

UDC 336

SPACE PEDAGOGY AS A DISCIPLINE

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The author, revealing the background appearance and the essence of space research in pedagogy predecessors, emphasizes that in recent decades the scientific and philosophical framework used in the organization and provision of space education, has changed significantly. The author examines the space education through the prism of modern cosmological model of "evolving matter". The analysis in the field of neuroscience research, psychology, cosmology and philosophy has been carried out and a number of important laws that are relevant to modern scientific and philosophical vision of space education identified. According to the author, space education not only improves the presentation of the emerging mentality of the cosmos, but also intends to form a planetary-cosmic personality, which in its conscious activity mainly converts ppspace of the Earth and the structure of the planetary forces in the cosmic force. This focused and meaningful activities will reasonably Mother Earth eventually enter the active component in the structure of matter, galaxies and reasonable to carry out a large-scale space activities, for which, in principle, reasonable matter and intended.

Keywords: Cosmic pedagogy, philosophy cosmism, cosmological model "evolving matter", reasonable matter psiprostranstvo, planetary and space personality.

Konstantin Nikolayevich Venttsel (1857-1947), a famous Russian teacher, substantiated for the first time an idea of space pedagogy [6]. Having analyzed the genesis of ideas concerning space pedagogy advanced by K. N. Venttsel and I. M. Pushkin, it has been determined that [10, 3]:

1. The main prerequisites for the emergence of space pedagogy of K. N. Venttsel are philosophy of Russian cosmism, intensive development of national science and technology, socio-cultural environment of the late XIX and early XX when the teacher worked. The most influential representatives of Russian cosmism are the following: D. L. Andreyev, V. I. Vernadskyi, K. N. Venttsel, E. I. Rerikh, N. K. Rerikh, V. S. Solovyov, N. F. Fedorov, K. E. Tsiolkovskyi, A. L. Chizhevskyi, P. A. Florenskyi and others. Russian cosmists have put a number of global issues: a place and role of a man in the universe, the meaning and objectives of human existence and how to achieve

it, relationship of macrocosmos and microcosmos, responsibility of the mind for things created by God and transformed by a human being.

2. Space pedagogy of K. N. Venttsel is an integrative teaching based on ideas of unity, interaction, integrity and co-evolution of a man, humanity, nature and the Cosmos (basic ideas of the philosophy of Russian cosmism), moral education, a free, independent and unique personality (a central idea of free education theory), disclosure and development of child's creativeness (a main idea of the theory of individual development) and space education (a leading idea of space pedagogy).

3. Space pedagogy of K. N. Venttsel is based on anthropologic and cosmism principles, cultural conformity, freedom and non-violence, harmony and is a scientific and pedagogical phenomenon. Methodological basis of space pedagogy of K. N. Venttsel consists of ideas of the philosophy of Russian cosmism.

4. The basic ideas of space pedagogy of K. N. Venttsel are identical to the leading ideas of global education as a new trend in the world educational policy of the XXI century. The ideas of space pedagogy of K. N. Venttsel in the context of the modernization of the world educational systems and their content are reflected in the disclosure of global interdependence, unity and integrity of a "Man-Humanity-Nature-Space" system, in the disclosure of logical development of such interconnection, study of the universal (cosmic) laws, in the development of the responsibility for consequences of transformations made on Earth and in space on the basis of a complete picture among young people.

B. V. Emelyanov has identified three main variants of space pedagogy in the article "Space orientation points of Russian pedagogy": [8]

1. Abovementioned space pedagogy of K. N. Venttsel.

2. "Agni Yoga" ("Living Ethics") is a book written by Elena Ivanivna Rerikh (1879-1955). "Agni Yoga" contains many fundamental ideas of the eastern philosophy about a man. One of the basic principles of "Agni Yoga" is a continuous and never-ending evolution of human spirituality in unity and harmony with the Cosmos, society and himself. "Pedagogy of 'Agni Yoga' is cosmic pedagogy that confirms that the cosmos and man are correlative. The Cosmic Mind is improving and developing in the same way as a human mind. The Cosmic Heart corresponds to a human heart. Higher consciousness dwells in a human heart in the same way as cosmic consciousness dwells in the Cosmic Heart, absorbs all the accumulation and achievements of previous states of the Cosmos." [8, p. 14]

