

Global Evolutionism and Heterarchical Thinking

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Abstract: In the situation of conceptual shifts at the turn of the century-frequently called ‘the end of history’, ‘the death of philosophy’ (R. Bart, M. Foucault, J-Ph. Liotard, Ph. Jameson, etc.) the issue of development of the modern neoclassical philosophy becomes extremely topical. The formation thereof also includes the discovery of the ‘global evolutionism’. It determines the gradual transition to heterarchical thinking as to finally adequate social thinking and adequate strategy of the mankind of behavior and management culture. The cultures of bridging the gaps, transiting from the magical-manipulative (pre-classical), performing-power-based (classical), liberal-irresponsible (non-classical) to the new humanistic-responsible type of management (neoclassical). The objective of the study to explicit the arising essence and trend of such transition to a new heterarchical level of the thinking complexity to consider with the use it the possible overcoming of traditional hierarchical pattern and absolute relativism within the matrix thinking. The heterarchy of thinking itself is based on the neoclassical philosophy and changes the basic views on many things but primarily on the process of self-appearance of different active principles of being.

Key words: Neoclassical philosophy, global evolutionism, heterarchical thinking, hierarchy principle and relativism, closed and open system, fractal determinism

INTRODUCTION

The beginning of neoclassical philosophy (Derrida, Knyazeva, Prigozhin, Rebtsov, Fukuyama, etc.) includes beginning of the global or universal evolutionism. The theory of universal evolutionism incorporates different constituent processes and concepts: universal evolutionism, co-evolution, fractal determinism, anthropic principle with its observer of the already neoclassical type; environmental imperative, inevitable humanistic scientific idea including the subsequent possibility and necessity of adequate thinking and adequate management strategy and tactics. The quintessence of such adequacy is the heterarchical thinking and heterarchical pattern of thinking. Within the heterarchical thinking, the basic views on self-appearance of different active principles of being are changed. The starting point is understanding: of differences between the closed and open universe systems and different action of the fractal type of determination within them.

MATERIALS AND METHODS

By the last third of the 20th century, the concept of evolution was one of the fundamental ones in Biology and Philosophy though not throughout. Since, Biology wasn't the leading science this concept was not used in

the scientific view of the world in whole. While the stage of the classical physics and cosmology kept themselves aloof from the idea of evolution in their fundamental concepts the modern physics and cosmology under the influence of the cosmologic theory by A.A. Friedman and the study by V.I. Vernadsky etc. concerning the biosphere and noosphere ‘let’ (the term by T.P. Matyash) the idea of evolution into their scientific constructions, began developing it actively. Synergetics and situational approach completed the process of expanding the frameworks of the evolutionary approach (the studies by I. Prigozhin, N.N. Moiseyev, S.P. Kurdyumov, E.N. Knyazeva, A.P. Ogutsov, G.V. Givishvili, V.I. Arshinov, K. Popper, N.M. Solodukho, etc.). N.M. Solodukho reasonably beliefs that ‘the system ideas that were initially associated with different situations started transforming into a kind of ‘bonds’ for non-conventional situational thinking. The situation in the block of ‘system designers’ got out of control: the situational problematic broke away towards the independent theoretical-methodological space’ (Anonymous, 2005). Now the system, evolutionary and situational approaches were combined in the integral whole having formed the principle of global evolutionism or universal all-permeating evolution (I. Prigozhin, N.N. Moiseev). They started considering evolution as the universal process of self-organization

of non-equilibrium systems incorporating different (physico-chemical, biological, social, anthropological, environmental, socio-cultural and other) changes. Universality of evolution is proved by the fact of the recorded situation of the system self-organization in non-equilibrium conditions in nearly all sciences.

Following the extension of the frameworks and situations of the evolutionary approach both the new properties of evolution and some regularities of the universal evolutionism were identified. It became clear that the entire world is woven from interactions; they penetrate everything that moves that entropy features universal importance and means not a measure of disorder or order but the intensity of growth of the processes of transformation of different interaction forms into each other. 'Intensification of processes of transformation of different interaction forms into each other is the vector of evolution, its 'supreme meaning' (Khaitun, 2001). The fact the universe in whole and not the separate process-components of it evolve was proved. It became clear that in the self-developing evolutionary systems the links and link properties are much more essential than the properties of components of systems, subsystems, inside of a system and between systems. Due to the nature of relations between the elements in such infinitely bifurcation branched self-developing system the new 'supreme' levels of the system development appear (D.A. Sevostyanov). They demonstrate the adverse effect on the previously established levels and then the latter inverse the entire system in whole; it is re-arranged and changed. Due to logistics of the inversion process the overbuilt order of another situational level is self-produced and self-determines the entire system. Inversion is the act of intrasystem mobility (passing through the phase transformations when the so-called 'low-order' substructures become more essential and relevant to the system than the 'high-order' ones in terms of solving the new tasks with the use of old methods); this is the act of self-determination not only changes but also gaining the new properties due to changes in the nature of relations within the system and conversion of relations into the opposite ones whereas the system structure remains the same (Sevostyanov, 2013). The 'evolution in the universe' was changed through 'co-evolution of the universe'. The global evolutionism revealed some universal evolutionary regularities of being. In particular:

