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Research Paper

Social transformations in bifurcation fields of self-organizing systems: methodological and conceptual aspects

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Abstract

The article considers different methodological approaches to studying the modern society undergoing a process of transformation. The authors stipulate that the modern society should be considered in its dynamics as a society of social transformations; expound on the need for a correct and adequate semantic formulation of significant issues of non-linear development of the society within the frameworks of the philosophy of science and the social philosophy; demonstrate different levels of application of the concepts and semantic representations in the research into social transformations at the level of complex systems; and reveal that in the study of social transformations within a transitional society it is appropriate to state that the social synergetics allows modelling some aspects of the creative practical activity of a cognizing social actor. Specifics of the development of social transformations in bifurcation fields in the context of non-linear development of the society are identified and discussed.

Keywords: *Methodology; Social Transformations; Non-Linear Development; Social Actor; Self-Organizing Systems; Periods of Transit; Alternativeness; Bifurcation Field.*

1. Introduction

The non-linear analysis in the studies of social transformations can be very productive, because it expands the research subject field, promotes a comprehensive understanding of modern global social transformation and helps to specify the role of social actors in such processes in relation to priority areas of social stabilization. At the current stage of social development there is a great variety of methodological approaches actively used within various research programs. It is undoubtedly very important to find theoretical grounds and methodological approaches to considering such phenomena as, for example, the internal structure of the development of the contemporary transitional society, but of higher priority today are the issues related to the ontology of socio-philosophical knowledge. In this connection, we definitely have to consider the modelling, which is now being actively discussed in a number of sources in relation to the development of new approaches and methods of research into a transitional society. A considerable attention is also paid to the analysis of issues related to studying the modern society in its dynamics as a society of social transformations, especially as our society now is actually in the process of certain changes, transformations and general modernisation.

1.1. The aim of the article

Is to describe the specific features of social transformations in the non-linear development.

1.2. Research methods

The methodological framework for this study involved general methods and principles of philosophical studies, including the historical and systemic approach based on specificity, comprehensiveness, concrete/abstract and logical/historical integration in the social cognition, as well as such socio-philosophical methods as the analogy, modelling, and retrospective and comparative historical analysis.

1.3. Main results and conclusions

The issues addressed in this article:

- An analysis of the retrospective historical approach to the interpretation of social transformations and the specific conceptual patterns of considering transit periods;
- Concepts and semantic representations used in the research into social transformations;
- Specifics of the alternative development of social transformations, taking into account temporal referents;
- Social transformations in the non-linear development.

1.4. Actuality

In philosophical studies there has been a long tradition of research into the role of temporality and transitiveness in the socio-historical development, including the ideas of Aristotle, Hegel, J. Locke, G. Leibniz, I. Kant and other philosophers. Specific properties of socio-philosophical consideration of the concept of transitiveness basically set the direction for formation of an adequate conceptual apparatus for the study of social transformations.

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However, so far the intensive research into transitional periods (periods of transit) in the context of self-organizing systems have not led to systemic generalizations, both in content and concepts. Limitations of the theoretical and methodological tools of the systemic analysis predetermined the local nature of representations of a transitional society in the studies of social dynamics. The notion of a transitional society is actively discussed in the post-non-classical science [1].

2. Results

- A social actor is presented as an initiative and active subject, not only initiating alternatives of social development in social transformations, but also explicitly paying attention to the exploratory nature of the alternatives emerging in the periods of transit. This allows raising issues related to modelling of social transformations and those constructs of historical and social processes that are characteristic of a modern developing society.
- It is appropriate to talk about the attitude of the social actor to the completeness of concrete alternatives for social development, and it is this completeness that makes it possible to state that a certain alternative within the framework of the social transformation is rightfully chosen, being correct, rational and analytically structured.
- Modelling of social transformations prioritizes the acceptance of initially defined prerequisites, further realised in specific local solutions. Such solutions presuppose the construction of models that correlate not only with the concrete results of the activity of a social actor, but are aimed at the expected usefulness in the context of the social actor's activities in relation to the complex of social events within the social transformation.
- Exploring social transformations, crisis periods, including crises of instability and uncertainty in the transitional periods of social development, scholars should take into account the fact that various problems and questions arise as to how a social actor studies such social processes.
- If the consideration of social development passes to the stage of a synergistic representation of a social actor and consideration of the social actor's possibilities, then, of course, in the forefront of the research there will be a question on how a person as a social actor can take part in the formation of complex systems and the development of related processes, and, in general, what role an individual would play in such social transformations.

