for nature becomes a technical category" [32, p.220]. The similar idea is shared by A. Nazaretian, assuming that the ecosystem crisis can be solved by humanized technologies. According to the law of techno-human balance, only "those civilizations that manage to eliminate the misbalance between the growing instrumental potential and the quality of restrictive cultural mechanisms, can reach the progress space borders, the rest, which are unable to withstand dramatic test of maturity are screened from the universal progress of evolution - anyhow they destroy themselves" [24, p.118]. But, as already mentioned, no fatal force is hanging over the mankind. In terms of synergy its future is multivariate and which option will become the reality depends primarily on goodwill, the sense of responsibility of people themselves. Thus, the noosphere as the natural self-organizing reality in the case of necessity should be supplemented with noosphere as "consciously realized, global and universal project" [30, p. 10].

Vernadsky being one of noospheregenesis founders emphasized at its manageable character. "The transition of the biosphere into a new phase, a new state – "noosphere" is performed through scientific thought and "directed by it technique, by its life in the biosphere a person creates a new biogenic force" [7, p.260]. For a good reason technosphere was called by Vernadsky the precursor and the main engine of noospheregenesis. Our modern human world, our natural niche is being constantly improved; primarily it is the technological world, technosphere, and eventually the whole new virtual world. Namely at the highest level of technological sphere development, by the virtue of creation of information technologies, such technical and physical conditions are formed that made the overall collective communication possible, thus linking human individuals into a single planetary system. Information and intellectual technologies represent the new stage of evolution of technology, and they will predominantly determine the content and style of life of modern human society. Eric Davis vividly noticed that "...an explosion that shook the world in the 1940s was not a nuclear explosion, but informational" [10, p. 118].

The revolutionary impact of informational technologies give a reason for some researchers to name their world the "third nature" for their ability to create new ones, including the so-called virtual realities. Information and technology environment is qualified as ontotechnics which is able to create a new space-time continuum, a new sensory environment and ways of perception, technically advanced forms of artificial intelligence being able to interface not only with individual but also with the collective intelligence of the planet. However, the latest information technology, being "rational", is able to produce irrational consequences that are often unpredictable. In practice, having no noosphere guiding ideology, even the most advanced information technologies, can only be the new form of alienation of man. From the above mentioned it can be concluded that

the noosphere – is the transformed form of techno-sphere: "it is a collective human mind, which was materialized in the meaningful forms of culture, human and historical events in Technos as the "body" of "civilization" [30, p.54]. Today the theory of the noosphere tends to shift from a hypothetical virtual design to the theoretical and empirically grounded concept of noospherology. In particular, this point of view was established in the works of some authors-participants of the conference in noosphergenesis [30, p.2]. It should be noted that noosphere researchers are not limited by humanitarian approach to study it, trying to analyze noosphergenesis "in terms – of physics and information theory". Based on the idea of rationality and spirituality of nature, it became possible to create a "nerve-cellular noosphere model, thus confirming the idea that the noosphere is actually "existing physical object", which has its own physical characteristics and which directly affects human activity (I. Suleimenov, P. Grigoriev) [30, p. 180].

The doctrine of the noosphere is developed by a group of foreign scholars (A. Anderson, D. Bekler). In their view, the noosphere is not current state of the Earth, but the coming one, and the state is not stagnant but evolutionary. However, it would be more correct to speak about noosphergenesis in terms of the logics of continuous evolution from the biosphere into the noosphere, in which just now one can already see the contours of the formation of a single mental field of the Earth. Noosphere represents itself as the logical conclusion of geosphere development being interconnected system of five states of dense matter (lithosphere, atmosphere, hydrosphere, biosphere and technosphere) permeated by the uniform energy and information field of the Earth, which is saturated with socio-cultural meanings, thought forms of individuals and social communities. As N. Moiseyev aptly noted, noosphere "means such state of the biosphere in which its evolution is controlled by the mind of the planet" [23, p.173]. That is, the noosphere is a regulatory information system which provides a harmonious interaction between the nature and the society aiming at realization of the idea of sustainable development. According to the views of Vernadsky, the noosphere is a new branch of co-evolution of an animate and inanimate matter, the division of which can be made conditionally.

Free from the bondage of nature, a man has become a hostage of the second nature created by himself. According to M. Moiseyev such judgments are inappropriate because due to the emergence and development of the technosphere the human space mission is manifested, so it should be taken as a natural historical giveness. The formation of human measured "artificial world" requires the development of modern techniques and technologies that's why constantly updated artificial world is a technosphere by which man will continue to develop. The dynamic development of technology is a natural process which is creative and active expression of a human being. This is the modern expression of continuous search, which is initially inherent to the human nature, it is the guaranty to the further development of a human as biological species.

