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978-0-521-79912-6 - Life on Other Worlds: The 20th-Century Extraterrestrial Life Debate

Steven J. Dick

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Life on Other Worlds The 20th-Century Extraterrestrial Life Debate

The recent discoveries of extrasolar planets and possible microfossils in Martian meteorite ALH 84001 are only the latest developments in a debate that spans millennia and that has been especially heated in the 20th century. From the furor over Percival Lowell's claim of canals on Mars at the beginning of the century to the biological experiments of the Viking spacecraft, the controversial "Mars rock," and the sophisticated Search for Extraterrestrial Intelligence (SETI) at its end, otherworldly life has often titillated and occasionally consumed science and the public. So too have crucially related areas such as the search for planetary systems, the quest for an explanation of UFOs, and inquiries into the origin of life. The theme has been elaborated by science fiction writers from H. G. Wells to Arthur C. Clarke and has resulted in some of the most popular films of all time, including *E.T.*, *Alien*, *Independence Day*, and *Contact*.

Life on Other Worlds details in a readable and nontechnical manner the history of the 20th-century extraterrestrial life debate, one of the pervasive themes of our century. Unlike other works on the subject, it places the current debate in historical perspective, showing how the concept of extraterrestrial intelligence is a worldview of its own, a "biophysical cosmology" that seeks confirmation no less than physical views of the universe. It is, however, a subject at the very limits of science, and scientific attempts at confirmation therefore illuminate the nature of science itself. This history is not only important for an understanding of the nature of science, but is also central to any forward-looking concept of religion, philosophy, and numerous other areas of human endeavor. Extraterrestrial life will be one of the predominant themes of science in the 21st century.

Steven J. Dick is an astronomer and historian of science at the United States Naval Observatory in Washington, D.C. He is the author of *Plurality of Worlds: The Origins of the Extraterrestrial Life Debate from Democritus to Kant* (Cambridge University Press, 1982), *The Biological Universe: The Twentieth-Century Extraterrestrial Life Debate and the Limits of Science* (Cambridge University Press, 1996), and numerous articles in both scientific and historical journals, including *Space Science Reviews*, *Journal of the History of Ideas, Technology and Culture*, and *Journal for the History of Astronomy*. Dr. Dick has served as historian for NASA's Search for Extraterrestrial Intelligence (SETI) program and was a member of a NASA workshop examining the cultural aspects of success in SETI, including the short-term and long-term implications of contact with extraterrestrials. He was a member of the panel convened by Vice President Al Gore in 1996 to examine the implications of possible fossilized life in the Mars rock.

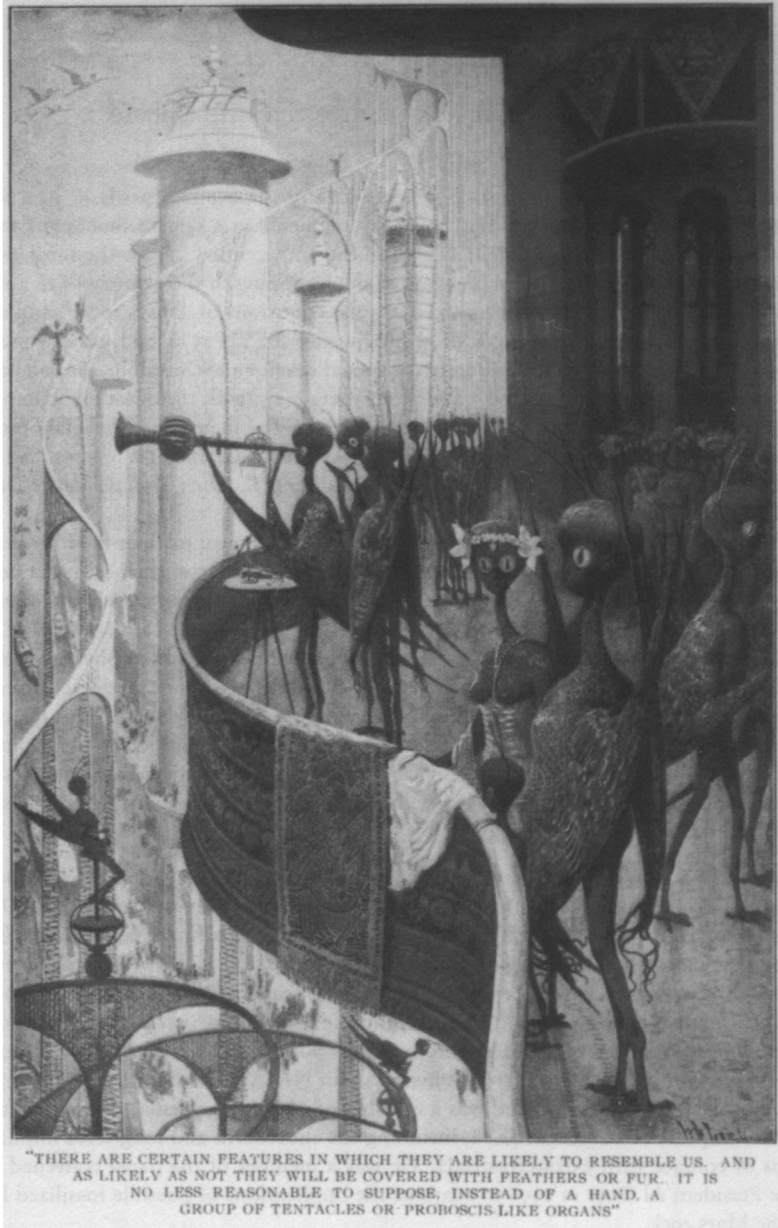
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Frontispiece. Illustration by William R. Leigh from H. G. Wells, "The Things That Live on Mars," a nonfiction article that appeared in *Cosmopolitan Magazine* in March 1908 at the height of the Martian canals furor.

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To those who search for the meaning of Life

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Glendower: I can call spirits from the vasty deep.

Hotspur: Why, so can I, or so can any man;
But will they come when you do call for them?

Shakespeare

Henry IV, Part I

Act 3, Scene I, 52–58

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