

BASIC METHODOLOGICAL PROVISIONS OF SOCIAL SYNERGY AT THE PRESENT STAGE

Elena MEDVEDEVA^{1,*}  | Natalia ZAKREVSKEYA²  | Victoria YERMILOVA² |
Mihail CHUDAIEV³ | Vera MAYEVSKAYA⁴ 

¹ Faculty of Training of Scientific and Pedagogical Workers of the P. F. Lesgaft National State University of Physical Culture, Sports and Health, St. Petersburg, Russia

² Department of Social Technologies and Mass Communications in Sports Workers of the P. F. Lesgaft National State University of Physical Culture, Sports and Health, St. Petersburg, Russia

³ Department of Social Sciences and Humanities at the National State University of Physical Culture, Sports and Health, named after P. F. Lesgaft, St. Petersburg, Russia

⁴ English Department #2 of the Saint-Petersburg State University of Economics, Russia

* Correspondence

Elena MEDVEDEVA, 71/1-23 Serdobolskaya Street, Saint Petersburg, 197 342, Russia

E-mail: elena.vlgafk@rambler.ru

Abstract: The article interprets the basic methodological provisions of social synergy, giving a deep insight into the theory of self-organizing systems in various spheres. The emphasis is given to the essence and mechanism of transition between order and chaos. The practical value of synergy is also brought to light.

Keywords: social synergy, self-organization order and chaos, hierarchization dehierarchization dissipative structure.

Introduction

There are a number of studies on the theory of self-organizing systems both in the sphere of inanimate and animate nature as well as in the social sphere. Professor M. S. Kagan's contribution occupies an important place in this area (Kagan, 1996). Based on the general scientific synergetic ideas of I. Prigozhin, I. Stengers (1996) and Ye. N. Knyazeva, and S. P. Kurdyumov (2018), created an original cultural concept and laid the foundations for a synergetic philosophy of culture (Kagan, 1996). In 1999, under the guidance of Professor Branskiy V. P., a work was published ("Synergistic Philosophy of History", St. Petersburg, 2010), which proposed a new approach to self-organization (organization) com-

pared to the traditional approach. This problem area was presented by Haken, Prigozhin, Stengers et al. (Haken, 1985, 2003).

This approach is based on three aspects of understanding the concept of self-organization: ontological, epistemological and axiological (which was not considered). The theory is a critical analysis of the traditional viewpoint on understanding and development of history. Concepts of truth and ideal are central to the development of this process (Oganyan, Branskiy, & Oganyan, 2018; Oganyan, Oganyan, Pyzh, & Petrov, 2018).

Works by M. S. Kagan and V. P. Branskiy's group deserve to be put on a par with such generalizations as the historiosophical concepts of Toynbee, Jaspers, Spengler and Sorokin.

Actually, the formation of social synergy as a scientific discipline is finally completed, and we may witness the outcomes obtained by scientists in this area. For example I. Prigozhin - built a physical theory of dissipative structures, considering self-organization problems in non-equilibrium open systems (Prigozhin & Stengers, 1996).

Haken G. (1985) – analyzing the theory of complex self-organizing systems in physics, studied the joint activity of these systems elements focusing on their non-cooperative effects in them. Since activity in ancient Greek meant “energy” and joint activity – “synergy”, G. Haken called the theory of self-organizing systems synergetic. These two approaches to the interpretation of the theory of self-organizing systems are considered equivalent.

The article is focused on the formulation and solution of the social self-organization problem: *self-organization as a relationship between order and chaos; the essence, mechanism and result of the transition between order and chaos; methodological structure of self-organization; the relation of social synergy to classical and modernist “philosophies of history”; the practical significance of social synergy.*

The authors consider only those methodological and general scientific ideas that seem to be the most important for understanding methodological problems of social synergy in modern conditions.

Methodological Framework

1. Self-Organization as a Relationship of Order and Chaos

The specificity of social synergy lies in the fact that, unlike physical and biological synergy, it explores general patterns of social self-organization, i.e. the relationship between social order and social chaos (Oganyan, 2005, 2012)

The concepts of order and chaos have a long history. However, they are usually used in some “intuitive” sense without clear definitions. A noisy crowd in an oriental bazaar or a square of soldiers at a military parade symbolize the mass (everyday) ideas about chaos (“disorder”) and order. However, at first approximation, these concepts can be defined as follows. “Order” is usually described as a set of elements of any na-

ture between which there are stable (“regular”) relations repeating either in space or in time, or in both.

In fact, repeatability in time means the repetition (“regularity”) of those movements and changes that these elements undergo. Accordingly, “chaos” is usually identified as a set of elements between which there are no such stable (repeating) relationships (Oganyan & Branskiy, 2018). Since self-organization is a qualitative and, moreover, structural change of some objective reality, synergy is a theory of development.

However, the synergetic understanding of the development introduces something essentially new into this concept. The fact is that the traditional theory of development (dialectical concept of Hegel and Marx) considered development as a process of transition from one order to another order.

