

***System of World Coordinates on the Basis of Extreme Dynamic Equilibrium -
Link between Natural and Artificial***

Nikolay N. Kozhevnikov, Philosophical problems of Natural and Artificial, Russian

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Abstract

Artificial formation created in an arbitrary manner in our complex and constantly changing world is extremely dangerous. They must conform to the principles, rhythms, and laws of natural formations, to rely on self-organization and deterministic chaos. All this can be carried out concurrently artificial formation of natural coordinate system of the world on the basis of marginal dynamic equilibrium.

All natural formations strive to three fundamental equilibriums: identification, communication-network, full-time existence of natural formation. However they never reach these limits. The coordinate systems created by specific natural formations, at the expense of the energy which is balanced within them. It creates «cell dynamic equilibrium» general for natural formations and coordinate systems.

The main idea of our developing approach is formulated in the following way. The surrounding world consists of two unequal parts. On the one hand this chain and structure of interrelated limit dynamic equilibrium in the formation at various levels of organization of the world they are the same. On the other hand it is the rest of the world, covering nonequilibrium processes and phenomena. The main idea of the natural coordinate system of the world is that all the natural and cultural education and their structure can be related to the ultimate fundamental equilibrium of three types. These limits are mapped to the coordinate axis, which is associated with these fundamental limits.

All the processes on the unknown levels in the world are balanced by means of the «marginal boundary surfaces» such as «vacuum», «inertial», «quasistatic processes», «spirituality». Equilibrium concepts that are left outside of these surfaces are simple and associated with natural coordinate system of the world.

Key words: natural, artificial, dynamic balance, deterministic chaos, vacuum, inertial system, quasi-static process, spirituality, identification limit, communication-network limit, balance-coverings.

1. In the ancient view the «natural» was considered as an ontological value, according to which nature, cosmos - divine, sacred, spiritualized. Artificial seemed to ancient Greeks something secondary, derivative, occupying a position lower than natural. In the Middle Ages the value of natural and nature substantially lowered because they are created by God. Currently there are the following aspects of natural and artificial: semantic, taxonomy, evolutionary, noobiogeospherical and based on ideas about the natural coordinate system of the world.

In this work, we consider the interaction of artificial and natural proceeding from the coordinate system of the world, based on the ultimate dynamic equilibrium generated through self-organization. A natural coordinate system must exist, because, despite the complexity of the world, it is perfectly organized, reasonable, optimal, and stable. All its levels are bounded General space by the Cycling of matter, energy, information. On the other hand the complexity and chaos spread in the world exclusively widely and in future interactions with humanity in all spheres of its activity will be intensified, as well as the need for understanding these processes. That's why it's logical that the self-organization and deterministic chaos are accepted as grounds natural coordinate system of the world.

Limit fundamental equilibrium, due to the different types of dynamic chaos arise through self-organization, and cover all levels of the hierarchy of the world. Humanitarian science need in this coordinate system where the criteria of knowledge are very vague, but there is an objective part of the knowledge that can be studied on the basis of cognitive and digital approaches. The surrounding world is very complex; the processes are in nonequilibrium, nonlinear, however, a natural coordinate system on the basis of marginal fundamental equilibrium is simple and available to research in all areas of knowledge and human activities. Linear, simple representations of the world describe it quite reliably.

A natural coordinate system of the world recognized by various thinkers throughout the history of mankind's development. Some aspects were identified with the God, the absolute, the Spirit. The special importance for this is experience of ascetics, hesychasm, apophatic theology, the concept of «epoche». The most complete definition of the coordinate system is given in mathematics, astronomy, and geography. Examples of coordinate systems can be considered inertial systems in mechanics, quasistatic processes in thermodynamics, the coordinate system on the basis of fundamental physical constants M . Planck.

