

## NOOBIOGEOCENOSIS AS A MODEL OF THE CULTURAL LANDSCAPE IN THE FUTURE

NIKOLAY KOZHEVNIKOV AND VERA DANILOVA\*

**Abstract:** The influence of modern people's activity on the environment leads to non-equilibrium and irreversible damage. Industrial and innovative landscapes create a lot of new problems for humans and interact with traditional landscapes very badly. These problems are particularly evident in the circumpolar zones of the world where there are weak mechanisms of self-cleaning of air and water. Rates chemical and biological inactivation of toxicants, arriving in northern ecosystems, is slowed down considerably. These regions of the Earth can be seen as polygons for testing of advanced scientific models uniting within it natural, artificial and information phenomenon. Peoples that live in the circumpolar territories have special medical, biological and ecological problems that lead to sharp change in character of a food, susceptibility to diseases. These peoples are tending to conservative way of life, preferring "spiritual" to "material" with relatively simple cultural landscapes. However, the organization of simple cultural landscapes is a difficult and complex problem and leads to the need explore of the philosophical, cultural, political and sociological questions. Development of the noobiogeospheric class of sciences helps protect the lifestyle of the northern people, to preserve of their cultural diversity and multi-ethnicity. All of these studies are carried out in the interdisciplinary and transdisciplinary field of modern knowledge. The concept of noobiogeocenosis as the basis of the circumpolar landscape correlates well with the strategy of northern Russia. This is an international strategy closely linked to the geographical picture of the world, and requires both the natural sciences and humanities research methods. At the same time, systematic and synergetic approach complements the analysis codes and chronotopes of the circumpolar culture. Additionally, it is necessary to create a new world based on the concepts of "noobiogeospheric personality", "noospheric mankind" as parts of noobiogeosphere. The network of these concepts will contribute to real harmonious integration of humanity, preserving the identity and diversity of its cultures.

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\* Nikolay Kozhevnikov; Vera Danilova (✉)

Department of Philosophy, North-Eastern Federal University, Yakutsk, Russia  
e-mail: nikkoz@yandex.ru

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## INTRODUCTION

Fundamental notions of the present work, such as “noobiogeosphere”, “noobiogeocenosis”, “noobiogeospheric personality” are explaining in our previous papers and book (Danilova 2003; Danilova, Kozhevnikov 2003; Danilova 2004; Danilova 2012). The noobiogeosphere is a strict notion in contrary noosphere which has not exactly scientific determination. Noobiogeosphere is single ontological foundation for interaction between all humanistic mankind activity that interacts with all the planetary phenomena and all planetary shells and structures. It has three levels of organizational at least, which are connected by homomorphism relations. The main element of micro-level is “noobiogeospheric personality”, for meso-level it is “noobiogeocenosis” and “noobiogeosphere” itself characterizes the macro-level. The structure of noobiogeosphere suggests the emergence of the “noobiogeosphere class of sciences” that are a continuation and further development of the “biosphere-class of sciences”. The direct action of noobiogeosphere is forming its invariant framework that closes various processes into a whole unit. Flows of matter contribute to the emergence of energy flows, then - the information flows. Such a stable heterogeneous hypercycles of noobiogeosphere are possible to combine the randomness and determinism, control and self-organization, abstract and concrete phenomenon.

Other original concepts need to precede definitions. “Pneumatic sphere” – is a sphere of planetary spirituality, according to the concept of the Russian philosopher P.A. Florensky. Pedosphere is taken as the planetary sphere including all terrestrial soils. The “noobiogeosphere’s mankind” is the people which take part in the process of noobiogeospheregenesis. The noobiogeosphere’s consciousness oriented on the processes that forming of noobiogeosphere. The noobiogeosphere’s man is the first step to the noobiogeosphere’s personality. This man feels the rhythms of the noobiogeosphere and began to seek it.

We have two goals in this article. On the one hand the notions of the noobiogeosphere’s concept developing here are extremely complex. Studying it for full biogeocenosis’ conditions of the middle regions of

the planet is extremely difficult or even impossible. On the other hand many problems circumpolar areas require urgent solutions, and the proposed models opens up the possibilities for it complex research. The first section of the article describes the main statements of the used approach. The second section argues that noobiogeocenosis is the matrix of the cultural landscape. The final section summarizes in details practical and prognostic aspects of noobiogeocenosis as the basis of the cultural landscape.

The core of the research is the fundamental cell of noobiogeosphere - noobiogeocenosis representing the generalization of ecosystems and includes all human activities, as well as a design of settlement (city) for these regions.