Regarding the technosphere as forerunner of evolutionary link between the biosphere and the noosphere, according to D. Iosseliani it is denoted as "the area of real life, the synthesis of natural and artificial, special technical envelope of the planet in which the subject-practical and transforming human activity is performed" [13, p.240]. With the help of technosphere, the process of entering of the biosphere into the planetary intelligence is carried out. Therefore, at higher levels of development the technosphere is unthinkable without the highly intellectual, information and nanotechnologies. But the ambivalence of human nature cannot only be the engine of human noosphere progress but also its brakes. Genesis is a "cache" not only for human preserved meanings, but also for ambivalent temptations being worth attention of anyone who

is focused on finding and deciphering new meanings. That is the main danger of technocracy negative impact on the evolutionary progress of the humanity is not in the technical devices but in inadequate interpretation of their meaningful purpose. In particular, the false interpretation of the so-called "peaceful atom" has incarnated in the Chernobyl and Fokusima disasters.

By M. Heidegger, human threat is not even possible due to harmful effects of machines and technical devices but from the false attitude to the place and role of technology in human existence. According to M. Heidegger, the cause of such technocratic syndrome is that the conflict of man and technology is developed in a totally soulless world where a man, following the Prometheus logic, is trying to overcome the ontological abyss "posture" alone by returning the technique of primordial poetic essence. To make it is impossible, by M. Heidegger logics, without spiritual transformation. "Only God can still save us. We cannot call Him with our thought ... we can only wake up readiness to study. The world cannot be what it is, thanks to the human being, but it cannot exist without humans either" [19, p.23-58]. This idea of M. Heidegger about returning to the structure of spirituality, its vertical component should eliminate the problem of moral condemnation and the denial of technology. We must begin by saying that our high-tech environment is the immediate product of our needs and aspirations. And is not the machinery but our exorbitant needs can resist us as alien and hostile force. Here one can fully agree with G. Shvebs: "And if a man has a duty before nature, then towards the technics the duty is equally high: the family one until we, as relatives, will demonstrate extremely low willingness to be them before the Universe" [35, p.249].

So our duty is to learn the art of dialogue with technical devices as a part of our nature and our inner abilities which are taken out. In this case, H. Maklyuyen says about that fact that "any invention or any technology is the external projection or self-actualization of our physical bodies" [20, p.54]. One should reject not the technology itself as the essential power of the human being issued outside, but a false "technics ideology", the aim of which is to level the human personality, to distort the human space mission by replacing the technocratic imperative of life with ecotechnic instruction to limit the destructive technological activity. The noospheric approach to the technosphere assessing as a teleological – defined instrument of the disclosure of the human being essential power, his cosmic sense can serve as a heuristic key to determine the nature and the role of globalization in the noosphergenezis. From the noosphergenezis point of view the globalization is not the thing of someone's insidious plan. The only aim of this natural process is to finally form the single integrated global intelligence. In particular, the globalization of the information technologies creates the mental technical background of the noosphere galvanizes the technical process of formation of a single cosmopolitan consciousness. The fact is that humanity needs an optimal model of globalization which would satisfy everyone. This globalization is based on the synthesis of extravert (Western) and intravert (Eastern) civilizations. This is the synthesis, in which individualism and excessive demands of the West that have been materialization of the Western needs would be balanced out with inner spirituality and ecological compatibility of mentality of the East.

By Nancy J. [28, p.196-214] the filling of the technosphere by the spiritual metaphysical meanings transfers it into ecotechnics. Qualifying technosphere as the integral factor of the noosphere establishing, the term does not mean that it loses its ontological- fundamental essense, but it fixes the statement that the nature should be taken as an open inspired structure to human meanings. Being in constant formation, the latter changes into the noosphere via the

interaction with spiritual meanings. As the necessary tool of the noosphere, ecotechnics reflects not only harmonious, but the conflict stage of the interaction between nature and civilization. The Earth as a living organism at the noosphere formation stage actually performs a constructive autoantropogenezis in the self-organizational form of the influences at human being evolution. In particular, there are two empirically observed interconnected processes of the noosphere self-organization as a response to increased anthropogenic impact at the biosphere. On the one hand, such employment of mechanism of culling of the most immoral part of people (mechanisms of natural disasters, panepidemics and AIDS). On the other hand, in the human population the galvanizing emergence of the "safe person" that would gradually replace modern European human being with the technocratic thinking and excessive demands occurs [16, p.17]. F. Nietzsche had the prophetic anticipation of such self-organizational processes of the Earth noosphere when he wrote, "the most savage forces are leading the way, carrying the destruction at first, but their activity is needed so that later moderate customs could be established. Scary energy – a thing the evil is called – are cyclopean architects and leaders of human ways" [29, p.371].