In this case, chaos was either not taken into account at all or was considered as a kind of side and, therefore, an insignificant product of a regular transition from the order of one type to the order of another (usually more complex) type. Synergy, on the other hand, is characterized by the transformation of chaos into the same natural stage of development as order; moreover, unlike the ancient naive ideas about the birth of “cosmos” (order) from primary chaos and the subsequent transformation of this “cosmos” into chaos again, synergy considers the development process as a regular and, moreover, multiple alternations of order and chaos (the so-called “deterministic chaos”). It is curious that in the Hegelian totality of polar categories that form antinomies, there is everything you would want except for one thing - the antinomy of order and chaos. The great dialectician seemed to have ignored this antinomy. And it is no coincidence: this reflects the state of science and philosophy of that time. Therefore, synergy is by no means a replacement of the old development theory with a new one but a far-reaching development and generalization of this old theory.

The synergetic concept of chaos (Oganyan, 2005) also differs significantly from those interpretations of this concept that absolutize chaos (modern deconstructivism): if development is a regular alternation of order and chaos, then this means that chaos has, generally speaking, creative power (ability) to give rise to a new order. At the same time, it is essential that from the

synergistic viewpoint, the birth of a new order out of chaos is not forced by some external (in relation to this reality) force but has a spontaneous character. That is why synergy is the theory of self-organization (not of organization).

The problem of the relationship between order and chaos is not limited to studying the mutual transitions of order into chaos and vice versa. The study of such transitions is only one side of the problem. The other side is in the analysis of a more subtle and complex question, namely: how, as a result of such transitions, the very difference between these aspects of reality is erased, and their synthesis is carried out. The simplest form of such a synthesis is the concept of dissipative structure- the conceptual foundation of synergy. Unlike equilibrium structure, the dissipative structure can exist only under the condition of constant exchange with the environment, in the general case, matter, energy and information. As a result of this exchange, it maintains its orderliness (in physical terms- low entropy) by increasing disorder in the external environment (due to, so to speak, “releasing” excess entropy into the external environment).

Thus, the synthesis of order and chaos in the concept of dissipative structure has two aspects: a) its “order” exists only due to the “chaos” penetrating into the environment; b) due to its “order,” it acquires the ability to respond adequately to the chaotic effects of the environment and thereby maintain its stability; “chaotic” traits appear in its ordered behaviour, but these traits become a necessary condition for its “ordered” existence.

1. Just as one can distinguish between static (repetition only in space) and dynamic (repetition in time) order, one can also distinguish between static (disorder in space) and dynamic (disorder in time) chaos.
2. Hence, the complete groundlessness of the accusations made by the humanists against the synergetic approach to social phenomena is clear: no “reduction” of social patterns to natural ones occurs when using the synergetic method for the reason that the concept of dissipative structure has a general scientific character.

2. Mechanism of Transition Between Order and Chaos (Phenomenology of

Self-Organization)

The second question that arises in the philosophical and methodological analysis of the laws of self-organization is how self-organization occurs (Oganyan & Branskiy, 2003). The richest experience of social development on Earth, over the course of several millennia, unequivocally testifies in favour of the fact that social self-organization occurs in the form of alternation of two mutually exclusive processes - hierarchization and dehierarchization. Hierarchization is a sequential integration of elementary dissipative structures into dissipative structures of a higher order; dehierarchization is the sequential disintegration of complex dissipative structures into simpler ones. In practice, this is manifested, in particular, in the periodic formation of grand empires and their subsequent catastrophic collapse. But this is a common thing not only in the sphere of politics but also in any other social institution. In the sphere of political life, this process is simply more dramatic and therefore attracts special attention.

A deeper insight into these processes shows that they proceed in different directions: dissipative structures can integrate into different sequences and according to different rules resulting in the emergence of hierarchical systems of various types. A similar pattern is seen in the case of dehierarchization: complex dissipative structures can disintegrate into simpler ones in a number of different ways, as a result of which dissipative structures of different types also appear in the role of more elementary structures. However, the range of directions in which hierarchization or dehierarchization can proceed is by no means arbitrary: it is determined by the nature of the system that is undergoing this evolution and by the nature of the external environment. In other words, it is determined by a bifurcation - a branching of the old quality into a finite set of well-defined potentially possible new qualities. This is the so-called nonlinearity of the first kind, which gives the self-organization process from the very beginning an ambiguous (“stochastic”) character. The transition from one state of the social system to its new state requires the choice of one of many possible new structures. Therefore, the traditional dynamic determinism (in the spirit of Laplace) is replaced by the essentially new “stochastic” or probabilistic determinism (a

chain of bifurcations and a sequence of selection acts). However, the picture of self-organization is not limited to this. A chain of bifurcations can not only lead a self-organizing system away from its initial state but can also return it to this state.

3. The Essence of the Transition Between Order and Chaos (The Essence of Self-Organization)

Having found out how self-organization is made, it is natural to raise the question of why it takes place at all. What plays the role of that driving force that makes dissipative structures both specifically become more complicated and specifically simplified? (Oganyan & Branskiy, 2018).