#### THE MAIN STATEMENTS OF THE USED APPROACH

Anthropogenic impact of modern humans on the environment is generally nonequilibrium and irreversible (*Influence of climatic and ecological changes*, 2003). First, people have long lived among traditional landscapes. Then there were man-made and innovative landscapes. They create a lot of new problems for humans, which interact badly with traditional landscapes. These problems are particularly evident in the circumpolar belt of the planet. Polar regions of the Earth can be considered as polygons where the sciences of the “noosphere’s class” have the clearest scope and where the simplest models of noospheregenesis can be tried out.

Cultural landscapes are the areas of land adapted to the life and work of many generations of humans. There are several approaches to the definition of cultural landscape. According to one of them, this concept includes “results of human activity, embodied in the form of material culture. These are, for example, houses, fences, bridges, cemeteries, fields, lighthouses, roads, churches, canals and many others, everything that people bring to the original natural landscape. Another, more general point of view traces back to the works of Leo Gumilev, who interpreted the notion ethnos not only as a certain type of human community but also as their habitat. Similarly, the concept of cultural landscape includes not only the modified nature and man-made structures, but also the man himself, as a carrier of a certain type of culture” (Kovalev 1995, 401).

In recent centuries a stable representation of cultural landscape has been established in cultural studies and related sciences, primarily as its classical types: palace and park ensembles, noble estates, Japanese

gardens, etc. However, below are the main aspects of the prerequisites for a harmonious synthesis of samples of the cultural landscape for the circumpolar regions.

The project of City of the Future is scientifically justified and attractively presented in the concepts of “noobiogeocenosis” and “noobiogeospheric personality”. A small city of the Future with 60-80 thousand population is a key element of the cultural landscape. Noobiogeocenosis contains no boundaries within itself; its integrity is ensured steady streams of matter, energy and information. In noobiogeocenosis human activity complements biogeocenosis structures without destroying them, as usually is the case in contemporary reality. Cultural landscapes corresponding to noobiogeocenosis contain an optimum combination of elements of natural, technological and information worlds. These cultural landscapes of the future are open systems with self-organized processes. In noobiogeospheric cultural landscape consumption of various types of substances takes place, solar-active architecture and ecologically pure materials are used. These processes are combined with full remaking and recycling of matter, energy, information. That ensures the safety of all technologies within it.

Disciplinary investigations are dealing with the study of only one level of reality. Interdisciplinary is the first step to the study of transdisciplinary problems. It studies occur when knowledge from one disciplinary area transferred to the other. The boundaries between these areas are not impaired. Transdisciplinary research can have multiple levels of reality, and at the same time to study them. However, their boundaries are blurred. The subject of this research is complex systems.

The primary fundamental task of the study of the fundamental reality new models is to identify the holistic foundation of modern universalism. The most convenient transdisciplinarity concepts needed for this purpose is offered the system of terms that was developed in our previous works: “noobiogeosphere”, “noobiogeocenosis”, “noobiogeosphere’s personality”, which are new models of reality (Danilova 2012). Noobiogeosphere is composite human-dimensional complex of the biosphere, civilization, socio-culturally planetary shells. It is an example of a new model of reality, which can be studied only through a transdisciplinary approach.

The concept of noobiogeocenosis as the basis of the circumpolar landscape correlates well with northern strategies of many countries,

including Russia. These strategies have their origin from the works of Mikhail Lomonosov and they are especially in demand and relevant now. They are international, suitable for all circumpolar areas and closely linked to the geographical picture of the world and its fundamental cell including harmonious interaction with landscape, climate and all water's run-off. They are closely associated with noobiogeocenosis too. The study of this relationship on the circumpolar areas requires both the natural sciences and the humanities methods. So, systematic and synergetic approaches complement analysis codes and chronotopes of circumpolar culture. It is necessary to preserve of unique socio-natural systems, cultural and natural heritage of the northern peoples, to choose the selection of appropriate strategies for the interests of all mankind.