- Trend of the world development towards complication of its structural organization
- Continuous build-up of complexity of natural structures proceeds along with the natural selection
- Co-evolution is the process of the joint evolving of the natural system and its environment that support each other

- For each natural system there is a so-called 'time arrow' characterizing the trend of irreversible evolution (Shevchenko, 2010)

With the use of synergetics and situational nature of the evolution theory the re-discovery of the universe took place: the world appeared as not only globally evolving but as the global and self-developing system. Occasionally people complain that the 'nature takes revenge' by its cataclysms. The term 'revenge' is the typical form of yet anthropomorphic thinking. Another circumstance is forgotten that the world around is appropriate but not purposeful (Do not confuse the terms 'appropriateness and purposeful nature'. In principle, revenge is peculiar to human creatures only. The world is 'the stochastic system, the open entire without the own goals this is a sequence of bifurcations and fluctuations the main function of which is maintaining the equilibrium within the biosphere system. It is not revenge that we have here but the fact of breaching by a human the biosphere equilibrium that is expressed through cataclysms where the nature does not revenge but self-organizes' (Agapov, 2006). And the adequate control is possible upon heterarchy of thinking.

RESULTS AND DISCUSSION

The modern neoclassical philosophy by changing its thinking and that of the mankind finally proceeds to heterarchy of thinking. It is referred to possible overcoming of the traditional hierarchical pattern and the absolute, radical relativism. Heterarchy is nearly opposite to the hierarchical and anarchical nature of the system; however, this is not the 'all-simplifying golden mean' hiding the latent hierarchy and relativism of the world-perception and action. 'Nearly' means that heterarchy is related to the synergetic principle of self-organization and situational discourse, this term is close to the term 'network', it is created on the basis of the network or situational, fractal determination. Heterarchy creates multidimensionality and complexity that is essential for vitality and determines the completely different motivation and capacity for living. If we compare then the hierarchical principle of thinking is characterized by: duality, linearity, homogeneity and statics (Khakimov, 2007). Duality is expressed in separation of the algorithms of cognitive activity from the Calgary carrier thereof, linearity in transitivity of such algorithms, homogeneity in the fact that the initial set of algorithms is very limited and shall be reduced to simple rules of the single kind and statics the original settings of the system shall not be changed with time and that the later system actions do not affect the revision of the initial principles. In this

context, hierarchical pattern features the dogmatic nature and the methodology the doctrine one based on subordination, force and only execution of messages of one level by another one, intolerance to other systems. Of course, this is not about any inherent integrative potential of the management culture. Neither 'downwards' nor 'upwards'. Not least because there is the 'bottom' and 'top'. Heterarchy consists in the following: non-duality, recursivity, heterogeneity, dynamism (Yankovskaya, 2009). Non-duality is expressed in impossibility to separate the cognitive tasks from the properties of their carrier, recursivity in non-transitive interdependence of different levels of the system, heterogeneity in the fact that within single system levels of different kind may function, dynamism in gradual transformation of separate components of the system and some algorithms of its action. The systems of heterarchical kind are more viable than hierarchies though creation and management thereof are more complicated they are able to main their sustainability within a complex system. However, heterarchy is not opposite to hierarchy. The researchers sometimes mean by heterarchy the 'non-rigid hierarchy' (E.M. Khakimov) or 'flexible hierarchy' (A.N. Fatenkov) which is difficult to agree with. A hierarchy remains to be a hierarchy: it remains to be the idea of grading the being without recognizing the different yet ontological levels. Heterarchy is the combination within a single system of different, interdependent both in horizontal and vertical directions yet ontologically equal levels but not ranks. However, each of levels features the own ontologically equal organizational and determinative actions with respect to life. Since, the situations may vary the significance, the parity of life of all these levels of the system includes their self-determination. What is valuable, in particular, in the peaceful conditions of living, what the essence of living is and what shall be done to ley it establish and succeed. Though, for example, in an extraordinary, extreme situation when there is 'no time to reason' and though primitive yet prompt and effective solutions and actions are required the hierarchical nature, inequity, subordination, the idea of a rank itself appears to be inevitable and positive. However, once again, life needs peace and not non-piece (war, revolution, emergence work, fire, conflict, permanent restructuring instead of reforms, etc). Life does not allow extremity and consequently, relativity and hierarchical pattern. Heterarchy of thinking in its essence is based on another neoclassical philosophy: neoclassical world-view, epistemology, axiology, praxeology, methodology, by the way, within the integrity thereof (Menchikov, 2013) the basic views are changed: on the correlation of being and not-being; living and non-living, on the functions of order

and chaos; on the role of spontaneity in determinism, chance events, the role of minor impacts and many other things but above all on the process of self-appearance of different active principles of being. The difference of properties of the closed and open systems of universal evolutionism of the universe and different action of determination systems is the reference point here (Yakovlenko, 1996).