3. Discussion

The scholars have used various approaches to studying social transformations, starting with sociocultural and sociological treatments, with recourse to the sphere of political and legal transitology. Such approaches to the study of social transformations can be quite useful, but sometimes, as a results, the philosophical aspect of the research is relegated to the background. The main emphasis in such local discussions shifts to interdisciplinary problems, and the priority could be given to political and sociological aspects. Therefore, the research into properties and distinctive characteristics of social transformations is sometimes fragmentary. With the increased intensity of the social development dynamics, it has become especially important and relevant not only to consider social transformations in their entirety, but also to represent them as multi-level phenomena, which requires studying the development mechanism, internal structure and the specifics of formation and functioning. The concepts of preference, temporality, general validity, reliability and other similar notions are now actively used in the integral studies of social transformations. Some aspects were considered by A. Turgot, F. Nietzsche, G. Hegel, A. van Gennep, H. Spencer, K. Marx, M. Foucaul and other thinkers. Such a great variety of approaches to studying the structure and specifics of social transformations in the context of social transitiveness has had a certain impact on the diversity of views on the subject, and we can state that the ideas and concepts of social transformations have been formulated and widely discussed, albeit from different angles, in the philosophy of life, positivism, philosophical anthropology, existentialism and phenomenology.

In today's social and philosophical literature, the research into social transformations implies the use of such notions and concepts as evaluation, time, and structure, without exclusion of the individual psychological parameters of a social actor studying the available approaches to social transformations. These issues were addressed in the works by such famous Russian scholars as [11-13] who actively develop the concept of the post-non-classical theory and post-non-classical rationality, emphasizing the active position of the social actor in the alternatives of a transforming society. Consequently, of particular importance is now the theory of alternative trends related to the transit periods in situations where the real versions of social being are studied at different levels. In this regard, we cannot but mention the conceptual-semantic aspect of the theory of "possible worlds", mostly associated with the works of G. Leibniz, S. Kripke, R. Montague and J. Hintikka. This concept has many followers among Russian scholars.

Different aspects of correlation between social transformations and the content and structure of social processes were considered in the works [2-10].

4. Conclusion

The bifurcation field can be presented as a kind of transitional period, within which the transit phases, periods and stages are studied and which is characterised by a combination of intervals and discreteness; accordingly, the moments with which various interpretations of various social transformations will be correlated can be indicated in the intervals of transition. We cannot state that any linear processes occur in the complex systems considered in the framework of social synergetics. Complex social systems pass through different levels during their existence, and, undoubtedly, considering positive variants in this case, we can state that, when a complex social system evolves to a higher level, the problems that are associated with society in this situation will be directly linked with the social transformations taking place in this society. Therefore, in the context of social synergetics, this situation can be considered as transitiveness – a forced transitional period that will further become a basis for certain characteristics of social transformations, which will not be based on linear development, but will have some kind of social-synergetic dimension.

There is an urgent need for a sound and adequate representation of the social development within the systemic conceptual and semantic frameworks of the social philosophy, especially as we have to admit that in contemporary studies there is no unambiguous understanding of requirements for a dynamic system of categories that really could adequately describe currently observed social developments. Moreover, if we include into consideration not only linear processes of social development but also non-linear processes, we are faced with new conceptual issues that require their own social framework, techniques and methods of research. In this connection, another interesting but rather complicated issue naturally arises – that of correlations of linear and non-linear methodological approaches in combination with the theoretical foundations of linear and non-linear development. Within the framework of the non-linear development itself, researchers inevitably have to deal, in one way or another, with the complex systems in which various social transformations also take place, so, naturally a question arises on whether the concepts used for consideration of linear development can actually correlate with the scholarly apparatus of social synergetics, for example, or whether in this case it is necessary to conduct some sampling procedures to check compatibility of these devices. On the other side, taking into account the fact

that the research subject in this case is a multi-level development, we should state that there are different levels of application of the conceptual and semantic devices when considering social transformations at the level of complex systems. [2]

This article describes one of the first attempts made in the modern philosophical literature to show distinctive features of the development of social transformations in the context of linear and non-linear social development, with a theoretical consideration of social transformations in complex self-organizing social systems, which represents a considerable contribution into formation of a conceptual framework for the contemporary social philosophy. [3]

The novelty of this approach is in the bifurcation field theory developed to adequately reflect the specifics of social transformations in non-linear development. The theory can serve as a conceptual framework for considering transitional periods within self-organizing and self-developing complex social systems and the internal dynamics of the transforming society in the socio-philosophical research field [4].

The research results have practical implications for considering philosophical, sociological and political issues of a methodological nature. They mostly refer to various aspects of the construction of social transformations within the structure of the periods of transit in the bifurcation field and the alternative scenarios of self-organizing complex systems in the context of social development, taking into account specific pragmatic and logical-semantic models.