#### NOOBIOGEOCENOSIS – A MATRIX OF THE CULTURAL LANDSCAPE

Noobiogeocenosis is the basic unit of noobiogeosphere. It organizes the synthesis and development for biogeocenoses and antropocenoses, including all of their interactions. Its stability is achieved through waste-less cycling of matter, energy, information covered in their range. Noobiogeocenosis provides a stable equilibrium for corresponding biogeocenosis and their environment. A new quality that characterizes noobiogeosphere as a whole emerges within it. A self-organization processes from different geospheres in heterocycles combines in noobiogeocenosis. Several models and their corresponding definitions should be represented to noobiogeocenosis. The initial definition for noobiogeocenosis is the core of conceptual framework that provides a stable balance the some community of people with the appropriate biogeocenosis, including all dynamic equilibriums within the community interactions itself and with its environment. Correcting and guiding human activity, manifests as a regulating factor, compensates for the broken links made by same person in the system and transforming it into a state of stable dynamic equilibrium. A conceptual scheme of the heterocycle, providing coherent interaction of all individual sustainable natural rhythms within a certain area of the Earth's surface can be considered as a model noobiogeocenosis also (Danilova 2004).

Ascending chains constructed by the method of the formation of more complex information based on the original primary. Cell of each new level of information absorbs previously cells and structures. For

the descending chains of redundant information must be use only integrated units, which it exists. The individual element useless information (the separate “atomic” units) can’t destroy, because it immediately appears (“will grow”) in a modified form again. It is necessary to destroy the entire block with “rhizome”, in accordance with the basic principles and stages of the information in this noobiogeocenosis. The main properties of noobiogeocenosis are: stability, optimality, mutual complementarity of all its constituent processes. Its structural elements are fundamental processes for system organization.

There are temporal, spatial and spatial-temporal coherences of all processes within noobiogeocenosis. They are able to cover all types of natural and artificial entities. Those artificial formations that correspond to natural rhythms fit naturally into existing systems. The noobiogeocenosis has the whole set of elements and its processes are consistent with biogeocenosis: producers, consumers, autotrophs, heterotrophs. There are also ascending and descending chains of matter, energy and information. On the basis of noobiogeocenosis the operation plan a relatively small city (settlement) are formed. It uses renewable energy, information technology and fully recyclables wastes of all kinds of human and natural activities. Such a settlement can work in harmony with the surrounding landscape, so all biogeocenosis within it are interconnected with their stable equilibrium. Non-waste cycles of matter, energy and information are attenuating the global economic, environmental, political, social, informational, cultural problems and allow solving it.

Noobiogeosphere’s personality has a long process its development. The formation of “noobiogeosphere’s man” is its first step. This man feels the rhythms of the noobiogeosphere, their individual manifestations and began to seek it. Noobiogeosphere’s man knows that the vector of its development is associated with the formation of noobiogeosphere. First, these contacts are unstable and short-lived, but with time they became deeper and the process of turning noobiogeosphere’s man into noobiogeosphere’s personality forms slowly. Noobiogeosphere’s personality is a cell of noobiogeosphere and she has homomorphism with other fundamental cells, such as noobiogeocenosis and noobiogeosphere itself. Internal content of noobiogeospheric personality as a whole totality is infinite rich and varied, so it is isomorphic all “noobiogeosphere’s mankind”. Noobiogeosphere’s personality represents cell-monad complementarily

with the whole world. An ordinary modern man will participate in the processes of formation of the noobiogeosphere. He will improve and adapt to the temps and characteristics of noospherogenesis. In terms of the methodology of transdisciplinary noobiogeosphere's personality should be identify as a subjective structure of the new reality. Thanks to this personality value descriptions penetrate in reality. So finally noobiogeosphere is a space where converges the results of researches in areas of disciplinary knowledge and existential problems of the living world (Danilova 2012).

The problem of preserving landscapes in modern technological world is reduced to the neediness to solve several fundamental problems. 1. Creating equilibrium complementary interaction between of the natural and artificial. 2. Ensuring neutralize the negative anthropogenic impacts on the environment. 3. Creating a non-waste cycles for matter, energy and information. 4. Development of adequate mechanisms of cognition processes provides a solution of the above problems by the methods of science and philosophy. We need solutions of these tasks for the formation of stable cultural landscapes.

1. The solutions of the first task includes such well-known and proven methods as sufficient synergies spatial and temporal coherence, autopoiesis, replacing "grey" industrial technologies on "green" ones. So artificial must be intergrowth under the laws of natural formation. "Green" technologies imply diversity of the resulting product with an overall single concept or style. For example, all buildings in the city may be different, but they must fit into a single architectural design and single style. Natural and artificial interact must have the mutual self-organization. Another approach takes place with external regulation, which should be conducted also in accordance with the natural rhythms and principles.

