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Social Human System as an Epistemological Problem of Complexity Theory

***Javier Alberto Piloto Rodriguez*[1] *and Evgeniya Mikhailovna Nikolaeva*[2]**

[1]*Institute of Social and Philosophical Sciences and Mass Communications/Department of Philosophy and Religious Studies/Department of General Philosophy, Kazan Federal University, Russia.*

[2]*Professor, Institute of Social and Philosophical Sciences and Mass Communications/Department of Philosophy and Religious Studies/Department of General Philosophy, Kazan Federal University, Russia.*

(Corresponding author : Javier Alberto Piloto Rodriguez)

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ABSTRACT: This article discusses the preliminary results of the study aimed at studying the features of the paradigm complexity in the social Sciences and Humanities. Its main goal is to contribute to the epistemological development of social synergetics as an independent disciplinary field, leaving behind the influence that it retains from the paradigm of complexity in the social Sciences and Humanities. The interdisciplinary nature of this study determines the volume (set) of methods used, although it focuses on a synergistic approach, thanks to which objects, phenomena and processes are studied as complex open systems characterized by self-organization. In this study, we used general scientific methods, such as analysis and synthesis, modeling and idealization, as well as concretization and abstraction. To these should be added the dialectical method, the historical-philosophical method and the synergetic approach. Complex social systems are discussed, and a distinction is made between "social human systems," which become a fundamental research problem. The most notable results are a critical proposition of the concepts "systemic paraparadigm" and "multicomplexity". The latter is revealed as the equivalent of a complexity paradigm adapted to the characteristics of the social and human sciences. The study is devoted to a very urgent problem in the epistemological and practical field.

Keywords: paradigm of complexity, social synergetics, social human systems, social complex systems, systemic paraparadigm, multicomplexity.

I. INTRODUCTION

With the formalization of the scientific paradigm in classical science in the era of N. Copernicus, G. Galileo and I. Newton, the issues of "chance", "probability", "error", "fractality", etc. were excluded from the recognized methodological norm, as not having the status of legitimacy for the search and confirmation of new truths called scientific [1].

Due to their own requirements generated by the sciences of that time, and as a result of successive changes from the state of "normal science" to the "revolution" in the paradigm (according to T. Kuhn's model), such disciplines as physics, mathematics, biology, chemistry and cybernetics were discovered the door to the new paradigm of science, known to us today as the theory of complexity [2].

The history of social sciences developed in the logic of inheritance of the methodology of natural science, but we are convinced that at the stage of its genesis, social knowledge should have searched for its own research approaches, all the more this problem remains relevant in modern studies. Since they seek and understand the truth, its validation and conceptualization have their own specifics, therefore, social cognition should be based on its own epistemological and methodological foundations [3, 4].

With the advent of the paradigm of complexity theory in recent decades, we are witnessing a repetition of the logic of genesis and the evolution of social science in the 19th century. Influenced by the successes demonstrated by natural and exact sciences in their theoretical and practical studies within the framework of the new paradigm, and also because of the attractiveness of its language, social sciences decided to join it, increasingly using the tools of the complexity theory paradigm for their own research.

However, these attempts can hardly be called successful. As a rule, the studies that we find at present either an assessment of complexity issues, or a reflection of complexity from the point of view of social and human sciences, or a simple mechanical transfer of concepts, ideas, concepts, methodological schemes of complexity sciences to the study of social problems [4].

II. METHODS

The object of the present study is the epistemology of social human systems. The subject is modern research of social human systems, which use the complexity paradigm as an epistemological basis. The goal of this work involves critical study of the epistemology of social human systems based on the principles of the Complexity Paradigm.

In this study, we used general scientific methods, such as analysis and synthesis, modeling and idealization, as well as concretization and abstraction. To these should be added the dialectical method, the historical-philosophical method and the synergetic approach.

The dialectical method helps us to develop the perspective of the paradigm of complexity and correctly interpret its evolution as a form of building knowledge. Historical and philosophical allows us to interpret the examples considered in this study from an integration and contextualizing point of view. The synergistic approach that underlies our work allows us to delve deeper into the epistemological development of the complexity paradigm.

According to the epistemological principles of the Theory of Complexity, the methodology of this study refrains from formulating and putting forward any hypotheses. In addition, the qualitative character (qualitative studies) that this meta-theoretical study possesses is added to the methodology.

