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Environmental Approach to the Study of the Modern Stage of Information Society Development: Research Prospects

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ABSTRACT

The paper analyses modern information society in terms of an information ecology approach. Its aim is to determine the place of the human being in the human-society-ecosystem relations system and to study the prospects of a humanistic approach to the understanding of the essence of subject-object relationships in the communication space of information society. Based on the principles of integrity and systemacy, the principles of holistic methodology, analysis and synthesis have been used. It is shown that the ecology-information model leads modern philosophical thought to new dimensions of the world and the human-being, to the reconsideration of the existing essential relations between them; that the eco-oriented conceptions of modern philosophy that preserve the integrity and inherent worth of the being of the human make it possible to adequately consider an individual's social situation in the information society. The article also describes the concept of an information code as unconscious and sustained cultural matrix that determines the mode of the human existence in the world, and considers its features under modern conditions when communicative activity of the subject as a general form of being becomes its basis. In addition, the concept of navigation as the movement of the subject within the structure of information models of the world created by the experience of many generations is characterized.

KEYWORDS
Information society, information ecology, subject-object relations, ecosystem, information code

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Introduction

Modern stage of the development of the society that is defined as an information society, rapid development of computer technology, transformation of information and knowledge into a commodity, a strategic resource, the

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growing role of information in society on the whole – all this, being an object of philosophical research, have led to the emergence of information ecology, an area that regards information as an object of ecological research and that basically addresses issues of functioning of information systems in organizations, business and politics.

Today the social-cultural space is increasingly determined by the growing intensity of various information and communication flows and links. In it, communications of various types and of different scales interact; the structure of this space, which is explored in research programs and technologies of modern management activity, undergoes qualitative changes. As a result of a considerable influence of these processes on the existence and functioning of information society its sustainable development is impossible in the absence of information ecology (Babik, 2008).

In these conditions a holistic information-ecology approach becomes relevant. Compared to the previous conceptions of social philosophy, it studies society in a deeper and more versatile way, treating it as a holistic system determined by content information, a system that is deeply and comprehensively associated with nature (Eddy et al., 2014). Formerly, different areas of social philosophy focused on socium that either contrasted with nature or interacted with it, using it only as a resource.

In recent years an integrated informatiological picture of the world has been objectively formed. In it, the experience of the reflection of the entire preceding course of the humanity development and comprehension of it, including the information society from the second half of the XX century, is beginning to be realized. According to the contemporary view on the issue, in information ecology, the society at its current stage of development is regarded as a part of a broader whole, a social-natural ecosystem. Information as a factor of social management, as a human resource and as an economic constituent; the content of the social and cultural space-time, of social structure - all these and other aspects of the world's information picture indicate new contours of society, its new characteristics (Fidel et al., 2004; Grigoryan, 2015).

In this situation, at the modern stage of society's development, particularly important becomes the need to develop information culture of subjects, provided there are freely circulating information flows (Parahonsky, 2014), and thereby to pay special attention to the human being as a subject in his relations with society and ecosystem on the whole. Ecology of information environment becomes an important condition for the development of a healthy antroposystem as a complex interaction of individuals, as well as groups of individuals (Anikin, 2011). Ecological approach, paying special attention to the relationship between the human and the ecosystem on the whole, whose integral element is information society, based on the principles of systemacy and holism, reveals new aspects of both society and the human being as a subject.

Literature Review

The ecology principles in a philosophical context are used to draw attention to the potential of ecological thinking, to stress the interrelation of the subsystems in the information space. T.H. Davenport and L. Prusak (1997) discuss the concept of "information ecology" in order to determine the approach to information management in the workforce. The authors believe that on the

one hand, technology deployed within an organization, as well as technologies available on the external technology market can successfully contribute to the planning and gradual improvement of the effectiveness of the information space. Technology provides access to information, and this access is not only sufficient but also necessary. On the other hand, the technology model relies on highly qualified human resources, which are the foundation of society and need careful attitude to them.

In the article "Towards an Information Ecology" by R. Capurro (1990) comes to the conclusion that the challenges of "information ecology" arise in information-rich societies, as well as in the interaction with information-poor societies. The author emphasizes that a measure of the ecological quality of information can be the social character of information, its linguistic (criticability, tacit dimension, and partiality) and historical aspects. He notes that these aspects can contribute to the understanding of the concept of "information pollution." It is also pointed out that the difference between the information-poor and the information-rich countries is growing.