2. The introductions of conscious limitations are necessary for negative impacts of human activity. Many of sciences, including ecology, medicine, ethics and technology detect limits for artificial processes in inorganic, organic worlds, social and humanitarian spheres. Detection of these limits devoted reports the Club of Rome in 1960-1990's. The mankind apparently avoids serious accidents, including planetary due to such serious interest to this problem. In the circumpolar areas the detection of these limits restrict human activities arranges much easier and clearly than in other areas of the Earth. The first step is identifying limits of anthropogenic impacts; the second step connects with expertise the most dangerous possible negative

scenarios. Followed by prohibitions on the most dangerous of them and appropriate warnings on other ones.

3. In the past decade the people have created thousands of material substances that do not break down naturally. Organization no-waste processing cycles these substances needs special targeted and expensive efforts. Even more serious problem is the utilization of information. It is estimated that 95% of the information in today's world is redundant. Part of this amount may be considered as supporting the assimilation of really necessary's information. The rest of it is simply harmful and dangerous. However, criteria for distinguishing information for its quality and usefulness are very vague and require a special study.

4. The noobiogeocenosis formed by self-organization in accordance with the basic rhythms of nature, so its main properties are: stability, optimality, mutual complementarity of all its constituent processes. Noobiogeocenosis represents an optimal system with a stable structure. Its structural elements are fundamental system-organization processes.

The all above problems are most conveniently considered under a single concept noobiogeocenosis and information chains within it. Its main conditions these ascending and descending branches of information are completeness of its systems. The information of complex levels based on the original primary in ascending of information's chains and uses the protocol sentences, axioms, postulates. Cell of structure each new level information absorb cell of prior one. For the destruction redundant information must be used of integrated units of it. Information can't be separate "atomic" units or elements of it. Destruction of individual elements information is useless, because it will be appears immediately in a modified forms again. It is necessary to destroy the entire block, covering all existing rhizomes, in accordance with the basic principles and stages of the information in this noobiogeocenosis.

Ontological aspect of noobiogeocenosis is the formation of entirely the new concepts of reality includes environment, landscapes, noobiogeosphere's towns (may be cities) as models of cultural landscape of the future. The forefront of these concepts are synthetic complementarity, communicative, coherent properties of reality. These ideas make the reality much richer; provide harmony of spatial, temporal and spatial-temporal rhythms. All its subsystems occur tuning for basic rhythms of nature, the various processes of self-organization



within noobiogeocenosis. The ontology of noobiogeocenosis and the ontology of cultural landscape are mutually complementary. In the process of development this holistic formation helps each other.

The occurrence of noobiogeocenosis in nature is accompanied by catalytic effects. These effects optimize their interaction with environment. Activity catalysts accelerates restructuring landscapes and, above all, restructuring the cultural landscapes. Construction and interaction of settlements and towns with the environment in the circumpolar zone must be designed on the basis of regularities inherent noobiogeocenosis. These regularities will guide this process of self-organization and identification limits by catalysis. The pluralist criteria are used in selecting the optimal directions of formation for cultural landscapes with their environmental interaction. There may be many concrete implementations for cultural landscapes and for the noobiogeocenosis. Therefore, the design must take into account mainly the initial and final states of the basic processes.

Methodological aspect presents unlimited possibilities of noobiogeocenosis in the process of modern philosophy's rationality, which is the most flexible in comparison with rational in classical philosophy. Methodology of noobiogeocenosis is closely associated with the methodology of modern universalism, which constructs the synthesis of natural and artificial formations in non-living, living and other spheres and its different levels. The goal of this approach is forming of flexible coordinate system. It is necessary for building representations of modern scientific world, capable of providing the interaction of various aspects of human activity. In the planetary civilization subsystems it is identity within the sphere itself, and then becomes the interaction between the shells of the sphere. Planetary shells act as mediators, providing a synthesis between the processes of these areas. As an outcome their real being will have the homomorphism to elements of noobiogeosphere. Synthesis between cells noobiogeosphere and planetary shells can provide stable guidance for acceptable human development.

A manageable sphere, like pneuma-sphere pedosphere, must be select and develop. They are key regulatory mechanisms between planetary spheres non-living, living, social and spiritual. Pneumatic-sphere as sphere planetary spirituality has special role, which by means of the fundamental cell noobiogeosphere can provide interconnection of all planetary shells. Stable relationship with the planetary spiritual shell is further permissible criterion of human development. The

fundamental properties of pneumatic-sphere are: integrity, stability, consistency and control for self-organization of planetary processes. Becoming a global consciousness and formation of a planetary spirituality are a set of mutually related processes oriented to the entirety and unity. These processes “become links” from planetary thinking to the planetary consciousness and further, to noobiogeosphere’s consciousness.