The interdisciplinary nature of this study determines the volume (set) of methods used, although it focuses on a synergistic approach, thanks to which objects, phenomena and processes are studied as complex open systems characterized by self-organization.

III. RESULTS AND DISCUSSION

In our work, social human systems were temporarily defined as systems of increasing complexity, in which human civilizational activity is a center of interests, understood as symbolic, cultural, socio-economic, political and historical reality. This definition initially formalizes the subject of our study. However, here we can find the first drawback: are we talking about people in their social aspect (from a limited point of view) or human (from a more global perspective)?

In the first case, we see exclusively social systems and interactions in which people are heroes from an anthropological point of view. We have to think about societies, behavior, cultures, etc. This implies the definition of an object as given in advance and encourages us to observe and explain it. On the other hand, in the second case, "human" does not correspond to what is given, but to the result of something. Here the definition of "human" is the result of life itself, the expression that emerged as a result of the evolution of a complex system that precedes the human and includes it. Thus, "human" is one of the qualities in which life was expressed in its evolution. What does this matter for our study?

Talking about social human systems reminds us of the societies in which we live, their problems, history and prospects for future development. Within this framework, we can find many problems that we want to explain, and in this way solve practical conflicts of an objective and subjective nature that are of interest to researchers. But if we look at this moment from the other side and ask ourselves where these systems come from and how they arise, then we will discover the "human factor". It is born from something that does not have its own character and properties. We already know that this is called the "emergence" effect in the Complexity paradigm. Now, if the "human" ability makes social human systems such, will their understanding be the first answer (or at least an important approach) to the problems of the emergence, development and functioning of the systems in question? Hastily answering this question will not be reasonable.

The first thing we propose to consider is the category "system". It, in our opinion, is basic; many interests of the Complexity Paradigm and, in this case, our research, are based on it. From the very beginning, we have stated that "social human systems" are our object of study. However, this does not mean that we completely agree with the concept itself. First, we will accept it formally, while existing published studies and literature have already done this [6, 7].

The Complexity Paradigm renews the idea of "system" and "systemicity," on the one hand, by inertia, and on the other, from a critical point of view. Inertia, because the idea itself is not questioned, but is assumed directly. Critical, because for the Complexity paradigm this is just a more complex format of the same phenomenon.

If we adhere to the concept of the L. von Bertalanffy system, then, no doubt, we can qualify both systems, regardless of whether one of them has a greater or lesser degree of complexity. An example of a human organ can be illustrated as follows: [A + B + C + D], where A, B, C, and D are the known elements of which it consists, and we study the interactions between them, which is fundamentally devoted to Systematics. An example of "cultural identity" would look like this: A + C + X (1) + X (2) + Y, where A and C are known, X is unknown at all, and Y is partially known. Also note that in the last example there are no parentheses as opposed to the first. And this means that the number of elements of the social system is unlimited.

If the heart is aging, we nonetheless continue to talk about the same heart. In the case of the language, everything is different: the carriers are completely different, the context (environment) is completely different, and even the words and grammar have changed significantly. But more than quantitative elements, we must first of all refer to qualitative, symbolic and subjective elements, since they better describe the social human. These are precisely the elements that have been taken into account in order to outline the concept of "social human systems" in the discourse of our study.

In the previous argument, we would have to adapt the idea of temporality to the "human" one, where we are not only talking about a sequence of events and transformations in a straight line going from the past through the present to the future, but also about a three-dimensional web through which the system moves and receives simultaneously influence all possible times and places. The heart is born, grows, worsens and dies. A language arises from other languages, grows and shrinks, develops and atrophies at the same time, takes on different symbols and is understood in its own way by each group that speaks it, determining historical forms of worldview. The speaker, giving life to the language, does this under the influence of how he understands and feels the past, future and his present.

In the Paradigm of Complexity, the category of nonlinearity is important, the understanding of which includes: 1) rejection of the causal model, 2) the concept of positive and negative feedback, 3) the inclusion of randomness and errors in the way of understanding phenomena. Today, physical and mathematical sciences cannot be understood without non-linear equations, and in the sciences of complexity this already has the status of a generally accepted concept [8].

As we have already discussed in the previous sections, the "human factor" belongs to the world, which transcends the boundaries of materiality and creates an anthropological universe in which our civilizations develop the result that arises outside the source from which it comes. The symbolic universe of our subjectivities has its own rules, and many of them do not coincide with the principles of the structure of the universe from which they originate.