Can we understand the symbolic meaning of the knowledge with which the planet comes into contact with humankind at current noosphergenezis stage. The authors of the concept of the noosphere E. Leroy**,** V. Vernadsky pointed out that the noosphere provides the access to their "archives" only for those persons who know how to behave with it adequately. The Earth language was understood and was used by the people and the communities which have maintained a harmonious relationship with nature (folk meteorology, seismology, etc.) and sensitive personalities. Summarizing these cautions, the Chinese seismologists were able to minimize the number of victims during the devastating earthquake of 1975 in Xinjiang. The use of modern computers as the prognostic-modeling systems can become the prospective mean of a dialogue with the informational field of the Earth. Of course, such an insight at the planetary level is important by themselves due to their resonant effect at mass consciousness. But can we talk about a counter process presence of mass reaction towards the noosphere system actions by reducing aggressive man-made human impact on the nature.

As to the mass consciousness, the observing over the reaction of population on natural disasters, pandemics, technological disasters testifies its intuitive spontaneous awareness of the fact that the evil, blind and incomprehensible for the human being**,** has deep and hidden metahistorical reasons that require a counter action and rationalization. When the disastrous tsunami devastated the shores of Thailand and neighboring countries, the majority of the population was firmly convinced that it was the nature vengeance for the human's sins and the higher powers' warning. The encouraging symptom formation of the planetary collective consciousness is the fact that the "metaphysical evil" – geocataclysms – in today's world of ecotechnics begins to be realized at the level of political, economic and ethical conclusions of the societies that have experienced natural or technical disasters. On the basis of significant changes in environmental consciousness Ulrich Beck makes far-reaching conclusion: "...due to the infinity of threats that arises the everyday cosmopolitan consciousness wakes up and perhaps even differentiates between a human being, an animal and a plant: the society arises during the fight with risks and a global society is developing in the fight with the global hazards" [2, p.75].

Avalanche-like nature of the adaptive responses of the biosphere towards a man-caused destructive effects give reasons for some noosphere researchers to consider the present Earth evolutionary stage as a regressive vector of human development or an impossible utopia. In

particular, V. Kutyryev defines it on the one hand, as an ideal system of political utopia of communism. On the other hand the "noosphere" as the reality, is an artificial thing, the environment that oppresses the range of biological life [17, p.170–171].

Negative and more utopian interpretation of the noosphere demonstrates its inability both at the theoretical and empirical levels. In particular, the broad interpretation of the anthropic principle by British scientists J. Baro and F. Typlerom affirms the idea of metaphysically optimistic anthropology. By their logics, if the evolution of the universe had been programmed for the emergence of a intelligent being, and then it were prepared for the fatal destruction without a trace, then it is not clear what is the sense of the occurrence of the thinking and creative human being. Did the evolution create a man in order to destroy him afterwards? Taking into consideration the above said, J. Baro and F. Stypler formulate the anthropic principle: "The intelligent processing of information must evolve in the Universe, but once established, it would not disappear" [37, p. 27]. This theoretical reasoning of the optimistic perspective for a person finds its empirical evidence. Firstly, the predictions of futurologists of the 80-90th of the XX century on the ecological and anthropological collapse at the turn of the XX-XXI centuries were not justified. The biosphere has still been finding compensatory mechanisms for homeostasis. Besides, the negative rating of noosphergenezis is refuted by the adaptive response to technogenical pressures. This is "unpacking" of evolutionary reserved mental abilities of a man, his mental and physical health reserves, a trend towards the stabilization of demographic processes. Moreover, the threat of informational collapse due to the ever increasing information overload of human intelligence turns the noosphergenezis concept into the concept with no alternative.