The proposed concepts of *noobiogeosphere* and *noobiogeocenosis* are based on a study of interconnected planetary-civilization shells that help to create new planetary integrity and to format a synthetic worldview universals. Many of the approaches and methodological ideas of modern sciences contained in its further development concept of noobiogeosphere and the network models use the planet-civilization shells in their interaction. It is the unity of reality and a multi-level approach to the study of reality.

The modern universalism and transformation of modern ideas in the cultural universals of the twenty-first century including the concept of noobiogeosphere must be the main element of education. All traditional cultures may create conditions for a dialogue between the different cultures. Noobiogeospheric culture extends and develops ideas connected with spiritual, virtual and ideal reality on the sphere of the planetary human spirit and of planetary cycles of energy and information. For example, *justice*, *responsibility* and *spirituality* are considered in planetary and individual senses. Experiences of all cultures, different concepts of space, time, and other measures of universals accumulate in noobiogeosphere’s network. In this case the transdisciplinary researches are world-outlook nature.

The concept of noobiogeosphere provides for the formation of noobiogeospheric class of sciences. These sciences are the main method for investigation of the universal unity of the natural, social and spiritual. This formation is based on the principles of biospheric class of sciences and on axioms of the humanitarian sphere, which for thousands of years have been tuned in the mythological, religious and philosophical systems. Noobiogeosphere’s class of sciences is a complex of natural and human sciences and the ethical-religious principles. This class of science has objects: noobiogeosphere subsystems and synthetic structures based on complementarily interweaving processes inherent in non-living, living matter, and spiritual nature too. This formation leads to a stable interaction between information, intelligence, spirituality. In the noobiogeospheric class of sciences

mechanical, physical, chemical, biological, geological, informational, cultural, social and other processes correlated within its and development noobiogeosphere itself. Methodology of the noobiogeosphere's class of sciences is a universal synthesis for all processes of the nature, as well as the knowledge about it.

#### PRACTICAL AND PROGNOSTIC ASPECTS OF A NOOBIOGEOCENOSIS AS BASIS OF THE CULTURAL LANDSCAPE

The political and social structures in the formation of modern universalism consider as an application of the discussed concept. A large role in these applications must belong to the formation of networks and interactions involving large groups of people. This means that the natural sciences or socio-cultural knowledge is embedded in the social mechanism of transdisciplinary study and can control its practical use.

The concept of noobiogeosphere has prognostic aspect too. This aspect admits investigation processes of self-organization the stable formations in nature and society. They will be irregular over the surface of the Earth because of the differences in socio-economic conditions in different countries and civilizations. The complexity of these problems conducted to the field of integration of disciplinary paradigms and for its designs transdisciplinary researches must be used. These processes involve not only scientists, but also the public discussions, because they solve life-world problems too. These investigations for the unity of knowledge propose that the search must be continued beyond the boundaries of disciplines. So the science is able to find the integrity of perceiving the world, which has been lost as a result of differentiation of knowledge.

All the diversity and complexity of the processes in nature and society may be covered with realizing their multilevel synthesis only on the basis of the concept of the noobiogeosphere. Therefore, the principles of management of cultural landscapes in the twenty-first century should be considered in light of this concept. These models may be test in the circumpolar regions where there is the simplest communication. Universal cultural idea should be adapted to the ethnic and national characteristics and must consistently correlate with the corresponding ideas of individual states and their subjects. All of these approaches must be comprehensive (include all possible types of interactions) and related internal and external fundamental structures.

The first of these types of communication corresponds to interactions between individual elements of systems, which are formed due to cultural landscapes. The second type corresponds to cultural landscape's formations interacting with the surrounding external natural environment and civilization. There are several negative trends that should not be developed in the future.

1. Saving production and social relations of industrial society. Many states are still supported activities aimed at "a struggle against nature" or not provided adequate confrontation such activities (conservation of bureaucratic interests, structures, insufficient competent environmental expertise and imprudent spending minerals). All major systems of industrial society in education, health, urban farms, economics, finance, national relations have conflicts with emerging information society structures.

2. There are many secret, skillfully organized evil (drug trafficking, mafia, corruption, shadow economy, etc.) in today's world which is accompanied by complex technologies its preservation and development, clear organization and strict discipline. She does not care about protection of the nature. Only strong planetary structures: spiritual, cultural, as well as relevant education may counteraction and resist against all of these. They must protect every person from unification to provide him with a sufficient measure of freedom, which is indispensable to the formation of personality, and therefore further development of mankind.