With the increase of the role of networking in public, educational and commercial institutions and organizations, as well as in people's daily lives, of broadband Internet; the development of Web 2.0 services, improved browsers; the increase of web-sites and blogs with Flash application platforms and mass development of widgets, scientists raise the issue of information ecology in social networks and online communities (Detlor, 2001; Zhu, Wang & Chang, 2009; Karakas, 2009). Y. Malhotra (2002) considers the concept of "information ecology" as one of the main components of the popular conception of modern organizational management, knowledge management, and even specifies it as "knowledge ecology." In his opinion, the traditional understanding of knowledge management is focused primarily on general information that lies on the surface, whereas knowledge ecology treats the available knowledge, using meta-information, logical links and relations that may be useful for business from the viewpoint of adaptation to the changing financial and economic indicators. At present, an approach that views information space as an ecosystem of special kind (Stepp, 1999; Baker & Bowker, 2007) capable of supporting stable existence of other systems (Chen et al., 2008) is being developed within the information ecology framework. The comparative analysis of natural and human ecosystems resulted in the conception of A.L. Eryomin (1998) who defines information ecology as a science that studies the laws governing the influence of information on the formation and functioning of the human being, human communities and humanity in general and on the health and psychological, physical and social well-being; as a science which develops methodologies to improve the information environment.

Research Methods

In the given paper, based on the holistic philosophical methodology, methods of the synthesis of data obtained by other researchers, as well as the authors' conclusions have been used; the starting points of the research are the concepts of the human-subject of information space as a bio-socio-cultural being, and of the integrity of ecosystem as the unity of the individual, society and nature. Features of the formation of a new philosophical-informatiological outlook, based on the principle of informational foundation of the universe have been studied. It is noted that inseparable from the philosophical-

informatiological approach is a significant expansion of the research sphere of spiritual, material and energy processes.

The leading principle in the present research is that of the world's integrity, its internal unity, as well as the conception of a significant expansion of the information role and place in the being of objective reality under the conditions when the status of material-substantial processes is reduced, compared to the status of the information that appears to be the basis for forming content features, processes, relations and objects in society.

Results

In analyzing the views existing in different information ecology trends, it can be concluded that in the framework of information ecology the focus of research is the object – information, social relations, organization, group; whereas the subject is on the margin of attention. However, in modern conditions, humanization of scientific research is one of the most essential trends, and it is necessary to develop the philosophical outlook that actualizes, as its area, information ecology as accepting the human being in the status of a subject who is capable of controlling and regulating the information-communication space processes, preserving his special ontological space as his subjectness space (Barkova, 2013). Thus, the ecology-information model leads the modern philosophical thought to new dimensions of the world and the human being, as well as to the reconsideration of the essential relations between them (Ivleva, 2014). The purpose of the present paper is to determine the place of the human being in the human-society-ecosystem relationship system, and to study the prospects of the humanistic approach to the understanding of the essence of the subject-object relations within the information-ecology approach.

Modern knowledge society, whose foundations are set by rapid development of information-communication networks and processes, exhibits a conspicuous modernization of social and cultural space-time. This have naturally resulted in the transformations of meaningful "coordinates" of the human presence in the world, transformations that have changed the structures of being and that have opened up a new scale of a planetary human being and humanity. Thereby the possibilities of the information space have given a powerful impetus to the formation of communicational-cultural space uniting subjects of all continents, to the united building of cultural bridges and to the opening of new educational resources: the deployment of virtual museum network, travelling, distance learning and discussion of scientific and social problems, which in its turn has become the basis for new scientific research and knowledge areas.

However, along with the social and cultural development potential, that have opened up thanks to the new information technologies, there are trends associated with serious risks for the human being for preserving his life space, for the ecosystem at all levels: from local to global-planetary and broader, at the level of Being as a whole. We agree with V.A. Kutyrev (2006) who stresses how important it is today to propose a *modus vivendi* between realism and modernism reflecting our natural, object macrocosm, and postmodernism as, in fact, an ideology of other, informational-virtual micro and mega worlds. Ecological problems only recently attributed to nature, have become essential for culture and the human being, in general, for Being.

Indeed, in the content and nature of the orientation of the modern type of civilization development, foundations are activated that generate spontaneous irrational processes in which the socio-cultural system is rapidly losing the stability of its being, becoming increasingly unbalanced and unpredictable. It should be emphasized that its internal space-time is set by information determinism as a general principle of organization of socium, culture and social interactions aimed at the production of new information and innovative communication systems, but not at the development of the Human being, Culture and Nature, of the Earth as our common Home. And the most widespread conceptions of information society, such as, for example, M. Castells' (2009) conception, transfer the properties of the subject as a creator and source of the relation to information, a creator and "designer" of all social positions and messages to the properties of information. In that way, the subject aspect in grounding the fundamental properties of society appears to be discarded.