The main idea of developing our approach is formulated in the following way. On the one hand this chain and structure of interrelated limit dynamic equilibrium in the formation at various levels of organization of the world they are the same. On the other hand it is the rest of the world, covering nonequilibrium processes and phenomena (Kozhevnikov & Danilova, 1993). The main idea of the natural coordinate system of the world is that all the natural and cultural education and their structure can be related to the ultimate fundamental equilibrium of three types. These limits are mapped to the coordinate axis, which are associated with the fundamental limits (Kozhevnikov, 2013).

2. All the natural and cultural formation strives to three marginal fundamental equilibrium-limits. Any formation from the world of non-living, living, spiritual (elementary particles, molecules, gas nebulas live, the individuals, personality) strives to self-organization and self-identification limit - I - limit. All the natural and cultural formation tend to systematically and communication limit - S - limit, to the greatest

fullness and sustainable balance with the environment. An individual is defined their communication, cultures exist due to the dialogues. 3. The existence of all natural formations limited to a total time of their existence - F - limit. It can be defined only from the point of view of the neighboring structural levels and unattainable on the basis of the studied formation. All these limits remain unachievable in real processes, caused by conflicting trends, and therefore the natural and cultural formation reach only some intermediate dynamic equilibrium States. Any natural and cultural formation can be connected with these limits, the three coordinate axes. Already in the first concepts of philosophy the orientation of identification limit was decisive. Dialectics of Plato sought to distill the essence, bypassing all transient, ancillary, and incidental. In later philosophical systems, special approaches and methods to the identification of the entity through the properties of things were created through consistently discarding all psychological, personal, etc. Human identity, for example, is closely correlated with what Kant calls the initial synthetic unity of apperception.

Communication-network limit involves a very wide variety of mechanisms that ensure the completeness of the communication system, which is unattainable for us, as well as the knowledge of all the peculiarities of its formation. For example, the process of cognition comes through the development of several networks: rational, cognitive, connected with the subconscious, that is the separate processes of self-organization are in the area of transcendental and include all possible mechanisms ensuring the pursuit of that limit. Communication within contributed to the emergence of numerous interdisciplinary areas. Identification and communication within most clearly expressed in the spheres of culture, philosophy, science (Kozhevnikov, 2006). Full time investigated natural and cultural formation is connected with the jump, radically changes our ideas about it. The view outside changes estimates on the activity of individuals. Those which were considered outstanding perceived with time, more modestly, and the numbers of neglected personalities are actually very important figures. This view discards all minor, leaving only the most important; the work of the scientist, writers much clearer to his descendants, than his contemporaries, but the details of his personal life is more hidden from us. In the case of support mainly on this limit, gives vast opportunities for myths, as it takes place in modern pseudo-historians. The limit caused by full time of existence of natural and cultural formation, which becomes the axis around which mythology and religion «spin» for many millennia. Approaching the limit, the clarification of the essence of this limit is to be a gradual process and lengthy. The innermost core of myths, religions and metaphysics took its root in the unknown, the transcendental.

Many philosophers, such as I. Kant, G. Hegel said that it took them almost all life, in order to clarify the ideas which appeared at the beginning of their philosophical way. All of this can be seen as the stages of interaction with the coordinate system of the world, the first «touch» to it, then the gradual formation and related to this process of reflection.

3. The coordinate system is based on the equilibriums of dynamical chaos, created by specific natural formations, through that part of the energy that can be balanced. The result is a cell of dynamic equilibrium («cell interconnection») the system of coordinates and natural formations. The coordinate system has no location or any spatial-temporal constraints; it exists in every part of the world, at all levels of its organization. The coordinate system interacts only with open natural formations, with a tendency towards self-development and dialogue. The formal split of the surrounding world in a natural coordinate system and the rest of the world resemble