A man has created too complicated artificial world for his individual perceptions and possibilities of cognition. The information revolution actually puts the individuality into the information impasse, into the crisis of individual consciousness that is unable to cope adequately with the increasing flow of the information. The fundamental idea of forming a planetary mind implicated in the concept of noosphergenezis is, in fact, the only hope for the mankind to overcome informational and educational barriers that are provoked by the information revolution, while maintaining the natural humanity anthropological status. This is the way of the mental revolution that involves a radical change of a spiritual psychoculture of humanity on the basis of not only natural, but manageable-planned delegation of the cognitive- analytic functions to manage the planetary development of individual consciousness to a higher and more specific level. The number of psychological phenomena demonstrate the spontaneous process of the mental self-organization of the noosphergenezis towards forming the personal level of consciousness.

In particular, in the context of the collective consciousness formation such massive spontaneous phenomena are observed that took the social center stage as a virtual Internet communication, the ability of large groups of people to telepathy, clairvoyance, the significant increase of the number of people with right-hemisherical (figurative and holistic) thinking.

The phenomenon of indigo children capable to holistic mentality, and other manifestations of psychic abilities is required special reflection due to the transformation of the mental field of the planet. But their superhuman abilities in computer technologies, the sense of organic unity of a man and technical devices, an innate ability to establish interaction between computer and a human being are the most impressive [16, p.53].

The mentioned facts of manifestation of the over personal information exchange, the formation of the collective consciousness in the man-nature system, man-community, man-technical device

system are impossible to comprehend in terms of the classical methodology. Their assessment requires the synergistic outlook, which helps to overcome the primordial split: the nature – the spirit, the natural – the technical and to prove that the basis of the universe is mental protosructure that removes the above mentioned dichotomies and acts as the informational –managerial matrix of the nature and the human being. In this context, in the preface to the famous book by Arhuelsa H. Bran Swami it is pointed out: "The problems are in the thinking error which is inherent to our culture that considers hydrogen atoms, stellar systems and much more things as a purely "physical creation" and the man and his mental life as something higher and completely independent of the Universe" [1, p.12].

Until recently, such ideas were regarded as speculative and such that did not have concrete evidence. This has hampered the development of the humanities. However phenomenal discoveries in the field of transpersonal psychology (S. Grof, C. Vilber), quantum physics and neurophysics (D. Bohm, K. Prybrama), mathematics (V. Nalimova, G. Bateson, K. Gödel) the discovery of R. Sheldrake's morphogenetic field allowed close approach to the formation of holistic paradigm which recognizes the possibility of a separate and independent existence of the brain and consciousness, and different forms of the unconsciousness.

D. Bohm and K. Prybrama discovered the fact of identity of holographic principle of brain functioning and the information field of the Earth, led to the conclusion that the main functioning of the brain is to be the operator of meanings.

From the above-mentioned theoretical positions it follows logically that the genetic basis of planetary mentality is the mental field of consciousness, which includes the thinking schemes typical for this ethnic group and attitude, which are coded both in the objective world of culture, and in the single information field of the noosphere, the so-called psychosphere. If mental limits of the noosphere, primarily are defined by the integrated power of the human mind and the critical mass of constructive or destructive thoughts, then respectively, the conclusion may be made that they are not permanent, and finally they depend on the degree of reasonableness and quality of thoughts, delegated into the information field of the noosphere. With perfectly formed noosphere the humanity connect hopes to reconcile the dichotomy of life of modern humanity. It is impossible to create noosphere in artificial, voluntaristic way, it is the natural process of self-interaction of intelligent systems of the space, the Earth and the society of individuals. However, one should consciously and deliberately encourage all natural and artificial intelligent systems to the search the solution to preserve the nature and a human being to state ensure harmonious of the nature and the society interaction. Not only cosmic information field creates an intellectual and spiritual part of the noosphere, but the energy- information field of that part of humanity which stood on the positions of the environmentalism and is ready to preserve human being and the nature. The need of the noospherogenezis external stimulation is dictated by the fact that since the end of the twentieth century, the speed of technological sphere development began to significantly outpace the speed of awareness of humanity causes negative consequences of this development. There was the need of mental adaptation to this acceleration. The final goal of mental revolution of consciousness is to have time to create the intellectual technologies which are fundamentally different from the existing ones which make it possible to motivate, implement the new technologies of life when the conditions of socio-psychological time and informogenezis are accelerated. The information technologies, the development of local and global information networks become the key tool for the intellectual revolution.

