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# THE ROLE OF SYNERGIC IDEAS IN IMPROVING THE SCIENTIFIC CREATIVE PROCESS.

**Mamadjonova Marvarid Qurbonnazarovna**
Associate Professor, Department of Social Sciences, Tashkent State Pedagogical University, Doctor of Philosophy in Philosophy. (PhD)

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**Abstract:**

The article provides a philosophical analysis of the reflection of synergetic ideas in scientific creativity, its features, epistemological aspects. It is based on the importance of synergetics as a method of scientific knowledge in identifying and explaining the multidimensional image of the research process. It is recommended to use its potential in the further development of science and research.

**Keywords:** Creativity, creative thinking, scientific creativity, synergetics, self-organization, knowledge, open system, chaos, attractor, bifurcation, fluctuation.

**ENTER.** As a result of complex social and political changes, social and cultural development of society, further expansion of people's life, knowledge and experience, and increase in the level of scientific creativity are observed. Knowledge is the main intellectual resource, and education is considered as a source of national prosperity. Education enables the development of a person's creative abilities, the deepening of his participation in economic, social and cultural relations in society, and the effective contribution to the development of society. Many decrees and decisions have been adopted by our government in this regard. Among them: Orq-576 of the Republic of Uzbekistan of October 29, 2019 "On Science and Scientific Process", Ordinance of the Republic of Uzbekistan on July 24, 2020 "On Innovation Process Law No. ORQ-630 and PF-5847 of the President of the Republic of Uzbekistan of October 8, 2019 "On approval of the concept of development of the higher education system of the Republic of Uzbekistan until 2030", October 29, 2020 Decree No. PF-6097 "On approval of the concept of development of science until 2030".[1-4]

At the present time, it is important to pay attention to new directions in educating purposeful, talented, independent and creative young people. Because the social and economic development of any society is determined by the thinking, level of knowledge and mental potential, spirituality and culture of the members of this society.

The main part. Creativity is primarily a product of creative thinking. Creative thinking refers to individual creative qualities. Creative thinking is not just an emotional perception of things and events. Creative thinking (thinking) requires a person to use his intellectual potential. In this sense, creative thinking means a unique feeling of the world, seeing it with the eyes of the mind, understanding it with all its being.

Creative thinking is manifested in the ability to identify problems that are waiting for their solution, to find a new, original solution to solve them.

On the basis of scientific creativity, a person lays the foundation for new scientific directions and non-traditional fields of new scientific knowledge. Scientific creativity is the process of knowledge and creativity related to the development of scientific knowledge, acquisition and use of new scientific knowledge, enrichment of scientific knowledge with new laws and regulations, new scientific principles and theories, and active implementation in various fields of human activity[5] . A person changes the world on the basis of his creative research and shows himself as a creator, creator, inventor. In this process, a person poses various problems, finds a unique solution to the problem, and of course uses a unique approach to such solutions. In the study of these changes, there is a need to form a new direction of scientific creativity with multifaceted and diverse features on nonlinear bases.

Although synergetics is being formed as a general philosophical methodology, its impact on scientific and creative research is incomparable. Synergetics is important in revealing the multi-variant face of the scientific research process and in explaining its behavior as an open system. A researcher who is able to properly use the laws of synergetics,

works on the basis of the most modern methodology, can achieve great creative achievements in his scientific field [6].

Synergetics is a new way of looking at the world, and it is also a method of interdisciplinary scientific research that analyzes the global evolutionary process based on the generalization of scientific innovations, self-organization, and non-linear thinking. After all, I. Prigogine and I. Stengers wrote: "Synergetic chaos is not only a destroyer of the world, but under certain conditions it can perform the function of structure for certain reasons"[7] and justified its structure mechanism. . Although this way of thinking has not been formed for a long time, its influence on scientific and creative research is incomparable. Because its main concepts and principles differ from other traditional approaches with its new methodological character.

It is appropriate to analyze the reflection of ideas such as self-organization, chaos, bifurcation, attractor, fluctuation of synergetics in the scientific creative process as follows.

Self-organization is an important form of self-movement without external influence, and at the same time it is the basis of self-management. As Haken noted, "Science is also an open self-organizing system. Some of its periods are similar to the process of the emergence of life described in biology. That is, the organic molecules that initially appeared by chance combine into larger structures, and then they suddenly appear in such a new state of order that the result is a completely new qualitative function and a higher level. a transition to the structure in occurs" [8]. In synergetics, the essence of scientific transformation processes in science is their transition from one system to another, creation of a new quality and structure, and the process of self-organization [9]. In this case, a phase transition, a change in the state of the system by a jump occurs [10] . This is a transitional period in science, a new, complex "metasystemic transition" or transition of scientific knowledge from low dimensionality to higher - trans dimensionality occurs.

Scientific creativity as a self-organizing intellectual system has certain standards. Self-organization is a set of organizational events or changes that occur in the creative system, which help to ensure their optimal implementation, in particular, in the system of this scientific process. Knowledge as a self-organizing open system has the opportunity to self-organize in the scientific creative process. Self-organization is the optimization of knowledge in such a way that it is directly manifested in practical use. The normative self-organization of knowledge in the scientific-creative process shows its systematicity, but also the increase in the quality of knowledge.

