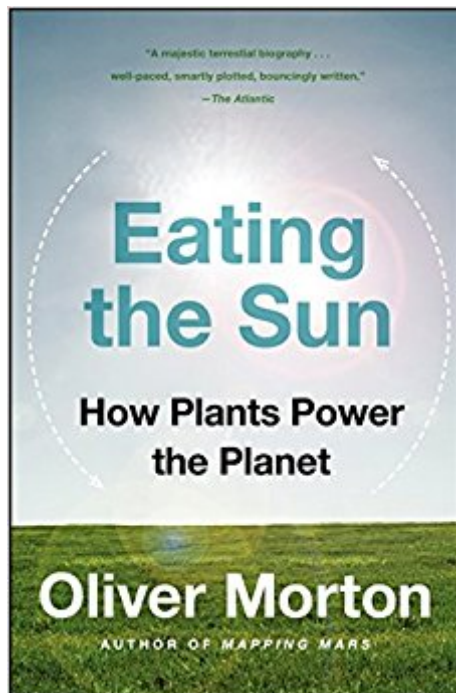




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Eating The Sun: How Plants Power The Planet



Synopsis

From acclaimed science journalist Oliver Morton comes *Eating the Sun*, a fascinating, lively, profound look at photosynthesis, nature's greatest miracle. From the physics, chemistry, and cellular biology that make photosynthesis possible, to the quirky and competitive scientists who first discovered the beautifully honed mechanisms of photosynthesis, to the modern energy crisis we face today, *Eating the Sun* offers a complete biography of the earth through the lens of this common but crucial process.

Book Information

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Customer Reviews

Starred Review. The cycle of photosynthesis is the cycle of life, says science journalist Morton (*Mapping Mars*). Green leaves trap sunlight and use it to absorb carbon dioxide from the air and emit life-giving oxygen in its place. Indeed, plants likely created Earth's life-friendly oxygen- and nitrogen-rich biosphere. In the first part, Morton, chief news and features editor of the leading science journal, *Nature*, traces scientists' quest to understand how photosynthesis works at the molecular level. In part two, Morton addresses evidence of how plants may have kick-started the complex life cycle on Earth. The book's final part considers photosynthesis in relation to global warming, for, he says, the Earth's plant-based balance of carbon dioxide and oxygen is broken: in burning vast amounts of fossil fuels, we are emitting more carbon dioxide than the plants can absorb. But Morton also explores the possibility that our understanding of photosynthesis might be harnessed to regain that balance. Readers should persevere through (or skim) the more technical

discussions in the first part, for what follows is a vast, elegant synthesis of biology, physics and environmental science that can inform our discussions of urgent issues. (Nov. 4) Copyright © Reed Business Information, a division of Reed Elsevier Inc. All rights reserved. --This text refers to an out of print or unavailable edition of this title.

Morton's curiosity-driven ruminations concern photosynthesis in a work imbued with wonder and worry about that biological process. Worry, because anthropogenic carbon dioxide emissions outstrip the uptake capacity of plants; wonder, that they have that ability in the first place. These dueling moods recur throughout Morton's narrative as he recounts discoveries about photosynthesis, an intricate chemical cascade that daily begins with sunlight and ends in the longest rhythms of geological time. Unshackling the science from its chronological history, Morton opens with the applications of radioactive isotopes such as carbon 14 to investigations of photosynthesis and in due course presents pioneers of plant physiology. At all points, whether through the history books or personal encounters, Morton depicts the discrete problem that piques a scientist or lends a philosophical cast to his scientific motivations, and he seems especially taken by James Lovelock, author of the so-called Gaia theory. Morton is as insightful observing a single tree as he is explaining plant life's interconnections with the biosphere and the totality of earth history. --Gilbert Taylor --This text refers to an out of print or unavailable edition of this title.

I did know that the oxygen liberated in photosynthesis came from water molecules. I didn't know that the basic research in nuclear physics and nuclear chemistry merged with biochemistry to fill out the details. The problem solvers were notably NOT biologists, and I say that not to demean the life sciences, but to emphasize that the tools they needed came from research done on a seemingly totally unrelated topic. A cautionary tale for those opposed Government spending on research that doesn't seem to be relevant to them. Oliver Morton is very readable, weaving a story of discoveries and personality which I find attractive and helps to bring the chronology alive. There is plenty to read here, but the time spent is worth it.

I definitely agree with the earlier reviewer, who stated that he couldn't understand how anyone could give this book less than five stars! This is by far the best book on photosynthesis (and its meaning, history and implications) that's available, and I should know since I have spent a lot of time searching for just such exquisite and detailed writing concerning this subject. Furthermore, I've

bought multiple copies, because it is such a gem (both in terms of its writing style and its content). There are so many incredible ideas and facts contained in this volume, that I find it hard to imagine just HOW the author researched and composed such a beautiful book.

Oliver Morton is not only exceedingly well versed in his topic, he writes lyrically in a way I've never before encountered in science writing. The breadth of his knowledge, and his ability to organize and communicate what he has learned, is staggering. Of all the science books I've ever read, this singular book has found a place in my heart. I will read it again.

This is one of the BEST books I have come across to help anyone understand how our World works, and the importance of that understanding. It takes the reader through the necessary steps of vocabulary, glossary, integrated systems, ecological insights, as well as myths and misunderstandings. Anyone reading this book will come away with new knowledge and fresh ideas that will effect their thinking about plants, the sun and the world hence forward. This is a scientific discourse without boredom or pedantics. And it's easy to quote and enjoy. You will most certainly feel and be smarter after this read.

As a biochemistry major in grad.school and having done research w/ photosynthesis, the author has done his homework and has a "A" paper(book). The ONLY critique would be that the "next edition" needs to have more visuals aids to go with his step-by-step explanations. This would make an A+ book.

I bought this book used and it is in great condition. If you really want to understand how plant life works and how we figured it all out, this is an awesome book. The book is a slow, but very good read, because the author really spends the time explaining the science of photosynthesis in a way that non-technical people can understand. The stories about the personalities involved in the science of photosynthesis are great as well.

Oliver Morton has woven a cloth of pure gold from the threads that trace the story of photosynthesis. *Eating the Sun* is a model of science writing for the nonscientist and an exemplary chapter in the history of science, written with integrative intelligence, leavened with deft, humorous biographical characterizations, and punctuated by a series of concluding statements of startling, poetic power.

Really a superb book. It's fairly technical but enough anecdotes and interesting natural connections to keep you reading.

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