Today there is no direct evidence of technical methods to feed the noosphere information field. However epy indirect evidences exist. In particular, sociologists noted that with the development of the Internet there is a tendency to cosmopolityze the consciousness itself. The collective local intelligence is transformed from the possibility into the reality as within the collective online communities a common worldview, and collective memory are formed, joint decisions are taken out that finally create the conditions for the total informgenezis to form the planetary mind. Extremely advanced artificial intelligence performs the means of activation and focuses formation. However, the role of artificial intelligence in humanity informgenezis to harmonize technosphere is ambiguous. The integration of artificial intelligence into the noosfergenezis system requires the confirmation or refutation of the fact that living thing and consciousness can exist not only in the protein-nucleic acid, but also in other forms of energy, requiring removal of the opposition between the inert and the life, between the natural and the artificial. The noospheric concept is necessary to be established, which is based on the notion that the survival of the planet "due to the understanding of the humanity and the biosphere of the planet as a part of the living space, living Gaia" [14, p.12-16]. In the 1960's the English scientist J. Lovelock put forward the hypothesis based on the modeling of biospherical processes and proved that the planet Earth as a self-organized system resembles a living organism. By D. Lovelock the Gaia hypothesis became the basis for a new science about the Earth, geophysiology. Evaluating this concept as a modern holistic worldview the prominent physicist and science popularizer F. Karpa asserts that the idea of natural biological symbiosis "obviously will provide an ideal philosophical and spiritual foundation for ecological way of life" [15, p. 24].

The natural biological and psychological facts of symbiosis inspired the profound ideological conclusions that change our understanding of the very essence of the technosphere. In particular, they allow to speculate that the design and operation of artificial intelligence mechanism has apriori been presented by the procedure via the human being thought and activity. A new look at the technical environment and the technical and intellectual environment in particular, can be formed via removal of the natural and artificial opposition, based on unilateral active treatment of a human being sense. Despite the natural or artificial actions, they are the way of humanity's self-realization. The famous mathematics philosopher B. Nalimov affirms that: "The essence is revealed through the personal time, which is generated by the actions ...", because each interaction generates the connectivity. This clarifies the meaning of an action – due to it the implication to each other is revealed, and respectively**,** to everything existing, even in the world of elementary particles. And if in the quantum mechanics one had to reject the idea of quantum systems division, the more reasons we have to reject the idea of the human ego isolation [26, p.350]. The paradox of Einstein, Podolsky and Rosen is a challenge which was put forth by quantum physics to our culture and it can explain any symbiosis between the natural and the artificial, between the technical devices and the human being, based on the ideas about the unique world character to be indivisible integrity. For example, with the discovery of the computer and human interface phenomenon it became clear that the opposite sides have no absolutely independent value and due to the quantum integrity virtue division at the highest levels of the technosphere they provide and encourage each other. Technosphere, as A. Iosseliani defined it is the synthesis of natural and artificial and was created by the humanity to meet its needs [13, p. 111].

The technosphere is being filled with metaphysical meanings, thus it is able to facilitate the transition from the biosphere to the noosphere. In the opinion of many researchers the mechanism

of intellectualization of human civilization, is characterized by the gradual enhancement functions of the right hemisphere of the brain (imaginative, intuitive and creative thinking), gradually pushing the algorithmized, formal and logical functions of the left hemisphere to the background. If in general the right hemispherical type of the mentality is based on the unity of the man and the nature with other people, the left-hemispheric isolation is based on boundless self-assertion – until the nature and the man destruction. Exactly the gap between right hemispheric (Eastern irrational) and left-hemispheric (Western rational) mentality in the form of reason instrumental domination actually generated the modern humanity global problems. V. Nalimov anxiously stressed the possible negative effects of unbalanced the right hemispheric and the left-hemispheric component of the human intelligence. "Obviously, this imbalance will exponentially continue to grow – with already increasing speed. What will it lead to? Does the man lose himself in this imbalance? Does refundable technique turn against the person who created it? ... Now the same we can say now about computers that act as the artificial intelligence. As the technical devices emerged between the nature and the man and computers will arise between the man and the meanings. And if now we have to protect the nature, but with a little success, won't we have to do the same to protect the meanings, though with a little success also" [27, p. 234].