Again, the experience of world history convincingly testifies in favour of the fact that the role of the driving force responsible for self-organization is played by social selection. It makes clear both the spontaneous and stochastic character of social self-organization. To understand how it achieves this, it is necessary to examine the main factors of social selection. They are thesaurus, detector and selector. The thesaurus ("treasury") is a set of possible dissipative structures that potentially arise in the depths of this actually existing structure as a result of the corresponding bifurcation. The role of a detector that selects a certain bifurcation structure from the thesaurus and thereby transforms it from a possibility into reality (an abrupt transformation of reality, which has different names - fluctuation, mutation, phase transition, etc.), is played by the internal interaction of the social system elements. At the same time, it is important to pay attention to its dual ("contradictory") character: it is not just a competition ("struggle") of elements opposing each other but also the cooperation of elements that assist each other in this "struggle". Thus, the role of the detector is played by the contradictory unity of competition and cooperation, whose dynamics are difficult to predict. The behaviour of this "unity" is well known from history as a "change in the balance of power" in a given social situation. It becomes especially difficult to be grasped and highly mysterious and enigmatic when the number of elements interacting within the system is very large. And this is exactly the case in many social systems. But that is not all. A third factor intervenes in the process

of social selection, which, for example, Darwin did not take into account at all in his theory of biological selection. Let us note that the synergetic theory of social selection differs significantly from the Darwinian theory of biological selection in two more respects: 1) selection from a set of not real elements but possible structures; 2) choice with the help of not only competition but also cooperation, Darwin's emphasis is on competition - the "struggle for existence". This factor was called a selector and, with an insufficient depth of analysis, can easily be mixed with a detector. To understand the subtle difference that exists between a detector and a selector, the following must be taken into account. As the study of not only social but also natural self-organizing systems shows, the desire of such systems to complicate (in the course of hierarchization) or simplify (in the process of dehierarchization) is due to the desire to achieve maximum stability in relation to possible actions from the environment. The law of relationships between the internal interaction in the system with its external interaction with the environment determines the principle of stability, on the basis of which the detector must choose from a variety of possible bifurcation structures the most stable (in the given environment) structure. It is clear that this principle will depend on the specific relation of the internal interaction in the system to the nature of the environment. Therefore, one and the same detector under different external conditions can "use", generally speaking, different selectors. Thus, only the interaction of all three factors - thesaurus, detector and selector - makes clear the creative power of social selection and its ability to work "miracles". These "miracles" are manifested in the so-called non-linearity of the second kind - disproportionality between effect and cause (in contrast to the "linear" processes, which are characterized by the proportionality of the effect to cause). Small impacts on a self-organizing system can lead to very large consequences ("a mouse will give birth to a mountain"), and large ones can lead to completely insignificant ones ("a mountain will give birth to a mouse").

To fully reveal the essence of self-organization (i.e., all the factors that make its hidden meaning clear), it is necessary, however, to answer one more question: how do the results of social selection affect the factors of this selection,

i.e., is there an inverse relationship between the selection results and its factors? In popular language, it sounds like this: do peoples and governments learn from history? Contrary to Hegel, synergy gives a positive answer to this question (At the same time, two questions should not be confused: “Do the participants in the historical process learn lessons from history?” and “How do they learn these lessons?”). The fact is that, in addition to selection, there is also superselection, i.e., the selection of the selection factors themselves). This is manifested by the so-called non-linearity of the third kind (the ability of a self-organizing system to self-act). To make the selection more constructive, it is necessary to make it more radical (daring), and to make it more radical means to create an essentially new thesaurus. But the latter can be created only by subjecting the system to a new disintegration, that is, by creating new chaos. It is especially noticeable here why such an acute need for chaos arises in self-organizing systems: after all, chaos is a “boiling cauldron” in which new dissipative structures ripen (creative role of chaos).

The new thesaurus also entails a new detector and a new selector. It is easy to guess that super-selection leads to a qualitative deepening and quantitative acceleration of simple selection. From what has been said, it is clear that the essence of the social reality development is not reduced to either a unilateral increase in order or a unilateral increase in the degree of freedom (“chaos”), as many thinkers in the past believed (in particular, O. Comte adhered to the first point of view, and G. Spencer - to the second). That elementary form of synthesis of order and chaos (“freedom”), which is realized in a dissipative structure, leads to a completely new viewpoint on the essence of development when it comes to the development of dissipative structures.

It turns out that the development (“evolution”) of a dissipative structure is an increase in the degree of synthesis of order and chaos due to the desire for maximum stability. Those who doubt the revolutionary contribution of synergetics to philosophy should take into account that none of the philosophers of the past, with all the courage of their imagination, has ever come up with such an idea.

4. The Result of the Order and Chaos

Transition (Eschatology of Self-Organization)

Let us consider the methodological meaning of the increase in the degree of synthesis of order and chaos, which is observed in the process of development of dissipative structures. In other words, is there any end result in such growth, or is there no such end result? The point is that the maximum stability of a dissipative structure can be achieved only when the very difference between order and chaos disappears. Mutual transitions between order and chaos will then become impossible, and the growth of the degree of synthesis of order and chaos will lose its meaning. (Oganyan & Branskiy, 2003).