The issue of the attractor state of creativity, bifurcation change in the creative process, and fluctuating effects affecting the improvement of the process of scientific creativity is also of special importance. Attractor (Vis. Attract means to draw to oneself) refers to the mode and order of motion to which a dynamic system tends over time [11]. Attractors are relatively stable probabilistic states that appear in evolutionary processes in open non-linear environments. It is possible to discuss the predetermination of the future based on the creative ability of people, that is, the future state of the system attracts, organizes, shapes, and changes its current state. appears as a creative process. According to Professor M.N.Abdullayeva, the creativity of humanity allows to choose a new attractor of intelligence and the integrity of high spirituality[12]. Attractors are also important in the scientific creative process. Because it serves to further increase the interest of subjects in relation to various complex realities and objects in the process of scientific and creative research.

Bifurcation is reflected in people's attention to alternative options and their diversity in the process of scientific creativity. It is also explained by the uncertainty of the level of development of promising changes in the scientific creative process and the tendency to division.

According to I. Prigogine, bifurcation processes indicate the complexity of the system. This process also applies to scientific creativity and indicates its purposeful division as a result of conducting scientific research. As N. Moiseyev noted, "Each state of the social system is a state of bifurcation"[13].

Fluctuation - constant changes, fluctuations and deviations in the scientific creativity of people. It manifests itself as a cause of instability and unevenness. Fluctuations are more intuitive in the scientific creative process. There are two types of fluctuations in the creative process: the first is the creative process influenced by the fluctuation, and the second is the fluctuations that arise in the creative process itself. In the scientific creative process, fluctuations can sometimes be very strong and can completely take over the creator's worldview and change the direction of the process and the order of research with attention to the essence. Sometimes it can acquire a negative character. In this case, heuristic ideas represent its constructive side, while its negative side is manifested in the destructive nature of creativity. Therefore, synergetic thinking is a way of thinking that helps to determine the direction of fluctuations in scientific creativity.

From a synergistic point of view, in the development of the scientific and creative environment in the educational system, providing an open environment in the continuous education system, that is, regularly harmonizing the

national and international standards of the educational system, all education and training it is necessary to retrain teaching staff in accordance with the requirements of the times, to ensure that they are aware of the achievements of world science in a timely manner, and to create important conditions for the use of modern educational technologies.
The synergetic landscape of the development of the scientific and creative process in our country in a new direction, based on the correct understanding of the purpose of the creative activity of young people, educating them as self-developing creative people, creative cooperation, partnership, co-authorship, mutual creative organization regulation of relations, young people's creative abilities, knowledge and skills, mutual exchange of experience it is necessary to pay attention to creating conditions, forming their attitude to the world of scientific news, acquiring creative meaning of the ideas born, regularly self-expressing the creative process, and making scientific creation of social importance.
Summary. Based on the above, we can say that the impact of the synergetic approach on the development of science, the analysis of the methodological problems of its possibilities show that scientific research cannot be carried out without this tool.
Using the achievements of synergetics in the process of finding new scientific research methods will help clarify many issues in this field. It is also noteworthy that synergetics is manifested as an interdisciplinary research method in the convergence and convergence of various scientific fields. Because synergetics is a new way of looking at the world, it is a method of interdisciplinary scientific research that analyzes the global evolutionary process on the basis of generalization of scientific innovations, self-organization, non-linear thinking.

## LIST OF USED LITERATURE


1. Law of the Republic of Uzbekistan "On Science and Scientific Process" of October 29, 2019 ORQ-576. https://lex.uz/docs/4571490
2. Law of the Republic of Uzbekistan on July 24, 2020 "On Innovation Process" No. ORQ-630. https://lex.uz/docs/4910391
3. Decree of the President of the Republic of Uzbekistan dated October 8, 2019 No. PF-5847 "On approval of the concept of development of the higher education system of the Republic of Uzbekistan until 2030". https://lex.uz/docs/ 4545884
4. Decree of the President of the Republic of Uzbekistan dated October 29, 2020 No. PF-6097 "On approval of the concept of development of science until 2030". https://lex.uz/docs/5073447
5. Saifnazarov I, Nikitchenko G, Kasimov B. Methodology of scientific creativity. Tashkent. "Generation of the New Century", 2004. Page 6
6. Karimov B.R. The role of synergetics and heuristics in the process of scientific knowledge // Synergetic paradigm: problems and opportunities (scientific-theoretical seminar materials). Tashkent, 2013. - P.62-63
7. Prigozhin I., Stengers I. Order is chaos. A new dialogue between man and nature. - M.: 2008. -296 p.
8. Hacken G. Mysterious nature. Synergetic science of vzaimodeystvii. Perevod s nem. Logunova. - M., Izhevsk, 1997. - P.278; Leskov L.V. Futuro synergetics. Universal theory system. - M.: Economics. 2005. -S.128.
9. Philosophy. Synergetics is a human reality. - M., 2002. No. 9, - S.3.
10. Dobronravova I.S. Synergetics: stanovlenie nelineynogo myshleniya. - M., 1990. - S.43.
11. Bozorov D. Synergetic paradigm. - T.: "Tafakkur", 2010. - B.47.
12. Abdullayeva M.N. Socio-ideological foundations of independence // Ideas and innovative development. Proceedings of the 2nd scientific theoretical seminar. – Urgench, 2013, - B. 8.
13. Moiseev N.N. Destiny civilization. Put Rzuma. Series: Language, semiotics, culture. -M.: Yazyki russkoy kultury 2000. -224 p.
14. Lee E., Izzetova E. SYNERGETIC APPROACH IN THE EDUCATION SYSTEM //Science and innovation. - 2023. - T. 2. – no. B4. - S. 95-99.