3. Organization of examination, supervision authorities and power in the present conditions in many cases obsolete (their clear stratification, methods of isolating the subject and object, mechanisms of this examination, classification of the basic concepts). Power should be continuous-discrete, having on the one hand, clearly expressed its organization centers. On the other hand she must provide the ability to interact with some elements and structures of the planetary civilization through the development of civilization and cultural networks carrier with a real democratization.

4. Major national and state ideas should be linked to the principles of modern philosophy, globalization, noospherogenesis, synergetic, system's theory. They must be common to all mankind and planetary ideas adaptable to ethnic and national characteristics. They must be a holistic and include all possible types of interactions, to be associated with the fundamental identity processes to ensure integration and

ontologisation of the culture within the entire planet, as well as to maintain and strengthen a cultural variety.

The main prerequisites for devices cultural and civilization systems in the 21st century are to support self-organizing processes emanating from a holistic ontological foundation and formation of planetary network structures. We distinguish the following prerequisites to improve them:

1. Necessary to ensure the completeness of identifying all the main channels relationship cultural and civilization systems with the environment, because otherwise the use of self-organization processes within them dangerous. Modeling patterns of development of specific cultural and civilization systems will lead to the wrong conclusions and disharmony. Separating effects apart and study them independently of each other shall be in accordance with their respective cohesive rhythms of nature.

2. Simplification of the very foundations of cultural and civilization systems, despite of the fact that in the 21st century it will have a lot of new faces, due to the dramatic complexity of these systems. This involves strengthening all possible kinds of expertise, improving various forms of "feedback" of local government. Formation presupposes conditions of noobiogeosphere for inclusion in the framework of cultural and civilization systems with any new faces.

3. "Noobiogeosphere's person", "noobiogeosphere's mankind" and "noobiogeosphere's consciousness" are ontological concepts, where separation on subject and object is almost impossible. To distinguish the notions subject and object in the notion of "cultural and civilization system" is not impossible that complies with the basic approaches of modern philosophy.

4. Communicative relationships between the cultural and civilization systems, power and intellectuals in different states, information cycles and all that provides noobiogeosphere's consciousness should be as open as biogeocenosis and biogeotechnical cycles of noobiogeosphere. The broad communicativeness and information's interactions will help to identify the destructive tendencies. They seek to secrecy restrictions on information and, therefore, cannot interact with stable cycles of the noobiogeosphere.

5. Improving the system of independent examination should be carried out in several stages. At first they must undergo certain tests in the field of state and nation building, in the foundations of science and morality too. Then examination guidelines development programs of

cultural and civilization systems should acknowledge the reality of their implementation. Real independence of the experts should be ensured by law and be necessary hierarchy (regional, federal, special levels of expertise). Just past these procedures cultural and civilization system should be allowed to practical implementation and use.

Among the trends that are of particular importance for the cultural and civilization organization of circumpolar region should be noted:

1. The mankind cannot prevent the collapse of the existing cultural and civilization systems because it may leads to a global catastrophe. The rod of the circumpolar statehood should be noobiogeosphere's constructions, some elements of which have long predicted greatest Russian thinkers (in the ideas of catholicity, noosphere, pneumatic-sphere, global evolutionism).
2. Russia has the most extensive circumpolar area and many diametrically opposed tendencies. Among them there are between the center and regions, including unusually distant ones, numerous ethnic groups, the government and people, the power and intellectuals, different social groups. These are significant contradictions and they can be resolved only comprehensively, based on universal synthesis that takes into account the real interests of all the people, regions and social groups. This will create a sustainable feedback between the cultural and civilization system, the government and people, develop mechanisms for universal synthesis of all aspects of the Russian people, which Russia has always sought. This experience can be used throughout the rest countries of the world.
3. Due to its geographical location, historical development, internal device, Russia acquired the value of one of the nodes of a multipolar world - one of the "Heartland" of the Earth. Without it is impossible to solve planetary cultural and civilization problems. It also closely correlated with the internal problems of Russia. Further development of Russian that based on noobiogeosphere - is sustainable development networks (economic, infrastructural, cultural, spiritual, etc) for all of mankind. Without the active distribution within Russia's "Heartland" all circular polar actions simply will not be planetary. This will also facilitate the creation of a multipolar world in which normalized relations between the various ethnic groups within Russia and with all nations and peoples of the Earth.
4. "Heartland" is the entire circumpolar region of the Earth, where is the temperature controls of the planet. Arctic Ocean will become the most important communications system this century – like the Mediterranean for ancient world.