But this substitution removing the boundaries set by the subject in the development of social space-time makes the information content of the modern world not only unpromising for revealing its nature and possibilities of human nature, but limitlessly excessive: in it, at an ever-increasing speed, information is continuously accumulated, generated, translated, and stored. This information immediately becomes outdated; in addition, there is no time left for using it, for getting used to the meanings, for selecting the important and not important, for thoughtful and reasoned analysis and evaluation of facts, texts, events and cultural phenomena in terms of their truth or falsity; brilliance or junk information. Such acceleration of social time is increasingly integrating the human being as a ranked structure into the social space where he appears to be "the weakest link" of the information universal set because his capabilities – memory capacity, the switching speed of cultural-meaningful programs, their "reformatting" – are set by internal rhythms of his nature organically connected with the rhythms of the Universe, with the outlook, moral culture, values, and traditions which the human being cannot and must not through away, to the extent he is the Human Being.

Therefore, it is clear why modern philosophy is in an intense search for eco-oriented strategies of the future society conceptions in the context of civilization faults and crises in which the integrity and the intrinsic value of the being of the human is not lost (Marten, 2008). Thus, cross-cultural and historical analysis of human systems as information systems seems very productive (Stepp et al., 2003). Modern situation has great constructive potential, and it can and must be used to stimulate mass creation and introduction of higher-end nonpolluting technologies. Accepting the existence of human society as an inseparable element of the natural ecosystem on the whole, philosophical-culturological ideology must overcome the instrumentalism of thinking in relation to ecosystems and to establish a cultural form of ecological thinking (Bellafiore, 2013).

Discussions

The guideline of these searches for the protection and preservation in the XXI century world of the regulatory status of the highest values of culture, moral imperatives, fundamental knowledge and of the entire sphere of humanitarian culture, is matched by the concretization of the principles of integrity and information determinism in the context of information ecology and

its potential in structuring the specifics of space-time continuum of modern society.

In the past, throughout the history, various general forms and mechanisms spontaneously developed aimed at updating the information underlying social space-time content: changes in the philosophical picture of the world and in outlook systems, transformations of cultural meanings, public and state reforms, a change of the material forms of object environment, of the production instruments. The stored information – through traditions, rites, rituals, forms of classical art, science and philosophy – was translated, passed in space and time of subsequent ages as moral standards, evaluation criteria, knowledge and values, while preserving its value as the cultural-informational past demanded in the course of global evolution. But they acquired this status, based on the position of new generations that were part of socium and culture and that had the subject status of their own and realized it in processes of information-communication reformatting of the forming social-cultural reality.

Today, however, the role of the subject in space-time information society moving to the periphery complicates the implementation of this function: distinguishing in the society between the contemporary and the past, the eternal and the temporary, the relevant and the irrelevant. Events of the present tied to the novelty of information assume the meaning of changes of some point in space "here and now," the point that acquires a substantial-material, physical content, and accordingly, its value-culture meaning is blurred. In this context, physicalization and reification of the reality of the modern world is a direct manifestation of a constraint imposed on the role of the subject, a kind of deficit of social and cultural subjectness space which retains an ontological stratum, sensory-supersensory and symbolic-meaningful reality that principally cannot be reduced to technologies and organizational-systemic processes and structures. The condition for the revival of the subject centering of the information society space-time continuum is reflection and the solution of the information ecology issue. We are referring to the regulation of spontaneous information flows: their value-culture constraints and “purification” of junk information in accordance with the need of the society for self-identification and preservation of high values and ideals as the foundation for the development of self-consciousness, taking into account the fact that information ecology has quite a definite place in the ecosystem, first of all, in the complicated network of interpersonal relations (Nardi & O’Day, 1999).

Information ecology conception should be used as a basis for such eco-oriented design of modern space-time. In our opinion, information ecology can be constituted as a section of philosophical knowledge that studies information as an attribute of being as a whole, therefore of the being of the human, culture, society, nature and cosmos in their organic unity; and that develops the concept of their commensurability on the basis of the universal information code, the violation and especially destruction of which threatens a catastrophe for Being as a whole.