A complete synthesis of order and chaos in which any difference between them disappears means the emergence of a dissipative structure that is resistant to any modifications of the external environment; in other words, it is stable with respect to absolute chaos. The formation of such a social system should refute Hobbes’ famous aphorism: “Nothing created by mortals can be immortal”.

We see that self-organization is a balancing act between simple and strange local attractors. A hypothesis arises that balancing is not devoid of a certain tendency, namely: it is a movement toward the above-mentioned global attractor. The social self-organization theory, however, allows us to assert something more: such an assumption would be only a hypothesis if only ordinary selection took place, and it would not come to superselection.

But it is the latter that makes the existence of a global attractor (super attractor) not only possible but also necessary. After all, superselection involves the improvement of the very principle of stability used for ordinary selection. And the sequence of principles of relative stability has a limit in the form of the absolute stability principle.

So, to S. Lem’s question in his “Sum of technology” (“Is there a ceiling of the complexity of the system?”), social synergy (unlike Prigogine’s physical synergy) gives a positive answer (A vivid example of the irreducibility of social synergy to its physical predecessor). How can one imagine the nature of the super attractor, more specifically, without falling into the temptation of groundless speculation? (Oganyan, Branskiy, &

Oganyan, 2018).

Thus, it is clear that this should be the limit of the cultural development of mankind, and such a limit should be the limit of technical and artistic development. The first limit is nothing more than an absolute technical product (the sphere of complete dominance in all public affairs of the collective mind, or what is commonly called the “noosphere”). The second limit is the absolute work of art (the sphere of complete dominance in public affairs of a universally valid feeling, or what might be called the “aesthetic sphere”).

Consequently, the super attractor is a peculiar synthesis of seemingly mutually exclusive opposites - the noosphere and the aesthetosphere, i.e. a synthesis of great technical and no less great artistic ensembles. Such a synthesis presupposes the transformation of man, with his relative freedom and relative morality, into a superman with his absolute freedom and absolute morality.

Let us emphasize that the concept of the superhuman in social synergy differs significantly from that of Nietzsche

The supreme moral law for superhumanity in its synergetic understanding is the principle of universal utility and universal expressivity (respectively, humanity and superhumanity possessing monstrous technical and artistic power). If the super attractor should really form (as social synergy asserts), then the meaning of the global social self-organization (otherwise, the meaning of the world history) is in superhumanity - the formation of superman and superhumanity (in their synergetic understanding) and the transition from ordinary conscious life to the so-called “superlife”. By the latter, is meant the superattractor’s control.

It is easy to see that social synergy allows a completely new approach to the most acute problem of traditional “philosophy of history” – Does social history have an end, or may there not be such an end? (eschatological problem). As we know, all philosophical conceptions of world history are divided into two groups: finalist (recognizing the finality of history) and infinitive (denying this finality). From the viewpoint of social synergy, the question is not correct because in this formulation it excludes the possibility of an unambiguous answer. It turns out that the posed question should be answered as follows: world history has an end in one respect, and no such end in another. On the one hand,

there must be a limit to the cultural development of mankind, but, on the other hand, the movement to this limit must be infinite. To approach this limit, it is necessary to overcome existing social contradictions, but overcoming some contradictions generates new contradictions. Nevertheless, super selection (learning from overcoming previous contradictions) generates a tendency to minimize new contradictions. This tendency makes it possible to get as close to the superattractor as possible without ever reaching it at the same time in a finite period of time. Thus, the superattractor resembles an asymptotic point in logarithmic spiral.

If we now look at the movement to the superattractor purely phenomenologically, i.e. without resorting to rational analysis, both the superattractor itself and the movement to it will be colored in highly mysterious tones. At once we will be enveloped in an atmosphere of mystery, and mystery, as we know, gives rise to a mystical feeling. Supertractor will shine before our mental gaze as “paradise” (Dante), “Shambala” (N. Roerich), “point Omega” (Teilhard de Chardin), etc. Superselection will look like some mysterious superpower (H. Spencer), world spirit (Hegel), universal will (Schopenhauer), life impulse (Bergson), etc. The mystical aura of such notions as superattractor and superselection will become even stronger when it turns out that supermen can be interpreted as a peculiar phenomenon of the absolute man. Just as there is specificity in the synergetic understanding of superman compared to Nietzsche's interpretation of this concept, there is also specificity in the synergetic interpretation of absolute man compared to this concept by Feuerbach (spiritual community of people of all generations) in the image of the superman. Since absolute man is, in principle, unobservable and invisible, while superman can be made potentially observable and visible, it would not be difficult to give these concepts a traditional religious meaning.

Social synergy, however, not only reveals the scientific foundations of religious thinking but also shows the limits of this thinking.