the «natura naturans» and «natura naturata» Spinoza, but its meaning is quite the opposite. Spinoza selects the most active part of nature, ensuring its self-development. We highlight the passive part, the aggregate limits (attractors), in relation to which the rest of nature are the processes of self-organization. Search coordinate system becomes «coordinate method» philosophy researches, which has universal flexibility and allow them to interact with almost any natural phenomenon and process. Intermediate dynamic equilibrium, in which the fixed nature of education have not met their self-organization identification and systematic communication of limits will remain stable only if they will be in the «calibration» (space-time) nodes, which are separated from each other by intervals corresponding to the frequency oscillations of these fundamental limits. They can be considered fundamental rhythms of the world. Calibration originating from full-time existence of natural and cultural education reveals optimality and stability of these «steps» and rhythms. The combination of all three types of «steps» and rhythms that conform to these limits, build sustainable natural formations, and these «steps» and rhythms define the parameters of the spatial-temporal cells coordinate system on the basis of deterministic chaos (Prigogine & Stengers, 2000). In their development, these «steps», rhythms and cells are sent coordinate system and can exist in the world, millions and billions of years, as for example, galaxies, planetary systems, the atmosphere, the hydrosphere of the Earth and their elements, philosophical and religious concepts. In case of deviation from these rhythms are all natural formation destroyed.

Calibration of the above-mentioned limits means that they can be used as the basis of scales, and the units for these scales are obtained by multiplying the values of these bases on the corresponding coefficients. The cell is made up of these fundamental limits will be the largest of all. The corresponding coefficients for these limits (identification, systematic communication, full-time existence of natural education) let k_1 , k_2 , k_3 . Then units scale respectively will be k_1I , k_2S , k_3F . The cell formed by the fundamental limits can be defined as the ISF, and large-scale cell at a certain stage of development of natural formations as « $\kappa_1I\kappa_2S\kappa_3F$ ». These cells are unusually stable. There are many examples demonstrating that their existence can last extremely long: billions of years in the inanimate nature for millions of years - in the living thousands of years in the world of ideas and knowledge. They have a minimum of energy, information, spirituality, and other similar settings, and their main characteristic is becoming «related substance» and its specific values related energy, information, spirituality etc.

We should first of all pay attention to the size of the cell, because of their dimensions, corresponding to certain types of quality they are huge. One axis of the coordinate system meets the life of the research object; the second axis is of its essence, the third axis communications system in which the existence of natural and cultural formations is the most stable and optimal. However, calibration split the cell into smaller scale, and in the end, the same man, considered as such education is now dealing with is quite foreseeable time intervals, limits, defining its identity to a specific time period and are available for use communications system. All of this must match the spatial-temporal coherence, to comply with the single natural rhythms.

4. Calibration in that cell is as follows. It is advisable to start with a «full-time existence» and choose several points (marks) determining the development process in the future and the most important point that influence this process from the past. From these points we define the most important for the investigational phase of this process. Similarly you can choose point-label characterize the essence of natural or cultural

entities participating in the study process and its system-communication. It may occur intermediate version of the cell, but once he will contact all fundamental limits, all excess of these marks will disappear, that is, the above limits will filter out all unnecessary in this cell. The more specific we carry out research, the less considered the cell. In the limit, it is of a specific interval duration, the entity is required at this stage of the process used option is system of communication. For example, when the life of a human individual is a certain pass, the time of its existence begins not from the day of birth and the day of death and from the changed the mechanism of this reference. Nobody knows the date of death, it's hidden from everybody and that's right, the man is afraid of death. However, after this pass, one begins to appreciate his life in accordance with that term, he starts to feel. Is a kind of «calibration» of the process of life - a signal sent somewhere unknown, transcendental, comes back and lets you know that there's still time for such things, specific creative boundaries, learning something new, a remake of the old, etc. But ruthlessly begins to drop all unnecessary associated with vanity, life line is cleaner, following the calibration signal even more cleans its etc.