Information ecology and its humanitarian component is in no degree a substitute for technical sciences of information and information security, nor do they reduce high estimation of achievements of modern technical sciences of information, their considerable accomplishments in technologies and communications resulting from the impact of globalization processes on any local

processes and links. But the emphasis is shifted to the issue of the human being and humanity as a subject of these transformations, to the substantiation of a cosmoplanetary dimension of the being of information society whose response considerably lags behind real demand for preserving the human world.

The purpose of such emphasis on the subject is not its special designing, but the restoration of the priority of a starting and basic, indigenous for the society subject-object relation that emerged in ancient times as far back as in the primordial strata of culture, by forming through activity, thinking and language, which as is known allowed the human being not just to adapt to reality, but also transform the reality in accordance with goals on the basis of the acquired experience and modes of behavior.

In the course of history the subject-object relationship as a special space, and today as a special value as well, existed always and everywhere, with all the changes of its contents and scale, at all the stages of the world history and in all epochs. And it is the subjects, including the society, and from the beginning of the XX century the humanity as a subject, that always developed an attitude to information as an object, thus eliminating the semblance of informational self-regulation. Undoubtedly, information is a special object, such that in some respects approaches a subject in fulfilling its function, i.e. translation of content. But information only imitates the role of a subject: by reason of its sense it can never realize it in its entirety, since the subject as a source of information is a creator of attitudes to the world such as freedom, values and evaluation, choice and restrictions, distinguishing between the possible and the real, space and time, etc. But information content always exists as givenness, not as choice: it is objectified and is always discrete and finite.

Preservation and restoration of the starting point, the human being-subject, as the center of space-time continuum that sets and translates information codes as conditions for the continuous evolution of human history and culture, and information as a periphery category, is the only opportunity to interpret information as an object and to overcome the illusion of its self-sufficiency in the modern society. This, in our view, is another important function of information ecology giving reasons for irreducibility of the subject to the space-time of his present being and keeping the ability to influence information processes. An information code is an unconscious and sustainable, transmitted from generation to generation matrix of any culture. Apparently, at the level of modern society on the whole, the basis of such information code is the communicative activity of the subject as a general form of being and content parameters of space and time because it sets the mode of being of the human in the world. It is for this reason that from the viewpoint of information ecology values underlying communicative activity meaningfully determine and center the space-time continuum of the society. The social and cultural space-time in this logic appears to be not just the result of information flow or determination of communication networks, but a form of the distribution of the information coming from the subject.

Therefore, the subject-information code is not only the transmitted, in the course of communications from generation to generation, basis of the human ability to speak, understand and think, and to act; but most importantly, to transcend, i.e. to go outside any object-information environment, to grasp it, theoretically and practically, as something external for himself; to rise above it

in order to develop ways of utilizing the object, of including it into his modes of activity, projects and norms of life and interaction.

Continual ideas with which modern science works in search of models of continuous transitions of the subject into the object and of subject goal-orientation have already led to the discovery and adoption of an exceptionally methodologically productive concept, navigation, which is used by A.N. Paranina (2014) in a geographical theory of natural and cultural heritage. One of the fundamental bases of research of natural and cultural heritage today is the concept of navigation in the broadest interpretation: as movement and orientation not only in space-time, but also in the structure of the world information models created by the experience of many generations, including the labyrinths of modern information space. Structuring of the space-time continuum of modernity here appears to be not just ordering of relation to information itself, but clarification of the relations between the subject and the information space.

And if the main navigator is the human being as a subject, as the center of space-time continuum of the world, then from this it follows that the human and the humanity's responsibility is immeasurably higher in designing the continuum as a general form of the formation of the future, in saturating it with humanistic guidelines as the basis for purposes determining the structures of the future values and ideals.

Therefore, the most important task of information ecology is the development of the ability of the modern human being and knowledge society on the whole to ascend to the power of the Life spirit of the human being of the past, to assimilate and evaluate the harmony, beauty and depth of culture and nature spaces, to connect his future with such past and its deep information code, with images, texts, art, philosophic and scientific worlds that open the way to integrity, infinity and eternity of being. This seems to be an issue that is yet to be addressed by modern philosophy.

Thus, modern philosophy addressing its main issue, the relation of the human being and the world, the subject and the object, in the conditions of information society is particularized in the development of an ecology-information area. Understood in the context of the traditions of cosmic-planetary outlook as the integrity connecting information codes of the Universe, the Earth and its nature, culture and society, it discovers their correspondence not at the applied level (that is in the plane of concrete empiric tasks), but ontologically, i.e., revealing cultural-human, humanistic norm of the information organization of the being of modern humanity.