In a purely phenomenological (and, insofar, mostly emotional) approach to the question, the superattractor at first sight resembles the Aristotelian “final” or “purpose” cause and, therefore can easily be interpreted as a certain global “goal” to which humanity strives in its develop-

ment. However, an in-depth rational analysis of its nature indicates the incorrectness of such an interpretation on the following grounds:

1. System's aspiration to superattractor is conditioned by its aspiration to maximum stability, and such aspiration is a more general concept than the aspiration to the goal. Aspiration to stability can be manifested in the form of aspiration to the goal (desire is a consequence of instability of social state) and can be not connected with the goal at all;
2. The goal is a subjective image, and the embodiment of this image, in reality, is the result of the subject's conscious activity. Meanwhile, superattractor is a limiting state of material system's self-organization. Such a state is the result of the collision (interaction) of different purposeful actions, generally speaking, interfering with each other. In this respect, the movement of the superattractor is aimless. Social synergetics, for the first time, showed the inappropriateness of mixing such notions as "goal" and "meaning": the absence of a goal does not mean the absence of meaning (movement to the superattractor). It was this mistake made by Popper in his "Poverty of Historicism": that led him to misconception deduced from the absence of a goal that history has no meaning;
3. The Aristotelian notion of a "purposive" cause presupposes the independence of that cause from acting causes. Meanwhile, the superattractor has no such independence because it is the product of a very complex and subtle interaction between the internal interaction of elements in the system and the external interaction of the system as a whole with the environment.

To summarize the synergetic approach to the eschatological problem, we can say the following. The seeming "mysticism" of the superattractor is due to the non-linearity of the movement process towards it. There is nothing surprising in the concept "superattractor" if we take into account the triple meaning of the non-linear nature of the action-cause relation:

- a) ambiguity of action (stochasticity; non-linearity of the 1st kind);
- b) disproportionality (non-linearity of the 2nd kind);
- c) reactivity (feedback; non-linearity of the 3rd kind).

5. Methodological Structure of Self-Organization

The specificity of social self-organization is that we should distinguish self-organization on the ontological, gnoseological and axiological levels. On the ontological level, social self-organization manifests itself in the form of differentiation and integration of social institutions; on the gnoseological level - in the form of differentiation and integration of knowledge (in particular concepts); on the axiological level - in the form of differentiation and integration of values (ultimately, common desires and related social ideals) (Oganyan & Branskiy, 2014a).

It should be emphasized that differentiation and integration of institutions and knowledge have been known for a long time before. In contrast, both differentiation and integration rules of social ideals have not been realized and, therefore - almost completely ignored until recently. Basically, these rules have the following meaning. In the course of the struggle of ideals, they first bloom, causing a violent euphoria, and then, sooner or later, invariably crumble ("history is a graveyard of ideals" (Jaspers)). On the other hand, this process is not a meaningless "vanity of vanities": in the course of their crumbling, their private human (noninvariant) features are discarded, and the universal (invariant) ones are preserved. Therefore, the meaning of the struggle among ideals lies in metaidealization - idealization of the ideals themselves, as a result of which a universal ("absolute") ideal is gradually formed and realized from the multitude of private ("relative") ideals that are crumbling. It is as if a solid nucleus is "peeled" out of its fragile shell. Moreover, without periodical testing of relative ideals, it is impossible to understand the content of the absolute ideal because the collapse of the utopian traits in ideals means to distinguish invariant traits in ideals of different peoples and epochs (Oganyan & Branskiy, 2014a, 2014b).

Obviously, superattractor is nothing but the result of the realization of the universal ideal. This explains its unshakable stability - "absolute artistic work" (Schelling), or "imperishable cosmos of beauty" (V. Solovyov). World history, i.e. the process of social self-organization in its entirety can therefore be regarded as a global artistic creation. The role of the creator here is humanity as a whole, and the role of the artistic

work is the whole world transformed by it. Local artistic creativity is only a faint hint of this global process. Unlike local creativity, which has meaning and purpose, global creativity is filled with deep meaning but does not pursue any goal.

The obvious question is how such concepts as “social self-organization” and “social progress” relate. In contrast to nature, social self-organization is a very complex and subtle interaction of differentiation and integration of social institutions with differentiation and integration of social ideals. Therefore, unlike nature, in the development of society, objective order and objective chaos are intertwined in the most bizarre way with ideological (“subjective”) order and chaos.

6. Relation of Social Synergy to Classical and Modernist “Philosophies of History”

We believe in order to properly assess the scientific and practical importance of social synergy and its novelty, avoiding both terminological euphoria and methodological phobia, we should compare the synergetic concept of history with the known historiosophic concepts (see Branskiy, 1999, 2000; Budanov, 2007).