Social and political systems are a mixture of deliberate human precepts and spontaneously arising order. Laws of self-organization are the general laws, and by force of action and spatial influence they are comparable with the most powerful interactions in nature. Should be distinguished several types of self-organizing cultural and civilization systems: 1) "The free self-organization" system which is defined only by internal system's processes. 2) "Limited self-organization" of cultural and civilization systems flowing under the strong influence of the state, which are controlling the processes. Available as "controlled self-organization of the state and the government predetermines targeted action based on scientific analysis of the dynamics of internal and external situation and forecast of its development" (Pozdnyakov 2000, 3).

According to A. Pozdnyakov, in the 21<sup>st</sup> century on the Earth will not be conditions for self-government, which was caused by natural flow direction of social-economical processes of a united world. It is the noosphere trend only and will be realize self-limited process, allowing full control over the creation of state structures. They will be optimally functioning in relation to specific natural and social-economical conditions related with the processes of global international division of labor and exchange of products. Controlled a self-organization of state power occurs when the state is not influenced by other, more powerful states.

These processes will, at best, to the formation of the techno-sphere, as in the shade remains its other side connected to the spiritual sphere, forming noosphere consciousness. If we start from the statement that in the 21<sup>st</sup> century will not be conditions for the free self-government, it is possible to conclude that in the coming century, mankind has not time to user in the era of noobiogeosphere. In certain jurisdictions may be processes that are close to the free self-government, which in combination with other self-organizational processes in ecosystems, in consciousness will promote the formation of "islands" of noobiogeosphere, which should lead to activation of noospherogenesis in the 21<sup>st</sup> century.

I.Kuchin argues that all of the outstanding achievements of mankind are the results of the aspirations of the "autonomous" man, but not a "catholicity" one. The predominance of catholicity or personal autonomy in the development of the state objective depends from the specific historical conditions. Historical experience shows that as catholicity is a natural phenomenon manifests itself and is enhanced

when people are getting poorer, and to preserve their national identity, it is combined into the community (Kuchin 2000, 36). Some authors believe that instead of spending reform, which resulted in a society thrown back, it is necessary to create favorable conditions for the growth of the number of autonomous individuals who will contribute to the modernization of a developing society: 1) People do not have to pull into the policy. They must be given the opportunity to engage in traditional affairs and practice traditional values. Instead, they may focus on production growth and improving living standards. This immediately consolidates society will provide the basis for forward movement. 2) Primarily for those who wish to learn and develop provide the studying and development. 3) Actively build using them the upper floors of industrial society. It may be the growth of science and using it in the power, the public support for large civilized business. 4) Turn off the church from the state support. These provisions will be the main within the noobiogeosphere and the network is complemented by a planetary sense, come into continuous interaction with cultural universals acquired its widest interpretation (Kuchin 2000, 40).

Comparing artificial and natural social order can be seen that man strives to create hierarchical system with strict subordination relations and monopoly power center. But noted that the artificial system immediately disintegrate, if you remove the external influence. Viable system's model involves a compromise between the autonomous operation of units and the dictatorship of the center in case of emergency. Comparing the biological community with human organizations, can be seen the advantage of distributed brain compared to centralized power often used in public relations (Tishchenko 2001, 140). It needs of emergent evolution, necessary for all levels of nature too.

A global system of political decision making of a global order addresses for global economic and environmental security problems now. This system already forms in many countries pertaining to this problem. Such a system is formed in a matrix management principle: it is a network of centers of decision-making, which is not built hierarchically. Consequently, S. Markov talks about the government network (2003, 198). Thus, the global system of political decision-making, based on economic, financial, energy, cultural and spiritual network becomes the basis of a comprehensive analysis as the most important area of policy development in modern conditions.



Prognostic aspects of long-term forecasting of the noosphere representation of the northern Russia's strategy should be linked to the preservation of the structure noobiogeosphere. As faster the mankind masters the existence of a "noobiogeosphere's being" as it has more chances coping with current and future planetary problems. People with a particular lifestyle constantly feels his relationship with the foundation of the world, the essence of being, the meaning of human existence, not thinking about the enrichment, career success. Noobiogeosphere's mankind will be a structure of interacting individuals who take responsibility for the future of our planet, aerospace, and then spread its influence further. During the noospherogenesis development of man and society outperforms each other, all the unnecessary culling, leaving only suitable for human society and for the planet as a whole.

