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Author: Larry R. Nittler
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Main content

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Lonely Planets The Natural Philosophy of Alien Life by David Grinspoon

Ecco (HarperCollins), New York, 2003. 460 pp. \$25.95, C\$39.95. ISBN 0-06-018540-6.

In 1998, following highly publicized reports of extrasolar planets, oceans on Europa, and possible fossilized bacteria in a Martian meteorite, NASA launched its Astrobiology Institute, lending new respectability (and considerable funding) to the very old question of the existence of extraterrestrial life. For much of the preceding few decades--since Manner 4 returned the first images of a barren and lifeless Mars in 1965--this subject, as a field of scientific inquiry, had been more or less confined to the scientific sub-basements of "exobiology" and radio searches for extraterrestrial intelligence (SETI). Given the current surge in scientific attention to alien life, it is easy to think that recent developments constitute a revolution of sorts. However, our actual knowledge of alien life remains the same as it has been for centuries and can be summarized by a single word: nothing. Nonetheless, in *Lonely Planets* David Grinspoon provides a masterful synthesis of the history, science, philosophy, and even theological implications of extraterrestrial life.

Lonely Planets is divided into three parts: History, Science, and Belief. The first chapters document that for much of the last several hundred years, astronomical and theological considerations made belief in aliens commonplace. Grinspoon reminds us that Johannes Kepler was a "philosopher/freak who walked the fine line between genius and delusion" and that until...

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How soon that can happen depends on two unknowns: the prevalence of life in the galaxy and how lucky we get as we take those first, tentative, exploratory steps. Our early planet finding missions, such as NASA's Kepler and its extended incarnation, K2, or the coming James Webb Space Telescope, could yield bare bones evidence of the potentially habitable worlds. MIT physics professor Sara Seager

looks for possible chemical combinations that could signal the presence of alien life. When we find life, how will we know? When we analyze light shot by a star through the atmosphere of a distant planet—a technique known as spectroscopy—the effect looks like a bar code. The slices missing from the light spectrum tell us which chemicals or gases are present in the alien atmosphere. Sara Seager is looking for similar signs on exoplanets — planets beyond our own solar system. MIT/Patrick Gillooly. Share this Nor would it be the last time the sky in a faraway place would leave a lasting impression on her. Seager soon would find herself studying the atmospheres of places even more remote than the Nunavut Territory. She had just won admission to Harvard University's doctoral program in astrophysics. Life generates other gases too. Finding them above a distant planet could lead to the discovery of Earth's twin — another relatively small chunk of rock that also supports life. That life could be as simple as bacteria. Or it could include a civilization more advanced than our own.