

Giving Alexander Oparin's Origin of Life Postulates a Future

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Abstract: Alexander Oparin was a Soviet scientist working behind the Iron Curtain. Many of his ideas are true and can be further developed by utilizing the General Theory of Stellar Metamorphosis. Explanation is with author's writing in dark green.

Although Oparin's started out reviewing various panspermia theories, including those of Hermann von Helmholtz and William Thomson Kelvin,^[3] he was primarily interested in how life began. As early as 1922, he asserted that:

1. There is no fundamental difference between a living organism and lifeless matter. The complex combination of manifestations and properties characteristic of life must have arisen as a part of the process of the evolution of matter. The complex combination of manifestations and properties characteristic of life arise as a part of the evolution of a single star as it evolves, cools and dies becoming an "exoplanet/planet", as stellar evolution is planet formation itself.
2. Taking into account the recent discovery of methane in the atmospheres of Jupiter and the other giant planets, Oparin suggested that the infant Earth had possessed a strongly reducing atmosphere, containing methane, ammonia, hydrogen and water vapor. In his opinion, these were the raw materials for the evolution of life. Earth had a very violent hot past before it even possessed a reducing atmosphere, it was big, hot and bright like the Sun before it was cool enough to allow for the formation of ammonia, methane, hydrogen gas and water vapor. They are the raw materials for the evolution of life, as life itself evolves on the star as it evolves, and dies when the star dies, as is the case of Mercury, Mars or Venus.
3. In Oparin's formulation, there were first only simple solutions of organic matter, the behavior of which was governed by the properties of their component atoms and the arrangement of these atoms into a molecular structure. Gradually though, he said, the resulting growth and increased complexity of molecules brought new properties into being and a new colloidal-chemical order developed as a successor to more simple relationships between and among organic chemicals. These newer properties were determined by the interactions of these more complex molecules. In stellar metamorphosis there was first the birthing of the star, in which all elements were completely ionized in what is called a "plasma" before they can even form stable diatomic molecules. The diatomic gases are formed as the star cools into red dwarf/brown dwarf stages of stellar evolution.
4. Oparin posited that this process brought biological orderliness into prominence. According to Oparin, competition, speed of cell growth, survival of the fittest, struggle for existence and, finally, natural selection determined the form of material organization characteristic of modern-day living things. What is also important is determining how close the evolving star is to its host, that will determine if life itself can arise, as well as how evolved the star is. Stars without atmospheres or an appreciable magnetic field such as Mercury are dead, and cannot host life.