Anyway, today we observe the effects of visualization of consciousness that can give impetus to the phasing out of the second system – word operating associated with the logical thinking, with perception and the transition to the holistic manner, directly linked to the attitude. In general, the transfer of algorythmized function to the informational technologies pursues good intentions; it must dismiss the subject of knowledge and creativity from informational overload and intelligent routine operations. The basic survival is primarily dependent on the left brain hemisphere. The ability to quickly and correctly estimate circumstances logically incredibly increases the chances to survive and dominate. Moreover, in practice, by the designing of new virtual worlds, sophisticated computer technology is capable to wedge into the mechanisms of the human being planning and predicting activities. Simulating the possible future visions information intellectual technologies somewhat transform their present from the future. They can become an effective tool of human being projective and practical activity to predict and mitigate the possible ecotechnogenical disasters. However, getting into the very basis of genesis, creating a new sensory environment and its perception ways the computer technologies can not only enhance the creativity of a man, but suppress the natural qualities of the person by cultivating the fragmented "clip consciousness". And then one may agree with the M. Beskova's opinion: "In the twenty-first century not only the art but the science in the technoscience realities constitute the virtual worlds, which is written much about, for example, in connection with the problem of the Internet. But in a man-made Paradise (or Hell) in designing of new worlds, new relationships and new life, the machines become the man partner. The machines are co-creators, but the machines are crutches" [3, p. 231]. The anticipatory evaluation of the impact of specific technologies on human being life is required so that the technical devices would not turn into dependent spike from the man co-creator.

From neosphergenezis point of view the Internet system also requires such assessment and this system is still the most powerful tool of noosphere unified forming consciousness, but the concrete results of its impact at the globalization are ambiguous. The above mentioned circumstances determine a specific role and limits of information technology in the formation and manifestation of the collective consciousness. Over the last 55 years a huge number of publications devoted to the problem of artificial intelligence appeared, many illusions about the very possibility of

artificial intelligence and its place and role in solving the problems of civilization were dispelled. On the one hand, the predictions of reputable scientists such as S. Hokhinha, K. Warwick who threated the dominance of technical intelligence at the first decade of the XXI century have not come true. However, the idea of enslavement of mankind by the technical intelligence continues to be relevant in our time. In particular E. Golovakha involves inevitable transition of human civilization into a virtual cyberspace. V. Zubkov predicts the era of cyborgs attack. By his scenario the nature conquering civilization will inevitably come to a collapse in the next 30-40 years, and man's place on the earth will be taken by the artificial beings-cyborgs, which are able to act in the emergence of aggressive environmental conditions [18, p.339].

R. Penrose the respected researcher of the theory of consciousness and artificial intelligence theoretically and practically proved in his work such doubtful forecasts for the future. He drew attention to the significant difference between the most perfect artificial intelligence and the human brain. Such super- computer, in his opinion, will be able to surpass the human ability to algorithmic reasoning, but it will be absolutely powerless in cases where intuition, creative imagination and spontaneity are necessary. According to R. Penrose the problem is that the science actually has no real theoretical model of the brain and we have no answer to the question whether there are enough laws of physics discovered to understand the mechanism of functioning the consciousness [18, p.339]. Even stronger argument against the idea of the mind as a machine, offered physicist R. Feynman. The classical computer will never be able to imitate nonlocality which characterizes the consciousness as a total and space phenomenon the possibility of the individual minds access to the inter-subjective space is associated with nonlocality of the consciousness. Moreover, the nonlocality of consciousness proves its metaphysical and spiritual dimension which can't be logically and algorithmically formalized. Therefore, the classical computers would never be conscious like we because they do not have this transcendent spiritual connection. However, to put a taboo on the development of highly intellectual technologies would not only be hastily but also risky. The idea of artificial intelligence is a natural element in the logic, not only of technological advances, but also noosphergenezis in general.

Finally computer technologies are of anthropical nature, acting as evolutionarily programmed agents of sence-searching activity of a man. If the idea that the ability of the human mind to intuition spontaneity and nonlocality of transcending is associated with phenomena, the processes of the deep level of the reality, which is also the basis for the material and spiritual (the theory of cosmic hologram, physical and semantic vacuum) would be confirmed, then according to L. Leskov, a natural issue arises, if it is possible to create an artificial intelligence based on the use of the same physical phenomena [18, p.339]. The only thing can certainly be argued that the artificial intelligence will be developed as powerful and due to growing autonomy, even formidable technical assistant. More effective "brain – computer" interfaces are being created. Nanointerfaces are also being generated. The computer simulation of brain activity and artificial intelligence development are the processes that move towards each other. As was stated by the IBM at the conference Supercomputing 2009 (November 18, 2009 in Portland, USA), the computer commensurate with the capacity of the human brain will have been developed by 2019. By that time the INTEL Corporation promises to create so-called telepathic interface – a device to control computer technique using the mind [11, p.469]. From this point of view a question arises what position is occupied by the information technology at the stage of their development in formation of the superhuman consciousness. By the raising this question, B. Nalimov reasonably states: "A

person is able to create the hyperpersonality, semantic associations that go beyond personal physical capsulating: but can we imagine the hypercreation where human individuality is semantically associated with identities embodied in computers ?" [27, p.233].

