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THE SPARK OF LIFE: THE PHYSICS OF HOW THE EARTH WENT FROM GEOLOGY AND CHEMISTRY TO BIOLOGY

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More than 3.5 billion years ago, something interesting happened on Earth. Somewhere matter self-organized so that it was able to reproduce its complex state. Life had begun. Where and how that happened are questions whose answers, after many centuries, seem at last within reach. About four decades ago there were discovered hydrothermal vents at the bottom of the oceans; for 25 years there has been increasing evidence that they were the cradle of life on Earth. We shall examine how physics can help explain how life started.