

## SOCIAL AND ECONOMIC DEVELOPMENT FROM THE POSITION OF THE SYSTEMIC-TRANSDISCIPLINARY WORLDVIEW

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**Abstract.** Justification of creation and the use of the new methodological tools necessary for a research of social and economic development is given. The practicability of using this approach as an approach and a necessary tool of systemic-transdisciplinary approach and systemic-transdisciplinary models of spatial, informational and temporal order unit is justified. Multiplex of development is a methodological instrument of transdisciplinary approach. Multiplex includes all the combination of different calendar duration development waves. Within the multiplex these waves play role in intensive and soft development programs. This circumstance allows to significantly increase a verification of researchers' results, evaluation and prediction of human society development. The authors try to justify thesis of crucial role of systemic-transdisciplinary worldview and system thinking not only for fundamental scientific research, but also systemic explanation of a new model of the world social and economic order.

**Keywords:** system, system approach, worldview, transdisciplinarity.

Arguing about the problems of cognition, understanding and description of the world, the element of which is society and social and economic development, the president of the International Society for the Systems Sciences David Rousseau said: "By making further careful observations of the puzzling phenomena, and then strictly applying our principles, we might find better or further laws, which we can use then to develop the better theories and models. If we still cannot devise good theories, we question the principles. We can refine or extend them by generalizing from laws we already have, or distilling them from the assumptions entailed by our worldviews. If new or improved principles cannot be found, or what we do find does not help us to improve/extend our laws such we can build good theories, then we must question our worldviews, reflecting on how we balance between knowledge, experience and intuitions to find the core beliefs that ground our judgements and actions, and form an adjusted worldview from which we can then adjust or extend our principles, laws, theories and models" [2].

Systemic worldview is a way of reflecting the world as a whole within the limits of the human consciousness. Whereas, human

consciousness is capable of systemically reflecting the world within the rationality of science, religion, philosophy and myth. Fundamental features of the systemic worldview are worth mentioning. It has different vector directions in the discrete structure of the "horizons of cognition". Implementation of systemic worldview and systemic thinking within scientific rationality is possible due to four types of systemic approaches: systemic disciplinary, systemic interdisciplinary, systemic multidisciplinary, as well as systemic transdisciplinary approaches.

The first two approaches are characterized by a *centripetal* cognition vector. The features of this cognition vector were figuratively described by Stephen Weinberg, an American physicist, Nobel laureate in Physics in 1979: "All the explanatory arrows points downwards" and remarking that this is "perhaps the greatest scientific discovery of all" [3]. In essence, an object being perceived in the image of a system within the systemic disciplinary and systemic interdisciplinary approaches, instantly and inevitably "falls apart" in the researcher's view of individual research subjects. This circumstance plays an important role in the process of cognition,

the purpose of which is the accumulation of an array of scientific knowledge and the allocation in this array of the amount of so-called intersubjective knowledge forming the basis of the current scientific paradigm.

The next two approaches are characterized by a *centrifugal* cognition vector. Put in other words what S. Weinberg stated, we can say that all the explanatory arrows within these types of systemic approaches “point upwards” which is also no less important scientific discovery of all. By “point upwards” is meant the cognition of the object through the generalization of its constituent research subjects, as well as through the generalization of the objects themselves within their functional groups.

The philosophical principle of *holism* (the integrity principle) is the basis for such generalization of research subjects (parts of the object and their interactions) within the systemic multidisciplinary approach. The intention to justify integrity distinguishes so drastically the object from the environment, that a loss of their interconnections occurs. The assumption that the environment or any part thereof, the element of which is an object, is also an integral object, allows to build a common structure (construction) of the integrity of the world. This circumstance determines the directions of scientific cognition resolving itself to the search for solutions to the problem of preserving the integrity of objects under the influence of the external environment, as well as the problem of describing the mechanisms of self-organization and stability of objects, which actually determines the “horizon” of the systemic multidisciplinary approach in the cognition of the world.

The generalization basis of research objects within the systemic transdisciplinary approach is the philosophical principle of *single-centrism* (the principle of unity). In case of such generalization, the world, objects and research subjects cease to be a system consisting of interacting parts. In each specific case, they are represented as a corresponding unified functional group of objects and research subjects. The role of the system in such a functional group is played by the universal order, which determines the unity of its elements (parts and their interactions). As a consequence, the generalized object of research of the systemic transdisciplinary

approach is manifestation of the general order in categorial aspects: in the own space, time, information of the object and functional group of objects, in their existential aspects: organized nature, direction and effectiveness of development, and, what is even more important, the content of the principles of the so-called “sphere of oughtness” determining the boundaries of the homeostasis of such development [1, p. 40-46].