The latter can be conventionally divided into classical (V-XIX c.) and modernist (late XIX-XX cc.). The former, in turn, can be divided into three groups: the concepts of divine manifestation (Augustine et al.), the historical cycle (Vico et al.) and global progress (Condorcet, Herder, Hegel, Comte, Marx et al.). The latter form two groups: the concepts of local civilizations (Danilevsky, Spengler, Toynbee, Sorokin, etc.) and absolute chaos (philosophical deconstructivism of the last third of the 20th century). Attention should be paid to a peculiar terminological mishap associated with the identification of the concepts of absolute chaos. In the contemporary philosophical literature, they are usually referred to as “postmodern”. Such terminology, however, can be misleading because postmodernism always represents a kind of ignoring, but on the basis of modernism. This means that postmodernism is a kind of synthesis of modernism and the classics. Concepts of absolute chaos, on the other hand, move even further away from the classical traditions in their historiosophic constructions. Therefore, they represent not post but supermodernism. Their novelty in comparison

with the concepts of local civilizations is not in ignoring the role of chaos in history (the idea of chaos is also present in the concepts of local civilizations) but in denying the role of order and, in that way, the creative role of chaos. Social synergetics shows that supermodernism is a preparatory stage for the formation of real (constructive) postmodernism.

Thus, social synergetics turns out to be a real postmodern “philosophy of history”, highlighting with the utmost clarity both the strengths and weaknesses of classical and modernist historiosophic concepts.

7. Practical Value of Social Synergy

The theory of social self-organization allows a logical and methodological new approach to solving a number of fundamental problems of the philosophy of history, namely the problem of (Oganyan, 2003):

1. historical determinism (“everything is allowed” or “everything is predetermined”);
2. nature of social crises and the ways of overcoming them (whether the crisis-free development of society is possible);
3. the driving forces of history (identifying particular social strata as a main engine of history);
4. the criterion of social progress (whether there is an objective criterion of such progress);
5. the role of social ideals and utopias (are they necessary or only possible);
6. the existence of a limit to humanity’s cultural development (whether such a limit exists);
7. the possibility of long-term social forecasting (whether Popper’s criticism of such forecasting is valid or not);
8. possibilities of coordinated development (“co-evolution”) of society and nature (whether mankind should continue transforming nature or whether it should stop interfering with the natural course of natural processes).

Let us illustrate the novelty of the synergetic approach to these problems with the example of the problem of coevolution. From the point of view of this approach, social self-organization is the post-evolution of nature, i.e. the continuation of nature’s development at a higher level. Therefore, the transformation of nature by man in the course of his life activity is a continuation of nat-

ural development. Hence, it follows that the very notion of co-evolution of society and nature has no sense: the cause of negative phenomena related to the transformation of nature by man lies not in the transformation of nature as such but in the character of this transformation (determined by a corresponding social ideal). As is known, social ideals have utilitarian and spiritual components. The role of the former is played by economic and political ideals, while the role of the latter is played by ethical, aesthetic, and worldview ideals. Negative phenomena in the transformation of nature arise when either spiritual ideals are sacrificed for the sake of utilitarian ones or utilitarian ones for the sake of spiritual ones. Obviously, to prevent negative phenomena, it is necessary to coordinate the utilitarian development of society with its spiritual development. Consequently, in order to successfully post-evolve nature, it is necessary to ensure coevolution (coordinated, harmonious development) of the utilitarian and spiritual components within the global social system.

Thus, from the view point of social synergetics, the problem of coevolution acquires a completely new meaning, and its very formulation changes significantly. Hence, by the way, it follows that generally speaking, it is necessary to strengthen the transformation of nature (space and biological engineering in the XXI century), but this transformation should be combined with the transformation of social ideals that determine the character of nature transformation (social engineering in the XXI century carried out and regulated by the law of differentiation and integration of ideals). On this condition, even a very radical transformation of nature may not only contain any danger but prove to be a great boon.

Conclusion

1. The complete exchange of matter, energy and information are characteristic only for very complex dissipative structures, which are biological and social structures. For a long time, it seemed that only equilibrium structures in non-living nature could exist stably. The 20th century's outstanding discovery was the discovery of dissipative structures in inanimate nature, which existed due to the exchange of matter and energy with the environment

(Benard hydrodynamic cells, Belousov's chemical clock, etc.). Thus, an intermediate link between equilibrium structures and information dissipative structures was found so that the concept of dissipative structure acquired a general scientific character.

2. However, for a particular system interacting with a particular environment, there is an attractor - a limiting state, reaching which the system can no longer return to any of its previous states. The existence of attractors is easily seen by observing both hierarchization and de-hierarchization. On the one hand, the hierarchization process under conditions of interaction with the external environment cannot continue indefinitely; having reached a certain limiting state, it stops (a so-called simple attractor). The same happens to the process of dehierarchization: the disintegration of the system ends when it reaches a certain limiting state (the so-called strange attractor). From this point of view, the dissipative structure undergoes many bifurcations balancing between simple and strange attractors. In this case, if we take as the initial reference system not the state in which reality undergoes hierarchization, but the state in which it undergoes de-hierarchization, then the process of self-organization takes the form of alternating differentiation and integration of social reality.
3. Methodological analysis suggests that the essence of social reality development is not reduced to either a unilateral increase in order or a unilateral increase in freedom ("chaos"), as many thinkers in the past believed (in particular, O. Comte held the first view, and H. Spencer- the second). That elementary form of synthesis of order and chaos ("freedom"), which is realized in dissipative structure, leads to a completely new view point on the essence of development when it comes to the development of dissipative structures. It turns out that the development ("evolution") of dissipative structure is the growth of the degree of synthesis of order and chaos conditioned by the aspiration to maximum stability. Those who doubt the revolutionary synergetic contribution to philosophy should consider that none of the philosophers of the past came to such an idea.
4. Overall, the analysis undertaken shows there