Objective condition for the transition to an acceptable development and noospherogenesis is the principle of conservation of the biosphere, as well as the appearance in the "society-nature" negative feedback, which can provide a change of the system as a co-evolution of humanity and the biosphere. Sustainable eco-development is a process of forming the state of unity, mergers, co-evolution of society and nature, coherent development of social sphere and biosphere. E.Turkina (1995, 15) suggests the following conditions for implementing ideas acceptable (sustainable) development: implementation of new eco-humanistic revolution, whose main aim is the formation of the noosphere. It must create a system of legislative support for the transition to sustainable development too. Ensuring environmental safety, the development of effective programs to address social and environmental pathologies of modern society; reorientation of science and technology on the noosphere development; further development of the idea of humanity autotrophy, forming noosphere outlook based on environmental ethics and the further development of the concept noosphere-oriented sustainable development.

Admissibility of the evolution of the noosphere is sometimes associated with the problem of expansion of the noosphere space. In this regard, the construction of the noosphere to the fore the following recommendations: 1.Restrict the different ways of transforming information (many different languages). This variety can be limited with law of R. Ashby by improving coding methods in theory and practice. All this ensures the formation of the noosphere thinking. 2.

The development of autotrophic synthesis. Theory autotrophy includes issues of creating synthetic food from inorganic substances, making maximum use of solar energy. 3. Harnessing the global control many processes of nature (for example weather events). 4. Creating centers (research and educational) designed to solve the problems of the noosphere (Dobrohotov 1998, 11). The important prognostic aspect allowed a sustainable development of mankind is the problem of psychological safety – “the most important part of the world’s mind, any level of security noosphere associated with knowledge of the fundamental laws of the development of the people of their psyche knowledge. Sixty per cent of accidents involving ships; seventy-five percent of accidents in aviation are errors attendants” (*Ibidem*, 8).

Crucial for noospherogenesis will have polar (circumpolar) belt located in the far north and far south of the world, including the Arctic, Antarctica, as well as several adjacent regions characterized by similar climatic, environmental, demographic characteristics (Kozhevnikov, 2003). A considerable part of the circumpolar zone is characterized by negative temperatures that kept most of the year and this steady cold, being the most important resource of mankind, will contribute to the protection of terrestrial spheres from heating due to various kinds of man-made activities (Danilova, Kozhevnikov 2003). In these areas are weak mechanisms of self-purification of the atmosphere and water, due to low precipitation and staying the rivers, lakes and large parts of the seas under the ice for more than half the year. There are required primarily closed cycles in these regions, as a precondition for the development of industry and infrastructure, strong comprehensive scientific examination of all industrial influences. Rates of chemical and biological inactivation of toxicants entering the circumpolar ecosystem slowed down about ten times against other regions. Man and human populations in the circumpolar regions face particular biomedical and environmental factors, which leads to a drastic change in the nature of human nutrition, exposure to diseases, the development of its disease.

On the circumpolar territories living peoples tending conservative way of life, preferring “spiritual”, “material” (*Russian North*, 2004), which also correlates well with the trends of formation of noobiogeosphere and methodology of sciences of the noobiogeosphere’s class. Development of the latter protects way of life of these peoples, so it provides for mandatory preservation of cultural diversity and multi-ethnicity. Polar Regions of the Earth can be

considered as polygons, where science of the noobiogeosphere's class have the clearest scope and where, in the first place, can be tried out the simplest models of noobiogeosphere.

It is most convenient to test the network power in the circumpolar areas. In this case control of the orders will be transformed to the projects and their comprehensive examination. It will be a struggle projects and network nodes themselves over resources and initiative. To the implementation of environmental strategy "is to identify for each region, what proportion of its total territory must be undisturbed ecosystems, and which may be the maximum permissible load on the rest of the shopping area. A general theoretical framework exists for solving of these problems. This is the concept of biological regulation" (Hudyakov 1993). It is hoped that in the North there are more possibilities for self-organization processes in society than on its upper floors. There is a possibility to save and select the best in an environment where there is diversity.

Significant role in these researches the literature plays. The Russia literature described the life of northern people, their ideals, cultural wealth. There were a lot of writers who have written about the North and its inhabitants: V. Astafev, N. Rubcov, V. Sangi, J. Rytheu, V. Zhuravlyov-Pechersky, S. Danilov S. Kurilov, V. Rasputin, O. Kuvaev. They described a circumpolar landscape, the features of the ethnos, but they individuality and uniqueness provided them a rising to the universal sight on these problems. Their unique contribution to the study circumpolar landscape fits into an evolving concept.

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