



Rare Earth: Why Complex Life is Uncommon in the Universe

By Peter D. Ward, Donald Brownlee

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What determines whether complex life will arise on a planet, or even any life at all? Questions such as these are investigated in this groundbreaking book. In doing so, the authors synthesize information from astronomy, biology, and paleontology, and apply it to what we know about the rise of life on Earth and to what could possibly happen elsewhere in the universe. Everyone who has been thrilled by the recent discoveries of extrasolar planets and the indications of life on Mars and the Jovian moon Europa will be fascinated by **Rare Earth**, and its implications for those who look to the heavens for companionship.

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Editorial Review

Amazon.com Review

"Do you feel lucky? Well do ya?" asked Dirty Harry. Paleontologist Peter Ward and astronomer Donald Brownlee think all of us should feel lucky. Their rare Earth hypothesis predicts that while simple, microbial life will be very widespread in the universe, complex animal or plant life will be extremely rare. Ward and Brownlee admit that "It is very difficult to do statistics with an N of 1. But in our defense, we have staked out a position rarely articulated but increasingly accepted by many astrobiologists."

Their new science

is the field of biology ratcheted up to encompass not just life on Earth but also life beyond Earth. It forces us to reconsider the life of our planet as but a single example of how life might work, rather than as the only example.

The revolution in astrobiology during the 1990s was twofold. First, scientists grew to appreciate how incredibly robust microbial life can be, found in the superheated water of deep-sea vents, pools of acid, or even within the crust of the Earth itself. The chance of finding such simple life on other bodies in our solar system has never seemed more realistic. But second, scientists have begun to appreciate how many unusual factors have cooperated to make Earth a congenial home for animal life: Jupiter's stable orbit, the presence of the Moon, plate tectonics, just the right amount of water, the right position in the right sort of galaxy. Ward and Brownlee make a convincing if depressing case for their hypothesis, undermining the principle of mediocrity (or, "Earth isn't all that special") that has ruled astronomy since Copernicus. --*Mary Ellen Curtin*

From Library Journal

Renowned paleontologist Ward (Univ. of Washington), who has authored numerous books and articles, and Brownlee, a noted astronomer who has also researched extraterrestrial materials, combine their interests, research, and collaborative thoughts to present a startling new hypothesis: bacterial life forms may be in many galaxies, but complex life forms, like those that have evolved on Earth, are rare in the universe. Ward and Brownlee attribute Earth's evolutionary achievements to the following critical factors: our optimal distance from the sun, the positive effects of the moon's gravity on our climate, plate tectonics and continental drift, the right types of metals and elements, ample liquid water, maintenance of the correct amount of internal heat to keep surface temperatures within a habitable range, and a gaseous planet the size of Jupiter to shield Earth from catastrophic meteoric bombardment. Arguing that complex life is a rare event in the universe, this compelling book magnifies the significance and tragedy of species extinction. Highly recommended for all public and academic libraries. AGloria Maxwell, Penn Valley Community Coll. Lib., Kansas City

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Review

"...likely to cause a revolution in thinking..."

The New York Times

"...[the book] has hit the world of astrobiologists like a killer asteroid..."

Newsday (New York)

"...a sobering and valuable perspective..."

Science

"...a startling new hypothesis..."

Library Journal

"...Peter Ward and Donald Brownlee offer a powerful argument..."

The Economist

"...provocative, significant, and sweeping..."

Northwest Science & Technology

"...a stellar example of clear writing..."

American Scientist

Users Review

From reader reviews:

Marie Michael:

This Rare Earth: Why Complex Life is Uncommon in the Universe book is just not ordinary book, you have it then the world is in your hands. The benefit you get by reading this book is usually information inside this e-book incredible fresh, you will get facts which is getting deeper a person read a lot of information you will get. This particular Rare Earth: Why Complex Life is Uncommon in the Universe without we comprehend teach the one who reading through it become critical in considering and analyzing. Don't become worry Rare Earth: Why Complex Life is Uncommon in the Universe can bring any time you are and not make your handbag space or bookshelves' turn into full because you can have it with your lovely laptop even phone. This Rare Earth: Why Complex Life is Uncommon in the Universe having good arrangement in word and layout, so you will not sense uninterested in reading.

Gregory Stclair:

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Joyce Williams:

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research when he makes this book. That's why this book acceptable all of you.

Tammy Schuler:

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