

Post-Science History

In his quest for certainty in the early 1600s, Rene Descartes could be considered the Father of Science. The end of the philosophical pursuit of science started with the skepticism of David Hume in the first half of the 18th century, who confined science to empirical studies. In the late 18th century, Immanuel Kant expanded science beyond empiricism. To Kant, reality consisted of the empirical world of the past and the imaginary world of the future, which could only exist in our mind. According to David Hilbert, the top mathematician of 19th century, Kant should be credited with the concept of infinity.

A short history of post-science should start with Kant with his consideration of the expected future in the mind. Post-science is knowledge beyond science. It expands science from past observations to reality, which must take into consideration the infinite future, which is not subjected to empirical study.

In practice, post-science was originated from Postmodern Science of Paul Feyerabend, who was the most avid critics of science. Feyerabend was joined by Thomas Kuhn and Michael Polanyi in exposing the defect of science. Douglas R. Hofstadter's criticism of mathematics and logic reinforced the criticism of science. Feyerabend was a rebellious student of Karl Popper, whose concept of empirical falsification would not apply in post-science, which would need infinite time to falsify. Even more interestingly, Feyerabend was the philosophy teacher of Hugh Ching, the founder of post-science. There seemed to be some direct connections in the knowledge and the people involved in the founding of post-science.

Another forerunner of post-science is Post-Normal Science founded by Silvio Funtowicz and Jerome Ravetz, who try to study problems with high stake and high uncertainty. Post-science is highly relevant. In the solution of value and software, the formulations must observe mathematical and logic rigor, respectively, but the inputs and the outputs are highly uncertain because of the necessary involvement of infinity. Lotfi Zadeh, the founder of fuzzy logic, has observed that the reality is fuzzy. Not completely agreeable to Zadeh, post-science believes that most of the real world is fuzzy because the living system has been designed with a sufficiently wide range of tolerance to allow it to survive permanently in an uncertain world extending to infinity in time. Therefore, in most real world situations involving the living system, which is design for an uncertain fuzzy environment, there is no need for precision.

The solution of prolonged contact in sports was conceived in 1968 by Ching, when he was a student and the table tennis champion at MIT. The physics concept of a finite force in physics was formalized by Ching and Ta-You Wu, the Father of Chinese Physics, in the late 1990s and by the coining of the word jumpulse by Wu. Today, jumpulse should be the fundamental concept in Robot Mechanics, where motions are started by finite, not zero, forces. Prolonged contact and robot touch both need jumpulse applied with precise timing. Jumpulse needs the ability to think 25 variables, 5 variables each at the two ends of a spring. Most problems in science involve about 5 variables. The solution to the problem of value posed by Kenneth Arrow and Gerard Debreu in Debreu's book *Theory of Value* was conceived in 1972. It has been infallible in the prediction of the real estate market since 1976. It has predicted publicly both the Savings and Loan Crisis and the Subprime Woe. The problem of value involves around 50 variables, as the number of inputs in the Infinite Spreadsheet: <http://infinitespreadsheet.com>. The solution of software involves around 500 variables, as the number of choices in machine instructions.