is no “objective” criterion of social progress independent of social ideals. This leads to a very important conclusion: relative progress is determined by the realization degree of the relative ideal, while absolute progress is determined by the degree of realization of the absolute ideal (i.e., the degree of approaching to superattractor). Since the social ideal includes economic, political, ethical, aesthetic and attitudinal aspects, any of these attributes taken separately cannot be considered a criterion for absolute progress. From the point of view of social synergetics, the criterion of such progress can only be the degree of approach to full harmony of all these aspects of the social ideal. Paraphrasing M. Gandhi’s famous words, we can say that the social ideal is like a jewel with its own lights shining in each facet. The analogue of global progress, in this case, would be such a faceting of this stone, in which all the lights form a single jewelled ensemble.

5. If we compare synergetic historiosophy with the analysis done, it is easy to see a clear tendency toward creative synthesis, supported at the same time by vigorous, constructive criticism. Indeed, social synergetics, as we have seen above, represents a revival of the concept of global progress. However, it is no longer the “linear” (“infinite” or “finite”) progress that the founders of progressivism wrote about. Global progress is now nonlinear and asymptotic. Moreover, it grows on the ruins of the parabolic evolution of local civilizations, and its very formation is impossible without such an evolution. Moreover, the picture of global progress becomes more complicated in one more respect: progressive development now looks contrary to what former progressives were accustomed to, as an alternation (cycle) of order and chaos. Chaos is organically woven into the picture of progress, but it retains its creative character generating new order. Finally, and most surprisingly, the picture of global progress, when viewed from a certain angle, looks like the phenomenon of absolute man in the image of superman.
6. Thus, the practical significance of the theory of social self-organization is that not only does it not avoid answering the three most burning questions that have been troubling

humanity for centuries (without considering them “metaphysical”, old-fashioned or “naive”), but it also gives non-trivial answers to them. The question “Where are we going?” is answered very briefly: “To the super tractor”. To the question “Who is to blame?” we get a more lengthy answer: The contradictory nature of social reality is manifested in the fact that every time we overcome some social contradictions, new ones arise instead. Finally, the question “What to do?” gives a very long, complex and cunning answer which, in first approximation, sounds like this: To search for the form of synthesis of order and freedom (“chaos”) that is optimal for the given historical conditions. What does this synthesis mean in practice? A combination of regimentation of some kinds of activity and liberalization of others; in other words, reaching a certain balance between “tightening the screws” in some spheres of activity and “loosening them” in other spheres. That is what clever politicians usually do.

7. But where do we look for the criterion of optimality? Aristotle noted that the optimum is opposed to the extreme and is the “golden mean” between the two extremes. To find this middle ground, we must know these extremes. In fact, with regard to social self-organization, such extremes (as world history shows) are 1) on the ontological level- totalitarianism (the cult of order) and anarchism (the cult of freedom); 2) on the gnoseological level- dogmatism (the cult of principles) and scepticism (the cult of rejection of principles); 3) on the axiological level- utopianism (the cult of future) and pragmatism (the cult of the present). The form of synthesis of order and freedom optimal for the given historical conditions is determined by the specific form of these extremes manifested in the given historical conditions. Finding the “golden mean” between these two extremes makes it possible to find a similar middle ground between the two ultimate extremes that determine all human behaviour - rosy optimism and black pessimism. The principle of dramatic, i.e., sober optimism, plays the role of such a middle ground. Only this principle makes it possible to combine the most exalted romanticism with the soberest realism and to ensure “firmness of spirit” in any critical situation.

8. The above suggests that the struggle against only one extreme inevitably leads to a slide to the other extreme. For example, the one-sided Marxists struggle against anarchism eventually led to totalitarianism, just as the one-sided struggle against totalitarianism can lead back to anarchism. So the search for the “golden mean” always entails a simultaneous struggle against both extremes.
9. The alliance of the entrepreneurial, innovative behaviour of a small firm with the financial, marketing power and distribution (sales) channels of a large corporation generates a significant competitive advantage for both parties. It is in this way that a new system is formed, which provides the transition from chaos to order. This transition is now thought of as a selection action allowing the choice of the most effective ways for the development of socio-productive structures. In a broader sense, we can talk about the integration of technical and sociocultural worlds on which the further fate of human civilization depends.

