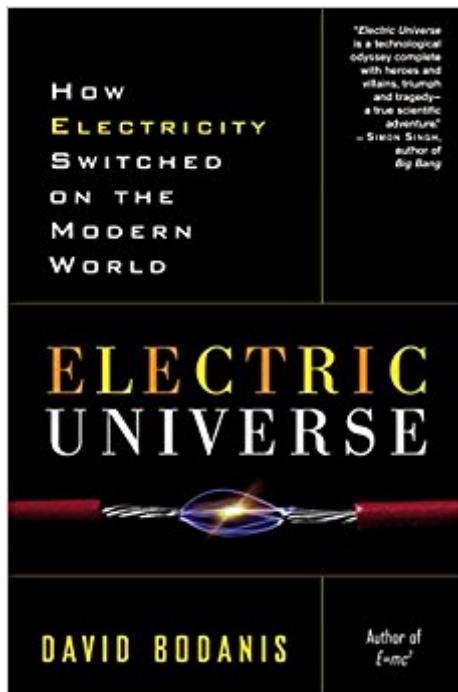


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# Electric Universe: How Electricity Switched On The Modern World



## **Synopsis**

David Bodanis, bestselling author of *E=mc2*, weaves tales of romance, divine inspiration, and fraud through an account of the invisible force that permeates our universe—“electricity”—and introduces us to the virtuoso scientists who plumbed its secrets. For centuries, electricity was seen as little more than a curious property of certain substances that sparked when rubbed. Then, in the 1790s, Alessandro Volta began the scientific investigation that ignited an explosion of knowledge and invention. The force that once seemed inconsequential was revealed to be responsible for everything from the structure of the atom to the functioning of our brains. In harnessing its power, we have created a world of wonders—“complete with roller coasters and radar, computer networks and psychopharmaceuticals. In *Electric Universe*, the great discoverers come to life in all their brilliance and idiosyncrasy, including the visionary Michael Faraday, who struggled against the prejudices of the British class system, and Samuel Morse, a painter who, before inventing the telegraph, ran for mayor of New York City on a platform of persecuting Catholics. Here too is Alan Turing, whose dream of a marvelous thinking machine—“what we know as the computer”—was met with indifference, and who ended his life in despair after British authorities forced him to undergo experimental treatments to obscure his homosexuality. From the frigid waters of the Atlantic to the streets of Hamburg during a World War II firestorm to the interior of the human body, *Electric Universe* is a mesmerizing journey of discovery.

## **Book Information**

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## Customer Reviews

I expected more of the original study--the finding of electricity's measurements and peculiarities; how it was done and by whom. Found an awful lot of biographic studys instead. It was not what I had expected.

Exhilarating whirlwind bird's eye view of the beginning of electricity all the way to the computer. Bird's eye view, yes but here and there D.B swoops down for a close up view.

An excellent explanation of electricity. Dave Bodanis makes it easy to follow from its' earliest discovery. This book is well researched and written in simple language. The best explanation of the nature of electricity I have read.

A totally captivating book! Hard to put down once you begin reading. Also get E=MC2 by the same author. Simply awesome!

Mixed feelings for this one. On one hand, the history is accurate and interesting, and Mr. Bodanis does a great job with insights and back stories about the people behind electricity's development. But his understanding of electricity itself made me cringe. Over and over, the author "explains" technology using analogies that are misleading, not helpful -- or just plain wrong. It was painful to read as he talks about the "ore veins" in a transistor, the contorting "force field" in a transatlantic cable, and the "50 amps per second" pouring into an automobile's spark plugs. He obviously believes these half-understood explanations and it's sad that he didn't have anyone technically competent read the book. He doesn't really understand voltage, current, resistance, and power, let alone AC and wireless. Fortunately, the technical gobbledegook is secondary to the book's mostly human story and if you overlook technical details, it's still good. But too bad: it could have been great. Read the book for the story. Read it to learn some human and scientific history. Read it to gain some perspective on how knowledge and innovation fed history. But skim through the technology explanations and give them no credence.

As we were driving home from piano lessons one day, my mother (with my siblings' eager consent) decided to play a podcast about the history of light, from candle wax to light bulb fixtures. The podcast cast a spell on us. As we were listening to the acknowledgments, a name of a certain book caught my mother's ear. This book was afterwards given to me to read, and truly, the book is as interesting as the podcast itself. *Electric Universe*, by David Bodanis, is a book on the history of electricity. This book tells of the many inventions that were created using the powers of electricity. Bodanis, a master science writer, explains many concepts in a clear-cut way as he describes this electric history. Every chapter in *Electric Universe* reveals a new intriguing and informative fact. I looked forward to every word, and there are not very many books that can make the reader do that! Certainly, before I read *Electric Universe* I didn't know that a telegram cable had been spread across the Atlantic Ocean, or that Alexander Graham Bell had mostly been motivated to work so the aurally impaired could communicate too. Now I have a delicious amount of interesting information stored in my head to munch on. Bodanis has a clear, straightforward style that makes many topics easy to understand. Thanks to this book, I finally understood that electricity should not be represented in the cartoonish little-ball style, but as a wave. I also learned how cocaine and anesthetics work as I read about the effects of sodium ions in nerves, which also deal with electric impulses. Because of Bodanis's transparent style, I understood many things. *Electric Universe* is an excellent book because of its lucidity and interesting facts. I would recommend it to anyone who hasn't the faintest idea about how electricity works, and especially to anyone who likes podcasts about electricity. And if you'd like to see more youth-reviewed books, go to my blog, [bookshelfexplorer](#).

If you want to learn about electricity and magnetism, read a textbook. That's not what this book is for. Instead, this is a wonderful introduction to some of the people behind the major discoveries and developments involving electricity. You'll learn a little bit about some of the science on a very surface level, but the point of this book is to bring to life the people involved and, that, I think it does very well. There are always going to be a few key people missing (some more about Tesla would have been nice) but for those Bodanis chose to talk about, he does a phenomenal job. I particularly liked the section on Alexander Graham Bell posed as an adorable love story. I read this hoping to get some fun, personal anecdotes to add color and humanize the lectures in my electricity and magnetism class, and I definitely got that. Well done, interesting, and worth a read.

Readable for the non-technical but something of a disappointment. Many major and interesting contributors to the development of our understanding of electricity are not mentioned. Not a word about Oliver Heaviside or how Benjamin Franklin's wrong guess about which way electricity flows has bedeviled the electromagnetic world ever since. Many others are unmentioned. Faraday is better covered but nowhere is found an explanation of how the speed of light was determined by James Clerk Maxwell

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