Heterarchical thinking is possible and based on understanding of open systems and the modern fractal determinism. The former classical and non-classical worldview proceeded from the premise that the world is the closed system that was created once from the outside and consists of relatively closed systems (monades). And the closed systems feature: absence of interaction with the external world, exchange of energy, matter, information, orientation towards increase in entropy; tending to equilibrium; most of processes within it feature the linear and irreversible nature; changes are performed due to the external-determination exposure; the development tends to chaos only; absence of self-organization, absence of feedback. In terms of the specified attributes no absolutely closed systems from the ontological perspective can be observed in the world. Though, unfortunately, they may be forcedly reduced to almost such closedness (totalitarianism). Or for the purposes of cognition (epistemologically) they may be imagined when researchers say 'let's suggest, assume that': 'let's assume there is vacuum' or 'let's imagine the system is absolutely leak-proof'. This has temporal effect. The open systems are characterized by: exchange (!) of energy, matter and information with the external world, interaction (!) within the system elements and that of the system with the environment; existence of self-determination, spontaneity and self-organization; the phenomenon of temporary equilibrium which is this sense means unstable equilibrium, not only linearity but also non-linearity, fractality, porosity in the system development; development tending to reduction of entropy from temporal order to chaos and from chaos to production of the updated alternative-ordered structures, feedback.

Before the course of thinking proceeded through reduction: simplification 'downwards' or 'upwards', to reduction of complex systems for simple ones or to a non-existing and/or complication that has not been identified yet, i.e., not true but wrong or even false knowledge was formed 'We tried our best you know the rest'. Today synergetics helps eliminate this inadequacy as it helps to show how the complex systems change their state qualitatively. The macroscopic state of any system, especially a complex one, is changed as the result of

changes proceeding at the micro-levels. Any system being temporally stable-equilibrium accumulates deviations inside of it (in terms of the situation, states, conditions, properties, functions, structure). And then any even the slightest deviation spontaneously interacting with another one at the bifurcation point initiates the fan of deviations. Deviations start being accumulated rapidly, in the resonant and exponential manner reaching the macroscopic values. And then according to the trialectics laws where also the transient inversion phase is applicable (Sevostyanov, 2013), the effect of avalanche-type cooperation of deviations and consequences takes place. In other words, non-randomness of spontaneity and its significance of an objective form of determination became clear. It is clear how and why a minor, spontaneously developed random phenomenon is able to trigger the process of self-origination of a huge phenomenon. What we observe here is the fractal, more complex determinism (Menchikov, 2015).

Thus, synergetics and situational pattern proved the most important thing that there are common universal mechanisms of self-organization capturing establishment of spontaneous origination and relatively stable situation existence of ordered structures of various nature. Such systems require the management approach with another, heterarchical thinking.

It is all relevant from the world-view and methodological perspective to the extent that in their actions people as ontologically the most open systems may escape the two key threats: fatalistic and voluntaristic ones from the mass underestimation of the own capabilities to affect themselves, society as a quasi-natural phenomenon, escape the feelings 'when it seems that the world changes on its own' (V.G. Fedotova). And escape the overestimation sometimes also of mass nature that the task of the mankind is no less than 'to change the world' (C. Marx). Unfortunately, hierarchy and absolute relativism as real presentation of fatalism and voluntarism are still alive and are even being successfully updated posed as the most modern contemporaneity though the future of the mankind can hardly be imagined without heterarchy. In case of heterarchy, we have to deal with the so-called 'control without the control arm' (H. Haken); when, let's say in the jazz music not the band master but the theme governs. The germs of heterarchy are to be found in a dialogue. But a dialogue does not suffice for optimal existence of heterarchical thinking and methodology. Globalization despite the imbalances of its aspects as the stage of objective development of the potentially unified humankind requires transformation of hierarchy and

relativism into heterarchy of thinking and acting, transformation of a dialogue into a polylogue (Ivanova, 2009). And understanding of the polylogue being in a modern society. The dialogue is necessary yet not sufficient; it solves the tasks of only conflict-free communication of people, cultures between each other, retaining the incompleteness of the essence of communication ("axe to grind" or even "giving the finger behind smb's back"). In a multi-cultural society polylogue integrates, structures and constructs, supplements, compensate the communication. This is already the sense-and-life-forming interaction of not only subjects but humans, the co-action of various people, cultures, revealing their own essential forces aimed at their living and not surviving only, thus at the adequacy of transformation of both themselves and the people of the Earth in whole. The predicate adequacy is now being embedded everywhere, penetrates the essence of the neoclassical philosophy, universal evolutionism, co-evolution and such real presentation thereof of heterarchical thinking and acting.

CONCLUSION

Thus, transition to heterarchy of thinking as the quintessence of the 'adequate control' is the objective possibility and necessity of transition from the pre-classical (magical-manipulative), classical (performing-power-based), liberal-irresponsible (non-classical) to the new humanistic-responsible (neoclassical) type of control since the 'good', i.e., the adequate management seems to have become the main global issue of the modern age.

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