Therefore, we can say that in social human systems there is a positive and negative feedback, as in any other social systems, however, the way it works increases the degree of unpredictability of the results and outputs of the system, both qualitatively and quantitatively. This means that the possibilities for obtaining emergent results in the process of their development are much greater than those of their biological and artificial analogues.

IV. SUMMARY

The history of mankind has developed through complex network interactions of elements of a biological, climatic, social and spiritual nature. Understanding it requires the maximum possible consideration of all these elements. The paradigm of complexity, by the way, offers the same procedure, and there is nothing more complex and rich in elements than the human experience itself [9, 10]. The quality of "human" should make us rethink the paradigm of complexity in other terms.

In the previous section, we talked about self-organization and saw that it was the basis of the transition from one type of world economic system to another. This almost completely changed the internal panorama of the system and affected its environment (increased exploitation of natural resources, pollution, threats to other species, etc.) [11].

In this particular case, we could say that given the increase in the number of agents (population growth, new states, armed conflicts, technological changes, etc.), an increase in complexity occurred. But changes in the rules of the game that make us see Fordism, Keynesianism and neoliberalism as systems of varying complexity are much more important here, so this is not a simple increase in the complexity of the same system, that is, the world economy.

To this we must add another very important property of the social human system. In this regard, a living heart is a very complex organ in whose health various elements interfere. For a biologist, this is an open system, with high impact indicators in relations with other organs and even with emotions that can come in the form of hormonal information, given the emotional environment in which its owner is located. Let us also take into account that the scientist's attitude to the subject of research is objective, since his desire to improve his research subject cannot affect physical properties, although the effect of his research is aimed precisely at achieving such an improvement in the future.

For comparison, take the example of a historian who studies the Bible as a historical source. From the very beginning, he learns that he will have to show flexibility in his profession and put himself, at least, into the position of a theologian, sociologist, and believing parishioner. In the case of a theologian, he would have to say that the Bible is a closed system because it makes up the "word of God" as he sent it from heaven. As a historian, he must disagree with this and claim that it is an open system, because it is a text that has undergone changes and contributions to different historical moments. In the theologian's position, we see pure balance and linearity; in the historian's position, imbalance and non-linearity.

The first difference between the two cases is that there is only one type of complexity in a biological system, despite its level, and it can only be studied as a "biological system". In the second case, we see that along with the complexity that the historian can find in historical processes and events, and the sociologist in social processes, there will be another mandatory view that determines the result of the study, similar to the view of the theologian, in which he will not even talk about difficulties. Thus, we find multi-complexity in which various types of complexity (in quantity and quality) coexist with each other, and which must be taken into account if we want to learn something about the system under study.

In temporary conceptualization, the category of "social human system" refers to the anthropological sphere and captures the emerging result of life itself, both physical and biological. "Human" is that quality or property, the result of which distinguishes us from other living beings and social systems and endows us with civilizations, and those, in turn, cultural systems. Human intelligence, human spirituality, human subjectivity, etc. are complex systems, which, in turn, come out of other complex systems and carry a different complexity that distinguishes them from that which was characteristic of the original complex systems; they are "self-complex" complexes. The main difference is that the creative ability of human complexity greatly enhances the possibilities of non-linearity, feedback and, therefore, adaptation and self-organization, giving them the opportunity to create where biological or artificial systems could not do this with qualities that they could not would achieve.

We notice how the concepts associated with the paradigm of complexity and currently giving important results in the sciences of complexity collide with the features of social human systems and their distinguishing feature - "human". Concepts such as time, the dichotomy of "open/closed systems", chaos order and non-linearity behave differently in the "social", in contrast to how the science of complexity explains to us. In this regard, one needs a personal view of the construction of epistemology and methodology, more suitable for their characteristics.

V. CONCLUSIONS

Multi-complexity, as a potential equivalent of complexity for designating social systems of a strictly human character, involves going beyond the framework of a systematic approach, this concept represents the essence of the potential of "human". Multi-complexity speaks of the qualitative changes that these self-complicating systems are experiencing, turning into something completely different. She, in turn, talks about the different types of complexity with which such a system can coexist, and even about the non-complexity that can characterize them. It depends on the theoretical and methodological position of the researcher.

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