References

- Branskiy, V. P. (1999). *Iskusstvo i filosofiya* (Art and philosophy, in Russian). Kalinin-grad: Yantarnyy Skaz.
- Branskiy, V. P. (2000). *Sotsial'naya sinergetika i teoriya natsiy* (Social synergetics and theory of the nation, in Russian). Saint Petersburg: Izd-vo Akmeol.
- Budanov, V. G. (2007). *Metodologiya sinergetiki v postneklassicheskoy nauke i obrazovanii* (Methodology of synergetics in post-non-classical science and education, in Russian). Moscow: LKI.
- Hacken, G. (1985). *Sinergetika* (Synergetics, in Russian). Moscow: Mir.
- Hacken, G. (2003). *Tayny prirody. Sinergetika: ucheniye i vzaimodeystviye* (Secrets of nature. Synergetics: Scientists and interaction, in Russian). Moscow-Izh-evsk: Institute for Integrated Studies.
- Kagan, M. S. (1996). *Filosofiya kul'tury* (Philosophy of culture, in Russian). Saint Petersburg: SPbGU.
- Knyazeva, Ye. N., & Kurdyumov, S. P. (2018). *Osnovaniya sinergetiki. Chelovek, konstruiyushchiy sebya i svoye budushcheye* (Fundamentals of synergy. A person who designs himself and his future, in Russian). Moscow: Librikon.
- Oganyan K.M., Branskiy, V. P., & Oganyan K. K. (2018). *Teoreticheskoe i empiricheskoye obosnovaniye sotsiologicheskogo osmysleniya zhizni s pomoshch'yu ponyatiya "superattraktor"* (Theoretical and empirical substantiation of the sociological understanding of life using the concept of “Superattractor”, in Russian). *Sotsiologiya i pravo (Sociology and Law, in Russian)*, 1(39), 31-38.
- Oganyan, K. M. (2003). *Prakticheskoye znacheniyeye sotsial'noy sinergetiki* (The practical significance of social synergy, in Russian). In K. M. Oganyan, K.K. Oganyan, & Ja. A. Marguljan (Eds), *Nauchnaya konferentsiya: Sotsial'nyye tekhnologii: teoriya i praktika* (Scientific conference: Social technologies: Theory and practice, in Russian) (pp. 53-57). Saint Petersburg: SPbGIEU.
- Oganyan, K. M. (2005). *Sotsial'nyye tekhnologii kak forma sotsial'noy samoorganizatsii, sredstvo obshcheniya poznaniya i vzaimodeystviya* (Social technologies as a form of social self-organization, means of communication, knowledge and interaction, in Russian). Saint Petersburg: Osipov.
- Oganyan, K. M. (2012). *Sotsial'nyye tekhnologii v obshchestve: istoriko-metodologicheskii analiz* (Social technologies in society: Historical and methodological analysis, in Russian). In A. O. Baranoyeva, & K. M. Oganyana (Eds.), *Materialy mezhdunarodnoy nauchno-prakticheskoy konferentsii - Chetvertykh Sankt-Peterburgskikh sotsiologicheskikh chteniya 19-20 aprelya 2012 goda* (Materials of the international scientific-practical conference of fourth Saint Petersburg sociological readings, 19-20 April 2012, in Russian) (pp. 320-328). (Vol. 1). Saint Petersburg: SPbGIEU.
- Oganyan, K. M., & Branskiy, V. P. (2003). *Mekhanizm perekhoda mezhdu poryadkom i khaosom (fenomenologiya samooorganizatsii)* (Transition mechanism between order and chaos (Phenomenology

- gy of self-organization), in Russian). In K. M. Oganyan, K. K. Oganyan, & Ja. A. Marguljan), *Sotsial'nye tekhnologii: teoriya i praktika: Mezhvuzovskaya nauchno-prakticheskaya konferentsiya, 13, 14 iyunya 2003 goda: Materialy. otchet* (Social technologies: Theory and practice: Inter-University scientific-practical conference, June 13-14, 2003, in Russian) (pp. 38-40). Sankt-Peterburg: SPbGIEU.
- Oganyan, K. M., & Branskiy, V. P. (2014a). *Vlijanie sotsial'nykh idealov na formirovaniye etnicheskikh stereotipov* (The influence of social ideals on the formation of ethnic stereotypes, in Russian). *Vestnik KRSU*, 14(6), 65-69.
- Oganyan, K. M., & Branskiy, V. P. (2014b). *Zakon differentsiatsii i srednikh natsional'nykh stereotipov* (Law of differentiation and average national stereotypes, in Russian). *Vestnik KRSU*, 14(7), 195-199.
- Oganyan, K. M., & Branskiy, V. P. (2018). *Sotsial'naya sinergetika* (Social synergy, in Russian). Saint Petersburg: Petropolis.
- Oganyan, K. M., Oganyan, K. K., Pyzh, B. B., & Petrov, C. H. (2018). The self-organization law of intersubjective ideals: The problem of chaos, order, freedom and liability relationship. *WISDOM*, 11(2), 71-84.
- Prigozhin, I., & Stengers, I. (1996). *Poryadok iz khaosa* (Order out of chaos, in Russian). Moscow: Progress.