

THE RIDDLE OF THE UNIVERSE

has represented it to be an indispensable thesis in any natural theory of evolution. I entirely agree with his assertion that "to reject abiogenesis is to admit a miracle."

The hypothesis of spontaneous generation and the allied carbon-theory are of great importance in deciding the long-standing conflict between the *teleological* (dualistic) and the *mechanical* (monistic) interpretation of phenomena. Since Darwin gave us the key to the monistic explanation of organization in his theory of selection forty years ago, it has become possible for us to trace the splendid variety of orderly tendencies of the organic world to mechanical, natural causes, just as we could formerly in the inorganic world alone. Hence the supernatural and telic forces, to which the scientist had had recourse, have been rendered superfluous. Modern metaphysics, however, continues to regard the latter as indispensable and the former as inadequate.

No philosopher has done more than Immanuel Kant in defining the profound distinction between efficient and final causes, with relation to the interpretation of the whole cosmos. In his well-known earlier work on *The General Natural History and Theory of the Heavens* he made a bold attempt "to treat the constitution and the mechanical origin of the entire fabric of the universe according to Newtonian laws." This "cosmological nebular theory" was based entirely on the mechanical phenomena of gravitation. It was expanded and mathematically established later on by Laplace. When the famous French astronomer was asked by Napoleon I. where God, the creator and sustainer of all things, came in in his system, he clearly and honestly replied: "Sire, I have managed with-