Due to this, the information ecology and the outlook in which its essence is expressed, is to be rightfully regarded as the basis allowing the adjustment of the content parameters of the space-time continuum of knowledge society, which substantiates and enables involving the subject as well in addressing the issue of compliance of the scope and content of information flows with the requirements of an eco-oriented development of the human being. It is also important to find "information measures", including information about the past and the future required for maintaining the harmony of the being of the human. Features of their regulation require their specific development and conceptualization. And therefore, the condition for the protection of the human being from technology-induced informational "absorption" is the philosophy that

realizes, as its area, information ecology as the substantiation of the necessity to 'withdraw' the human being, used only as a device, as a conductor of its processes, from the information-communication space and to transfer him to the status of a subject capable of controlling and regulating these processes. This subject retains its special ontological space as the space-time of its subjectness.

Thus, in ecology-information logics, communication activity has a dual function: as time, it structures the subjects' integration activity; and as a process of the subjects' self-development in relation to information processes it is directed towards establishing the object boundaries, i.e. to the concretization of that internal information measure that must be mastered by knowledge society for the development-navigation of space-time continuum as a form of preservation of the human being self-identity, of the being of culture and values required for this. Space here stands for objectivation of time important for preserving and expressing the content of human life, culture and society.

This research area is interpreted today in information ecology as in a system consisting of people, practices, values, technologies in a certain local environment. But if information ecology is based on the subject's being and its task is to restore his fundamental relation to the object, then in it, as categories, must be expressed all the attributes and essential values of the subject as well: assignment to a norm, evaluation, meaning, understanding, distinguishing between the true and the false, the beautiful and the ugly, the good and the evil, the relevant and the irrelevant, etc.

And the information viewed as an object must be built in its instrumental aspect into the social space-time and oriented to the society goals and ideals that are formed by subjects. To put it differently, in the information ecology, it is viewed as a tool for fulfilling the necessary and sufficient functions and tasks: forming models and programs of the development of communication culture, education technologies, norms of the understanding and formation of partnership, etc.

But at the same time information undoubtedly remains autonomous as far as the transmission of messages is concerned, in the status of meanings, symbols and texts required for forming the subject's modern media-culture and media environment.

Conclusion

To conclude, information ecology is a general form of restoration of the starting and main feature of the humanity: to exist in the information world through the relation of the subject and its reflection, and the attitudes to information itself. In fact, this is restoration of the meaning of information as knowledge and the foundation of education, at the same time this is a great anthropological-socio-cultural turn to the second signal system as a value gained by the humanity in the historical past; and there is no reason to discard it without sufficient argumentation.

Therefore, the model of space-time continuum in modern knowledge society is operational for the conversion of communication contents into delivery and translation forms – the basis for general forms of social space and time that will be in demand in the developing modern world. Consequently, forms in the context of information ecology appear to limit the content and at the same time they set the tempo of its development which is expressed in the density of

information processes, their intensity, in informational-cultural charge of information contacts and interpersonal relations, thus setting directions for the development of the future. Only within the boundaries of this general continual form both the subjects and the objects receive the relevant meaning and the status of either modern or not modern content.

But the subject basis of such continuum includes into the boundaries of modernity also all the past that is kept in the social memory, in cultural values reproducing some or other aspects of the universal information code. Therefore, all sacral or classical texts despite a thousand-year distance from our times, for many subjects, including the humanity, remain modern, because they retain the ability to actualize the implied meaning. On the other hand, information in a newspaper article may shift to the status of the past practically immediately after it has been written.

Therefore the subject, on the one hand, is formed by the information environment as by an object to the extent they are interrelated. But it is the subject in its meaningful space-time expressing its being as escaping from the immersion into objectness, "now", that determines the content-richness of information message time. That is why, information ecology as the basis for structuring the space-time continuum of knowledge society turns out to be polyfunctional. It is in demand not only for systematizing the risks and estimating the destructions of the forming knowledge society, but first of all, for creating models of constructive human-preserving development of the continuous logics of the humanity history, for revealing an infinite richness of nature itself and of human culture, and for predicting directions of space-time of the future. Thus, the basis of the formation and development of knowledge society is not just information as a determinant of the being of the modern world but subjects that, by centering the contents of space-time of this society provide conditions for and prospects of its humanization: the establishment in it of high cultural norms and ways of the development of the personality.

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