An important aspect of considering this general issue of social transformations in today's society, which is undergoing the process of modernisation, is a great importance of such concepts as contradictions and crises. Therefore, this aspect should be definitely reflected in the methodological background for the research into this subject, as we should understand the reasons for the emergence and functioning of social contradictions before trying to solve them, and most importantly – we should find ways for their solution, especially since there may be some general approaches, though based on local mechanisms for the effective resolution of conflicts and crises. Modern science, which is characterized as post-non-classical, presents a new research paradigm, with a special role of social synergetics defined by a set of such characteristics as openness, non-equilibrium, instability, non-linearity of development, etc. It is quite clear that the development of post-non-classical science is reflected in significant variables, affecting not only its basic principles, but above all its methodological aspects. [5]

It is also clear that in such case, considering various aspects of synergetics, or rather issues related to social synergetics, we will, in one way or another, refer to the theory of self-organization within the frameworks of both the theoretical basis for the development of social processes and the methodological approaches to their effective consideration and resolution of arising conflicts. This approach seems very promising, since the issues related to the analysis of social transformations in the context of social synergetics are likely to get new research prospects and have undeniable scientific interest. The current development of scientific knowledge, its close intertwining into the entire complex of global problems and processes in correlation with the global evolutionism, considered nowadays to be one of the significant directions of the social formation, provides an opportunity to explore a certain area of original research topics, which makes it possible not only to demonstrate the importance of social synergetics within the framework of global evolutionism, but also to substantiate methodologically the place that the social synergetics actually occupies in the structure of modern scientific knowledge and, first of all, within the framework of the post-non-classical science.

In the study of social transformations within a transitional society, it is appropriate to state that the social synergetics allows modelling some aspects of the creative practical activity of a cognising social actor, and in this respect, when we look into the synergetic methodology and generally into the social synergetics in its relationship with the social processes, it should be noted that one of the most important research issues within the frames of the transitiveness concept is the question whether a social actor is capable of intervening, in one way or another, into local, underlying or more obvious processes that are characteristic, for example, for social transformations [6].

Of course, one can argue that such innovative and practical activities of the social actor can be represented without applying to the social synergetics and without taking into account the processes that occur within an active organization. But, objectively speaking, when considering non-linearity in the context of social transformations and the social development in general, the studies based on the classical methodology rarely focus on the issues of synergetics of a social actor in complex systems, because in this case the consideration of the social actor from the position of non-linearity and non-equilibrium quite naturally causes some fairly complex questions on correctness of such approach. But, on the other hand, we should mention that the contemporary scholars actively working in this area of research often not only consider the social actor as an organizer or manager of the formation of complex social systems, but, what is more important, such consideration is carried out in the context of socio-synergetic development[7].

As a matter of fact, the researcher, as a social actor, can represent the own conduct and actions in relation to such concepts as chaos and order, especially as in this case the social actor will inevitably have to deal, in one way or another, with the problem of combining order and chaos. At the same time, if we have to consider order and chaos within the framework of social development, then other issues naturally arise – for example, those of synthesis and disorganization, consistency and contradiction, and only the synergetic approach to social transformations provides such great opportunities for the social actor. Of course, considering the concepts of chaos, contradictions and order and taking into account the ideas about the process organisation, we can state that social actors and their practical activities can be studied at various levels of formation of the information society, but in this case we look into a transforming and contradictory society, so, accordingly, the dynamic system of concepts required for its reflection will certainly borrow new concepts from the field of social synergetics.

In this article we pay a special attention to fact that, if the consideration of social development passes to the stage of a synergetic representation of a social actor and consideration of social actor's possibilities, then, of course, in the forefront of the research there will a question on how a person as a social actor can take part in the formation of complex systems and the development of related processes, and, in general, what role an individual would play in such social transformations. In this situation, social transformations, as well as in the case of linear development, will consist of periods of transit, which cannot be ignored. [8]

The discourse actually brings us to dealing with very interesting related issues, (regularly raised in philosophical research literature) concerning the problems of the social development and the organized systems. We cannot announce the creation of any socio-philosophical system of knowledge, combining linear and non-linear approaches to such phenomena as social development, or we would have to state that we have now such social synergetic methodology that not only correlates with the accumulated knowledge, but also helps to solve certain social and philosophical problems. Moreover, we cannot but mention that in the existing literature only a few studies demonstrate a socio-synergetic approach to social transformations within a transitional society, for example, and even fewer consider the internal structures of the transit periods, so we can say that it is hardly possible to find comprehensive studies in this research area.