3. The third variant of the pedagogical theory is oriented on space ("Rose of the World" by Daniel Leonidovich Andreyev (1906-1959). According to this theory, the earth and humanity are inscribed in the cosmic processes of struggle of Light and Dark forces. In a special chapter "Education of a person of the ennobled image" D. L. Andreyev focuses on three postulates of communist education: subordination of personal to general, spirit of internationalism and aspiration for the future. However, these postulates have been "cleansed of Marxist ideology, their unilateralism and atheism" by D. L. Andreyev. Their new interpretation leads to education of a person of ennobled image in the humanity and space scope. [8, p. 16]

However, in recent decades the scientific and philosophical base that is used in the organization and provision of space education has significantly changed. We consider space education through the prism of modern cosmological model "Evolable matter". We have carried out analysis of researches in the field of neuroscience, psychology, cosmology and philosophy and we have identified a number of important laws that are relevant to modern scientific and philosophical vision of space education in the following works: "The Universe: living and intelligent matter", [1] "Philosophy of Education in the light of a new cosmological concept", [2] "Crazy: the first principle of life and death" [3] and "Space Travel – Travelling psyche". [4]

Firstly, character of formation and development of human psyche (neuron ensembles of conscious and subconscious) across the Earth has been determined as logical and predetermined by the laws of the material world. We can see the following deployment of directed molecular compounds in a planetary evolution:

macromoleculars → biopolymers → proteinoids → protocells → procaryotes → eukaryote cells → adhere cells → neurons → neural net → preconscious → neural ensemble of subconscious → neural ensemble of consciousness → comprehensive work of psyche.

Secondly, a set of psyche with various degree of inner perfection forms a psychical space that manifests itself in the activities of human society across the Earth. Activity of evolvable psychical space together with tangible forms of human activity where psychical space implements partially itself forms a noosphere of the Earth according to terminology of V. I. Vernadskyi.

Thirdly, having analyzed a scale of activity of psychical space of the Earth as well as a number of other defining characteristics specified by us in

the works, [1–5] we have identified a human society as the third state of matter – a reasonable matter. Based on the cosmological model of V. I. Vernadskyi "Evolable substance" where he relied on large-scale geological studies of the Earth and near-Earth space and identified three states of matter (inert, bioinert and living substances), we have proposed a new modern cosmological model – "Evolable matter". [1–5] According to this model, a living matter (a living substance in the terminology of V. I. Vernadskyi) goes into a bio intelligent matter and then into an intelligent matter that is represented as a human society across the Earth.

Fourthly, according to theoretical model of "Evolable matter" an intelligent matter is presented not only across the Earth. Its development has been carried out during more than 6 billion years on the scale of the Universe and humanity (an intelligent matter of the Earth) with its five million history is in the very early stages of evolution.

Fifthly, the events of recent decades indicate an obvious fact that an intelligent matter of the Earth goes from the planetary force into a state of cosmic force. Based on the above provisions we can define characteristics of space education. The subject of space education ("education" (by V. Dahl "Education") comes from the verb "to form", i.e. "to reflect, give a form or an image, trim or compose, make something whole or separate..." According to Dahl, the verb "to reflect" that means "to form or give an image, trim, make a thing, an image of raw materials, polishing and taking care of it in a different way" [7, p. 613] is an overall process of formation and development of both individual psyche and the combination of psyche – psychical space. The object of space education is permanent perfection of intelligent substance of the Earth. We have shown in work "The Universe: living and intelligent matter" that all three states of matter (inert, living and intelligent) known to modern science have their defining and fundamental space. [1] We have constantly developed this idea in our subsequent studies on more qualitative research material. [2–5] The defining space for inert matter is space vacuum, for living matter is molecular-genetic space, for intelligent matter is space of psyche that is formed by a harmonious, interdependent and complementary activity of neuronal ensembles of subconscious and consciousness. We have tried to present main stages of the evolution of psyche as a defining space of intelligent matter of the Earth in the monograph "Space Travel – Travelling psyche" based on well-known research materials. [4]