Proceeding from the developed in this paper representation of destiny is a person's life in a natural coordinate system. With it once is enough to engage in sustained interaction and further it just expands and deepens, well, expressed, for example, in existential prayer, where man brings life to sacrifice its purpose, so that the person can be defined as «the willingness to sacrifice. » Fate (or calling) should obey and carry it as something absolute, because it is directly connected with the absolute being. Follow it, even when the aim is not feasible. The ancient Chinese believed that the philosophical concept, then, is true only when it is embodied in the life of its Creator. This corresponds to the pursuit of a life in accordance with the rhythms of the natural coordinate system. In addition, many thinkers, prophets emphasized that the right to a fate is not given to everyone, but only to the elect.

5. The originality of the approach developed is that through fundamental relative equilibrium, we «close» all prior and unknown to us the levels of the world, leveraging the existing processes «limit boundary surfaces» such as «vacuum», «inertial», «quasi-static process», «spirituality» (Kozhevnikov, 2011). «On top» of them remain only fundamental equilibrium value of available research and which is responsive to the processes of the unknown parts of the world. «A limit boundary surface» composed of multiple equilibrium «cells», the existence of which is provided by processes seeking identification and hidden within this surface. Sustained interaction «cells» of this «surface» is provided by their desire for communication-network limits. As is known equilibrium parameters of the vacuum, inertial systems, quasi-static processes, spirituality identified good enough. Full time of the studied natural cultural formations define the basic rhythm of oscillation related «the limit on boundary surfaces.

«A limit boundary surface» corresponds to the vacuum (fixed state of quantum fields with minimum energy, zero-momentum, angular momentum and electric charge and other quantum numbers) «closing» all unknown to us a part of the world, provides the equilibrium sustainable existence of the vacuum. Properties of «vacuum» define the properties of all the major States of the world, leading to the emergence of quantum fields, which in modern science is the most fundamental and universal form of matter, the basis for all of its concrete manifestations (Efremov, 1988). All elementary particles are the quanta of certain physical fields, which continuously interact with

each other. Thus, the vacuum can be considered as the simplest system of reference for the level of organization of the world defined elementary particles.

The next level of such «covered» deals with forming-established sustainable matter and the gravitational interaction. Para-meters reference system for remaining on this «boundary surface-age» of the world are inertia and its measure is the mass that has allowed to form ideas about inertial systems, as a basis for all other more complex systems of reference of the level of organization of the world. Another «ultimate boundary surface separates a complex objects macrocosm, each of which consists of a huge number of particles and is characterized by the thermodynamic equilibrium (Putilov, 1971). At this level of the hierarchy of the world views of equilibrium is associated with the concept of «dynamic chaos». «A limit boundary surface» of life leads to the formation of complex self-organizing systems, molecular chains, and preliminary structures «prelife». For the soul level - individual matches identification level, and all social education: a tribe, clan, ethnic group communication system through which people could survive. At level of a spiritual person there are two ways to God: internal (existential) and external. Modern philosophy, moving the knowledge inside of the investigated process, instead of a subject of classical philosophy focused on his person-dimensional complexes that are per person in an ethical context. Here man-dimensional personality corresponds to the *I* - limit, and man-dimensional complex - *S* - limit. Time life man-dimensional personality expanded compared with the ordinary individual, the existence of which ends with his death. The latter is a person, entered in the planetary problems of humanity am only lacuna about these issues. The existence of this person may be continued in the cells of the noosphere, or in a more General form in the cells in the coordinate system of the world. Next limit boundary surface» is connected with the spiritual and stew, which is a complementary balance between all subsystems «*I*» and, first of all four pillars: the body, the mind, the subconscious, the super-consciousness. The spiritual man all these subsystems are in harmony: the mind and the body are healthy, the subconscious mind is well-organized and controlled by the consciousness, the consciousness (cultural codes, religion, ideology, traditions ethnos) humanistic. If these subsystems equilibrium interact with each other, all is in a man, his mind, the subconscious is closed this «marginal border», over which remain the main parameters of spirituality: free will and cultural secular asceticism. Such cultural and secular ascetic is a bound state of all the intellectual, social, individual manifestations of personality and able to be the Foundation of universal synthetic culture. The ultimate boundary surface correlates with the basics-governmental concepts I. Kant about nominal «things in themselves» and the phenomena of «things for us», although these terms have slightly different meanings (noumenon is the limit concept of limiting the claims of sensuality and the like). What is hidden from us at ultimate boundary surface is not available for research and research and related theories, concepts deal exclusively with phenomena.