Some researchers consider that the Internet is the prototype of such intellectual information system. In particular, L. Mel'nyk states: "The Internet means that all existing information systems on the Earth (individual and associative) are combined into a single information net. The only planetary mind, being said by the scientists in their futuristic predictions became a reality" [22, p. 187].

However, in practice, to identify the internet with the global consciousness, with its modern spiritual content value is unacceptable. The Internet network as a communicative intriguing tool is completely neutral with respect to spiritual values, which it spreads. Internet can galvanize the revolutionary collective confidence in different countries, but would this be beneficial for a revolutionary change for the citizens of the countries, the elite of which uses it to approve its egocentric purposes. "Computer technology simply means that the techno-economic base can support perspektyvizm cosmopolitan, global consciousness, but by no means does not guarantee its emergence... The web offers the possibility but does not guarantee the results" [33, p.438]. Indeed, as practice shows, the contact with the technized "blymculture" to know, to "find" that man-preserving information does not mean to "accept" it and turn it into an essential component of understanding of the world in all its ontological, valuable and metaphysical aspects.

Internet is instrumentally truly global, so the mind of truly cosmopolitan-minded people must also be global. All depends of the critical mass of spiritually-minded members of online communication. If the number of people for whom the collective and planet- preserving survival is an objective condition for the survival of an individual to be sufficient for the emergence of a single morphogenetic field of consciousness, the resonance effect can cover most of the world's population. Unfortunately, now the Internet is filled with not only all sorts of philosophical rubbish, but frankly hedonistic minded Internet users. If this kind of "Planetary Intelligence" continues to penetrate into the virtual world and reflects the evolution of the planet in a distorted way, it will eventually mentally resonate with anthropogenic and ecodisasters. Of course, the possibilities of modern computer technology in the transmission of information, integrating the general population in a particular ideological direction is difficult to overestimate. But as K. Vilber accents, the artificial intelligent systems only trigger approaching higher meanings. In their semantic aspect ecoproblems are not fundamentally solved by the technical facilities and computer technologies in particular, they require the conversion to another way of contact between the person and the world. To make the virtual dimension of planetary consciousness filled with environment-planetary content, the spiritual transformation access to the embedded in the collective consciousness main senses, personal matrices of human existence are required. This is emphasized by S. Grof, C. Laszlo, P. Russell, the authors of the book "The Revolution of Consciousness" [8, p.44].

The psychospiritual transformation assumes that the providing of the man-preserving will depend on how much a person is able to build, organize according to given apriori potential of his consciousness. As G. Hegel said: "What is the man, such is the world. The world will change, when the revolution is in the man consciousness". This penetration into higher internal semantic meanings of space is possible on the bases of the devices which are potentially incorporated into the human consciousness. In other words, inside of the mind as requested by the demands of an era the spontaneously specific organs that are not physical devices may appear, but they are capable of

a breakthrough in outlimited model: M. Mamardashvili writes – "We perceive by organs that are not given by the nature, but which appear in the thought area that puts a man into outer dimension, that permeates every culture development and links, except that horizontal vertical human being with the possibilities of the Universe" [21, p.308]. If the industrial civilization can't imagine its development without the technology, the alternative way manifests the hidden power of natural human potential. From the philosophical and esoteric doctrine point of view all the cosmic forces were originally incorporated in the human being, but they are not all active – only a small part of them is awakened. This preset fact is consistent with the anthropic principle, according to which there is a programmed evolution, including coding and technology spiritual and practical relation of the man to the world. The phenomenon of the inherent manifestation in the semantic space is especially natural symbiosis of technology opens up the possibility of technical and natural, when the concepts of psycho- spiritual practices are not opposed to the very notion of technology, and represent the highest stage of humanization and inspiration.

Such approach allows to formulate an understanding of the concept of the technology expanding. In a narrow sense the technology is "associated with the purposeful action aimed at transformation of natural substances or energy and the production and use of items such as tools, devices, machines, etc." [9, p.101]. In a broad sense technique can be defined as "methodical controlled entity activities aimed at achieving a particular goal" [9, p.105].