Thus, taking into account the subject of space education, we do not talk about a man who represents partially a living matter (cells and organization

of cells), partially a biological intelligent matter (multicellular organism that is regulated by the Central nervous system), partially an intelligent matter (an overall activity of neural ensembles of subconscious and consciousness that provides manifestation of highly-developed psyche). We focus exclusively on the study of the psyche and peculiarities of its manifestation as well as psychical space and its material-virtual or virtual manifestations. We want to emphasize that the importance of a body and its functional features greatly reduces during a real long-term space flight, but peculiarities of the formation, development and interaction of the psyche with the external material environment prevail and become dominant. Accordingly, the object of space education is an intelligent matter as an integral union of psyche of material object (regardless of a planet or a spacecraft).

The purpose of space education is a formation of planetary and space personality. We have defined and examined basic characteristics of planetary and space personality during lectures “Philosophy of Education in the light of a new cosmological concept.” [2, p. 33–38] We want to repeat that planetary and space personality is harmony of mind, soul and body that is aimed at the implementation of internal creative potentials of the psyche for the benefit of the evolution of an intelligent matter across the Earth and space. There are following characteristics that distinguish planetary and space personality from modern personality:

1. Knowledge of the past, not just historical knowledge that is associated with the development of society or geological knowledge that is associated with the evolution of the Earth, but cosmic knowledge that takes into account stages of formation and development of the Universe, multi-billion consistent deployment of systems of inert, living and intelligent and other unknown states of the matter. Only such a large-scale and cosmological approach to the past of civilization can reveal a true meaning of man’s existence, respond to complex philosophical questions “about man’s place in the material world, the purpose of humanity and about the meaning of life”.

2. The scale of thinking. Planetary and space personality is able to think tactically and strategically in accordance to a planetary and cosmic scale, organize interaction of processes within the boundaries of a local material object and space. The scale of thinking is not only a scope of information, but also its quality. It is an analysis of the past, present and prediction of the future. It is a constant extrapolation from the particular to the whole and retrospection from the whole to the particular. It is necessary to understand the importance of components of the whole and at the same time recognition of self-sufficiency of the whole, a simple fact when a

function of the component parts does not always correspond to a function of the whole (system).

3. The quality of information that is used. Planetary and space personality frees from “different kinds of noise”: low-quality data and information that influences subconsciousness. The priority information will be scientific and philosophical argumentation that broadens worldview horizons, promotes professional growth, reveals possibilities of space and activity of an intelligent matter in scale of space.

4. The sequence of activities. There is a fundamental principle of a “nesting doll” in cosmology that proves from a physical and mathematical point of view that every event (process, phenomenon) that happens on the planet or in space is based on the previous event or contains the beginning of the next event. This is continuity: knowledge of the past reveals understanding of the present and at the same time allows us to predict the future. It is important for every generation to maintain this continuity because it gives the most complete understanding of planetary and cosmic evolution and allows to organize its presence more efficient across a material object and space.

5. Purposefulness of activities. It is necessary from the earliest stages of educational process to discover and strengthen children’s destination (understanding of what kind of activity they should dedicate their future life to and what kind of results they will be able to achieve) in order to organize consistent and predictable activities. Purposeful activity is prevalence of the global goal, a goal of the whole life. Only clear understanding of the global goal will help to define, set and achieve a certain number of private goals. Consistent realization of private goals helps to achieve the global goal and full self-realization of the psyche in ontogenesis. The global goal of activity is a landmark and a constant stimulant of creative self-realization of the psyche and private (tactical) goals are a mobile structure of “passage” of life in the direction of orientation target that is formed depending on the features of everyday life.