6. Ideas about the natural coordinate system of the world and its basic concepts: cells, layers, the fundamental limits can be greatly distorted. Such distortions give, for example, many approaches to classical philosophy and science. Absolutization of only one of the above-mentioned limits leads to the unstable equilibrium, which sooner or later will stop its existence and which will not be able to have long-term spatial, temporal and spate-temporal coherence with the natural rhythms and other sustainable communities and the processes inherent to the various levels of organization of the world. The cells in the «equilibrium-covers» can be regarded as static and dynamic. For identification (identity) of the «balance-bedspreads» fairly static cells based on

two of the limits of *I* and *S*. you Can enter views about the cell of the following types: one marginal cell, two limiting the cell, three limit cell. One marginal cell lets just «catch» the natural coordinate system. Two limiting the cell can be used in the consideration of static slicing. Three marginal cells allow the use of natural coordinate system at research of dynamic processes. The example of the formation of artificial cells, a kind of simulacrum natural coordinate system can serve as a University environment in the Middle Ages. On the one hand it has been a process of self-identification, but it was not the result of self-organization of individual (personal). In this process everything was set to - be like God (the principle of Absolute personality). On the other side there was a clear focus on *K*-limit: a common language (Latin), public theses, which lasted sometimes for several days, rapid crowded debates. However, all these social formation and communication system also corresponded to certain predefined rules. In the result the cell is creating artificially, self-organization is excluded by purpose.

Communication-network limit is widely used in the social sphere, when a particular community of people gathered together on some characteristic alone claim to be the most correct, for example, the most close to God, or followers of the true teaching. This is a very powerful temptation, which makes life easy and comfortable. The most prominent examples are the Orthodox directions in the religions of primitive ideology (Kozhevnikov, 2013). The modern universalism may be linked with the natural coordinate system on the basis of limit States planetary and human being, based on the equilibrium state of interconnected terrestrial environments (Kozhevnikov, 2008).

7. Natural coordinate system appears to us as «tabula rasa», although in fact it organization is rather complicated. This coordinate system is pure being, the perfect design of all possible limiting conditions, which may not blend with the natural and cultural formations, but natural processes periodically interact with it in accordance with its internal rhythms. The coordinate system should be opened directly and be available to everyone. The interconnected system of dynamic equilibrium is possible to reach, developing sensual submission or using theoretical models through the «emptiness» of Taoism or religious experience of the ascetics. Every individual may interact with different levels of coordinate system: personal, relevant to the culture of their ethnic group, planetary, etc. For this purpose it should be stacked, sums up the cells of all these levels. Finding the relationship with the coordinate system starts with the ability to listen to the quietness of myself, finding fundamental mood to begin the process of cognition, touching various kinds of «emptiness» - in this way the individual forms of the original cell natural coordinate system. It «meets» the person, an individual, involving them in their self-organization and development. The search for natural coordinate system does not mean that aspirations to identify a universal philosophical category or concept. It is about the study of the unity of the benchmarking processes and phenomena at different levels of structural organization of the world. This matches one of the main principles of synergetic claiming that the processes of the creation (of growing complexity and order) has a single algorithm, regardless of the nature of the systems in which they are carried out. However, our approach considers the unity of the algorithms of these processes in their interactions with the natural coordinate system. A natural coordinate system cannot be comprehended within a single principle or one idea, it gradually becomes clearer as you use it. To start this awareness can with any phenomenon, the respective religious, artistic, scientific, everyday processes at any time. The above correlates well with the concept of autopoiesis modern philosophy. Autopoiesis is a process of generation of

