

Philosophy of Theory of Technical Systems Evolution

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The history of ideas contains multiple examples of significant scientific discoveries being made by a method of trial and error. That is to say, these discoveries in their nature remain random, not planned, events. The work of G. Altshuller on the Theory of Technical Systems Evolution (TESE) has enabled to make revolutionary changes in the perception of the process of invention by introducing the Theory of Inventive Problem Solving (TRIZ). TESE and TRIZ describe in detail a directed and goal-oriented procedure of invention towards increasing the degree of system's ideality by thus avoiding randomness.

We propose a Universal Systemic Field Theory (SFT) that describes the principles of the TESE in terms that are more general. The SFT assumes that the basic structure of objective reality is best understood in terms of infinite uninterrupted systemic fields where systems constantly evolve through contradictions and relate to each other both vertically and horizontally. The theory can find its application not only in generating technical solutions in the process of making inventions, but also in dealing with problems in any other area of interest. The ability of systemic thinking, defining the simplest conflicting elements of a system and resolving these contradictions could be widely applicable in analyzing and forecasting areas such as business, economics and political processes.

In addition, we believe that the growth of philosophical knowledge and of new theoretical frameworks within the tradition originating from Aristotle and Socrates has dissipated. We expect that the theories of TESE, TRIZ and SFT will soon find wide-ranging philosophical application and success as it has in revolutionizing the process of technical discoveries.

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