We assume that in this case, when there are some inconsistencies between the social synergetics and social transformations, and we need some methods and ways to restore certain correlations and mitigate the theoretical and methodological contradictions, we can refer to such concept of synergetics as the bifurcation point. In our opinion, the bifurcation point is one of the key concepts of synergetics. However, in the framework of social synergetics, if we carefully consider the structure of transitions from one complex

system to another complex system, we should recognize that, even in synergetics in general, bifurcation grows up to the level of a bifurcation field. If we have to consider the bifurcation field, we actually need to use the above-discussed methodology, i.e. we have to speak in terms of a moment and an interval. [9]

We assert that interval structures, in one way or another, can cover discreteness, i.e. we can state that intervals can be used to represent interval-periodic concepts of time. It is a very interesting development, because in this case a bifurcation point, transformed into a bifurcation field, grows up to the representation of a certain real interval, since in this case it is impossible to deny existence of transitions.

Such transitions occur precisely between complex systems at different levels of social development. At the same time, as far as we know, in the modern socio-philosophical literature there are no studies that would consider, even in some non-systematized form, any temporal structures – moment-interval, interval-periodic and so on, with a further moment-interval reference, and which could be further used for a comprehensive analysis of the bifurcation field itself as an interval. But, in our opinion, in this case the bifurcation field can be presented as a kind of transitional period, within which the transit phases, periods and stages are studied and which is characterised by a combination of intervals and discreteness; accordingly, the moments with which various interpretations of various social transformations will be correlated can be indicated in the intervals of transition. This is a rather interesting research area, and, as far as we know, almost nobody has worked in this direction in modern science, while this subject can be a particular research interest, especially if we imagine what is actually the interval of the bifurcation field in this case[10].

We cannot state that any linear processes occur in the complex systems considered within the framework of social synergetics. Complex social systems pass through different levels during their existence, and, undoubtedly, considering positive variants in this case, we can state that, when a complex social system evolves to a higher level, the problems that are associated with society in this situation will be directly linked with the social transformations taking place in this society. Therefore, in the context of social synergetics, this situation can be considered as transitiveness – a forced transitional period that will further become a basis for certain characteristics of social transformations, which will not be based on linear development, but will have some kind of social-synergetic dimension.

The authors do not believe that any interested party would object to such interesting, through possibly disputable, treatment of the situation. Usually critics of such consideration of the socio-synergetic paradigm consider that this approach diminishes the role of a social actor in social transformations, but, in our opinion, it is unlikely that this role can be really diminished, and we also should remember that the non-linear development, in fact, has such characteristics that make it quite difficult for people to initiate their positions directly. And again, in this case a mild correlation occurs between the activity of a social actor and those control parameters that are characteristic of any social system, naturally within the framework of the theory of self-organization. [11]

What we consider in this case is a complex social system, therefore, within its frameworks, it is quite possible to resolve the problem related to the fact that a social actor can, to varying degrees, initiate own actions in the context of a social transformation, despite the fact that it is originally supposed to be analysed from the perspective of certain control parameters. We have to admit that such situation provides the researcher, as a social actor, with very broad prospects for activities, allowing to orient the considered social transformation in the direction of the attractor, which is of interest for the social actor and is considered to be the most adequate within such paradigm. But even in this case we can speak about the innovative activity of the social actor, initiating actions with respect to complex social systems, i.e. the social actor in such situation has certain opportunities for the social choice. [12]

Such social preferences of the social actor certainly influence the very course of social development, because the choice among social alternatives will be undoubtedly related to future activities of the social actor with regards to such issues as social projection or social forecasting. We are again speaking about rather complicated issues and, first of all, about the very structure of social development, since the initial discourse on social projection and forecasting will certainly proceed from those periods of transit that were fixed by the social actor from the point of view of further consideration of those social transformations that, in social actor's opinion, represent real processes within the framework of the social development. [13]

On the other hand, it is methodologically important to note that the social projection of the transit period, as some basis for human choice among alternative development options, presupposes that modelling could be actively used in this case, and the social actor could build quite an interesting set of models of the future, which would assume that social transformations will not only effectively get rid of the existing social contradictions, but will also transfer to new stages of development, while gaining certain stability and sustainability [14].

In this case the social actor can be undoubtedly considered as a subject of innovative, objectively creative activity, and those characteristics of social synergetics that are formed at the stages of social transformation will have somewhat minor importance in relation to the social actor. This means that we are dealing with such stage of historical formation when we should focus our attention not so much on the functioning of a certain society, but on the features of its internal structure, and, in general, on the structure it has, including its temporal segments. In other words, a social actor can, for the time being, departs from taking into account the social transformations themselves and the related contradictions, relying on the social stability and sustainability. We certainly should not forget that the contradictions, crises and social transformations will constantly emerge as soon as the society begins moving to a different level of its existence. However, this is the dialectics of life, the dialectics of social development, and periods of stability will always alternate with periods of instability within the frames of social processes. [15].

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