the elements of the system itself as something different from the surrounding world, the natural «seeding» of this system. The item is a certain operation, which requires energy, the inclusion in the relevant cause-effect relationship. Autopoiesis interactions identification everywhere: in animate and inanimate nature, humanitarian and social spheres, etc. Modern philosophy has moved the knowledge inside of the investigated process, without which the existence of a natural coordinate system would be impossible and develop ideas about man-dimensional complex, that is, instead of a subject of classical philosophy, it focused on the man-dimensional complexes. The last definition has many facets, as this is a man in the context of ethics. Man-dimensional personality corresponds to the *I* - limit, and man-dimensional complex - *S* - limit. Time life man-dimensional personality expanded compared with the ordinary individual, the existence of which ends with his death. The last one is a person, entered in the planetary problems of humanity, concerned about these issues. The existence of this person may be continued in the cells of the noosphere, or in a more General form in the cells in the coordinate system of the world.

8. The interaction of the natural and the artificial on the basis of the coordinate system described above should be considered at several levels of human activity (local, meso-level, universal) in several key areas: culture, science, philosophy.

Thus it is necessary to allocate subsystem technogenic world and the information world. All these interactions are shaped by the same principle - are highlighted cell identification investigated natural and cultural formations, then revealed a common system is the full lifetime of these cells and systems. Communication with unattainable fundamental limits can be performed through spatial-temporal coherency and corresponding rhythms. For culture and cultural-civilization systems basic research levels correspond. 1. For level cultural code: *I* - limit are the elements of the cultural code, *S* - limit - cultural code in General. 2) For the ethnic level: *I* - limit is the fundamental unit of the ethnos and the basic structure of the ethnos, *S* - limit - ethnos as a whole, 3) For planetary level: *I* - the limit corresponds to the key subsystems of a planetary level (cultures, civilizations), *S* - limit - this is the planetary civilization as a whole. All these codes and cells are self-organization-identification cores of culture. The General system of all levels ensures the sustainability and optimality of constituting cultural formations. In today's global world, every culture undergoes two core trends. On one hand, they should self-identified: to identify clearly its borders, characteristics, to become transparent to representatives of other cultures, to decide. On the other hand they should facilitate integration of mankind. Culture adequate to the needs of the modern man must be a network and traditional culture should be part of the elements in emerging on their base system. All culture must be tolerant, gum-mystery oriented, unique. All cultures have to strive to identify your own secular asceticism. Their totality could become a Foundation of a global reality, gradually transforming into a synthetic universal culture, so that all specific to different peoples is already a «superstructure» of it. The dissolution of a person in networks culture is knowingly, voluntarily, but it is the only way for the individual to maintain their real existence. «Human network» is the nearest step in the evolution of man and humanity; he is largely determined by the self-organization of the world and all its ontological areas (non-living, living, mental, spiritual).For science and philosophy basic research levels correspond. 1. For the local level: *I* - limit - ideas, *S* - limit - system of fundamental ideas. 2) For the meso - level: *I* - limit - basic concepts, *S* - limit - disciplinary ontology (the picture of the world of special disciplines), 3) For the universal level: *I* - limit - universal concept, *S* - limit - General scientific picture of

the world. For technical and information Sciences. 1. For the local level: *I* - limit - special terms of language, *S* - limit - special language in General. 2) For the meso - level: *I* - limit - main ideas, *S* - limit - projects, 3) For the universal level: *I* - limit - universal concept, *S* - limit - special scientific picture of the world (disciplinary ontology).

All of the above specifies the orientation for the formation of an artificial man-made and information spheres on the model of the natural (non-living). This orientation can be used for the organization of «green technologies» instead of «grey». Sustainable relationship of man and mankind from natural coordinate system - is a necessary condition of their further development. Only in this case the mankind does not destroy the biosphere and can develop in harmony, optimally and almost indefinitely.

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