6. Dominance of a conscious activity. Retrospective analysis of the development of the psyche shows that its evolution is carried out from the dominance of the activity of the neuronal ensemble of subconscious to dominance of consciousness, from dominant subconscious activity (sensory-emotional) to conscious one. [2]

7. The form of products of labor (creative self-realization). Planetary and space personality transforms from the embodiment of internal creative potential in material forms to the embodiment of psyche activity in material

and virtual forms and then exclusively in virtual forms. The psyche of planetary and space personality transforms from indirect manifestations through artificial means of labor (body, Technosphere, etc.) to direct IT-technology, a virtual world, etc.

8. Space of self-realization (spheres of activity). Planetary and space personality will greatly expand the space for self-realization of the psyche and go beyond the boundaries of the earth and begin to realize himself at near-Earth space, on planets of the solar system, during space travels in the galaxy and intergalactic travels. The scope of activities, technologies, values and worldview horizons are changing.

Thus, space education not only improves the idea about the formation of the psyche concerning the cosmos but it also helps to form planetary-cosmic personality that converts psychological space of the Earth and the structure from the planetary forces into the cosmic force in its conscious activity. This focused and meaningful activity will allow an intelligent matter of the Earth, an active component, to enter into the structure of an intelligent matter of the galaxy and carry out large-scale space activities for which this intelligent matter is intended.

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КОСМІЧНА ПЕДАГОГІКА ЯК ОСВІТНЯ ДИСЦИПЛІНА

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Автор статті, розкриваючи передумови виникнення і сутність космічної педагогіки в наукових дослідженнях попередників, підкреслює, що за останні десятиліття науково-філософська база, яка використовується в організації та забезпеченні космічної освіти, істотно змінилася. Автором розглядається космічна освіта через призму сучасної космологічної моделі «Матерія, що еволюціонує». Здійснено аналіз досліджень в області нейронаук, психології, космології і філософії, і виявлено ряд важливих закономірностей, актуальних для сучасного науково-філософського бачення космічної освіти. На переконання автора, космічна освіта не тільки удосконалює уявлення формування психіки про космос, а й покликана сформувати планетарно-космічну особистість, яка в своїй переважно свідомій діяльності перетворює психпростір Землі і її структуру з планетарної сили в космічну силу. Ця спрямована і осмислена діяльність дозволить розумній матерії Землі з часом активною складовою увійти в структуру розумної матерії галактики і здійснювати масштабну космічну діяльність, для якої в принципі розумна матерія і призначена.

Ключові слова: космічна педагогіка, філософія космізму, космологічна модель «Матерія, що еволюціонує», розумна матерія, психпростір, планетарно-космічна особистість.

**КОСМИЧЕСКАЯ ПЕДАГОГИКА КАК ОБРАЗОВАТЕЛЬНАЯ
ДИСЦИПЛИНА****О. А. Базалук**

Автор статьи, раскрывая предпосылки возникновения и сущность космической педагогики в научных исследованиях предшественников, подчеркивает, что за последние десятилетия научно-философская база, используемая в организации и обеспечении космического образования, существенно изменилась. Автором рассматривается космическое образование через призму современной космологической модели «Эволюционирующая материя». Осуществлен анализ исследований в области нейронаук, психологии, космологии и философии, и выявлен ряд важных закономерностей, актуальных для современного научно-философского видения космического образования. По убеждению автора, космическое образование не только совершенствует представления формирующейся психики о космосе, но и призвано сформировать планетарно-космическую личность, которая в своей преимущественно сознательной деятельности преобразует психопространство Земли и его структуру из планетарной силы в космическую силу. Эта направленная и осмысленная деятельность позволит разумной материи Земли со временем активной составляющей войти в структуру разумной материи галактики и осуществлять масштабную космическую деятельность, для которой в принципе разумная материя и предназначена.

Ключевые слова: *космическая педагогика, философия космизма, космологическая модель «Эволюционирующая материя», разумная материя, психопространство, планетарно-космическая личность.*

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