That is, if in the first sense we are talking about the artifacts which make up the large part of the human life-world, in the second and broad sense, any practice of transforming the world of man can be either technological one or creative interpretation of its underlying meanings. The apriori man preset psychotechnics are the most mild, human measuring and planet saving technologies on which the modeling of technical devices autotrophic technology and nanotechnology would be possible. But the most promising technologies are those of tomorrow. They are designed at the basic interdisciplinary studies of natural and exact human measuring sciences – microelectronics, molecular biology, quantum physics, neuroscience, psychophysics, neurophysiology, etc. The transition to autotrophic technology achieves a co-evolutionary effect human measured conversion mechanism in the body gently-natural use of artificial in a natural, but not artificial replacement of natural, the real by the virtual. S. Bulgakov in his "Philosophy of Economy" [6 , p.88-89] wrote about this in terms of the prognostic, prophetic plan.

As already mentioned, the solution of the global crisis on the basis of the formation of collective planetary consciousness is associated with deep transformation of humanity. Maintaining the environmentalism that is aimed at the developing of the planetary ethics, which would ensure planet saving expectations is not superhard task. But until recently, the largest problem was how to lay down the indicated values which could contribute the survival of the human species as the biological kind into the collective humanity consciousness. The challenge seems to be not resolved. But with the natural man psychospiritual techniques up the possibility of transformation of consciousness in planet saving scale is open. This primarily applies to the Eastern spiritual practices, and psychotechnics developed on the basis of the achievements of transpersonal psychology aimed at transtsedentsy personal principles consistent with all humanity "indeed, with all the semantic space" [25, p.135]. The effectiveness aforesaid psychotechnics is proved experimentally. Carrying the collective transcendental meditation sessions on the island in the Indian Ocean showed that the yield of the experiment participants during the meditation to higher human consciousness changed the meanings of the island inhabitants resonance towards the

xenophobia reducing, racial intolerance and even a crime. Summarizing the experience of altered states of consciousness held by the founder of transcendental psychologist S. Grof has been proved that it is through the experience of transpersonal experiences a person is able to experience the phenomenon of indivisibility, complementarity of all forms of life. In the consciousness altered states the traditional opposition of "I" to the outside world disappears, the feeling that our "I" becomes a field that is constantly expanding, merging with all existing on the planet. Taking care of the nature, and other people becomes a concern of oneself, the man feels a true citizen of the world, the master of the Earth.

According to the L. Sheldrake morphogenetic fields theory in the conditions where symbiotic relationships in the collective process of mutual knowledge reach a critical value, the so-called morphogenetic resonance appears, when the only thoughts and opinions cover the entire community [36, p.129]. As a result, the collective intelligence gets new potential for the biosphere with the technosphere and infosphere of the planet co-evolution. It is possible that at this stage of the noosphere the only planetary consciousness will begin to interact not only with the spheres of the Earth, but the Universe as a whole. With the increasing role of the noosphere paradigm as a tool for finding ways to ensure sustainable development, indeed the humanity survival itself, the education, the education of necessity must be noosphere oriented. Moreover we must bear in mind that the noosphere as an open evolutionary system is the only time continuum that contains the information about the past and future matrix of its structure development. The past – it's not just a residual effect. On the contrary, it is always present nowadays, as the determining present and future. But if the noosphere current state, causally determined by the past, the future of the non-coercive manner (informational), as if teleologically adjusts the present under itself, defining the logic of his equation for the future.

According to the temporal multidimensionality the noosphere educative process must be multilevel. On the one hand the task of the scientists and the teachers is to teach not only to coexist, but also to collaborate effectively with the noosphere "archives", braking the exit from the "foundations" of demonic, irrational, drawing the eternal, wise, fundamental from the phylogenic mankind memory. On the other hand, taking into account the teleological – programming future impact on the present, the teachers should include the factor of the future existance of the generations in its outline. So, the education system needs to have the individual leading character, probabilistic predictive model of the future, which aims to apply the information to the current generation of preventive nature to adapt them to the possible dramatic changes in the development of the civilization. The strategy to move to a model of sustainable development requires the formation of a new type of a man who can exercise noosphere project of civilization development. This personality is characterized by "multidimensionality thinking" integrity, spontaneity, evrystychnist and procedural analysis and synthesis" [4, p.11]. The man-preserving noosphere model of the education should be focused on the ultimate environmentalization, informatization, futurization, innovative study, which should prepare a person to preventive actions of survival in the aggressive environment.

Author's translation of the article

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