It should be noted that the environment, which partially falls out of the “field of vision” of all previous types of systemic approaches, is present in the systemic transdisciplinary approach in the form of potentiality (hidden power or capabilities) associated with the Big Bang. This circumstance allows us to consider the space, information and time of the objects themselves and their functional groups as forms of existence, manifestation and transformation of this potentiality, respectively. The presentation of philosophical categories as forms allows them to be translated into the category of methodological ones, presenting them as systemic transdisciplinary models of space, information and time units of order.

The creation of a systemic transdisciplinary methodologies made it possible to apply it for the research of objects of various scientific trends, including socio-humanistic sciences. This is a scientific direction in which research is always accompanied by a personal attitude towards the problem, needs to be strengthened by methodological tools able not only to eliminate the effect of personal interpretation but also bring research results closer to the level achieved in the natural sciences. Thus, for example, the use of systemic transdisciplinary models of information, time and space units of order for the research of social and economic development of society, the state, development of economic entities (agents) and various economic horizontal and vertical functional groups, made it possible to introduce concepts of predetermination and predisposition of such development.

Predetermination and predisposition of development is manifested in the structure of *information features* determining the characteristics of development, and in the structure of the *periods of time* during which a complete transformation of the original

potentiality will take place in certain *fragments of space*. As a rule, the initial ideas (the idea of a business plan, the idea of a statehood, a political idea, a religious idea, etc.) play the role of the bearer of the initial potentiality in social and economic functional groups. In this case, it can be shown that the goals and results of the development of various social and economic objects and their functional groups are fully coordinated in a single space, time and information. By setting quantitative parameters of systemic transdisciplinary models of order units, it is possible to differentiate a single process of social and economic development into the structure of various space, time and information realities. Parameters of the signs of information and time periods revealing all the objective and subjective characteristics of social and economic development will correspond to each such reality.

Therefore, in order to develop an effective strategy for managing an economic object, an economic functional group and the social and economic development of the state and society, it is necessary to recognize the features inherent in the information feature and the period of time of the level of reality being researched in combination with the

opportunities offered by other types of systemic approaches.

The researches carried out related to the social and economic development of a society have allowed to reveal the special importance of the year 2016 (see Figure 1).

With the help of the systemic transdisciplinary model of the time unit of order, it was possible to determine that in 2016 there was an overlapping (synchronization) of time cycles of different duration (time units of order) and synchronization of content of information periods of different content. This circumstance gives the current moment of social and economic development a status characterized by the search for a new model of the world social and economic order. Since the reason for the emergence and formation of such a model is objective in nature, the content description of the forthcoming social and economic development period will also be objective. Which allows us, in its turn, to describe the temporal and content characteristics of operational, tactical and strategic goals, tasks and results of forthcoming periods and signs of social and economic development, as well as to form objective principles of a new model of the world social and economic order.

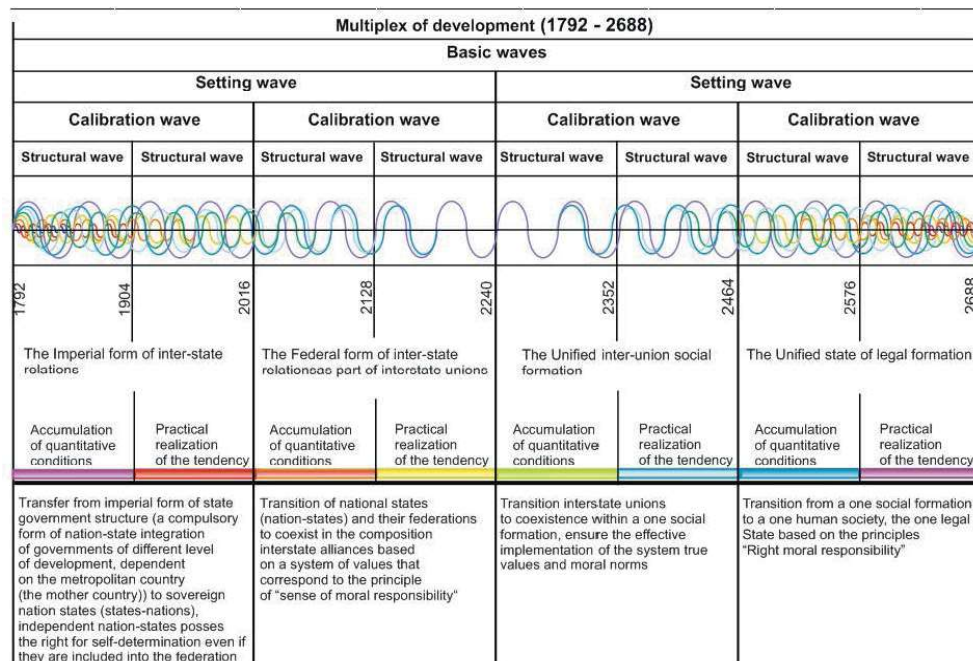


Fig. 1 Systemic transdisciplinary model of the multiplex of social and economic development of society in the period from 1792 to 2688. Source: (adapted from [1])

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