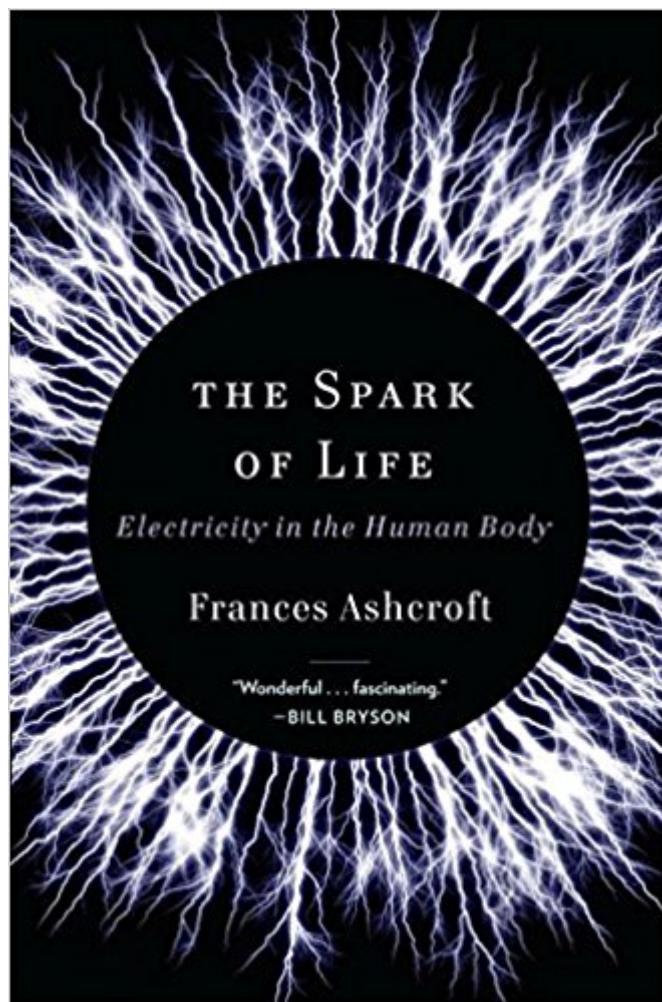


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# The Spark Of Life: Electricity In The Human Body



## Synopsis

A lively exploration of the surprising role that electricity plays in our bodies. What happens during a heart attack? Can someone really die of fright? What is death, anyway? How does electroshock treatment affect the brain? What is consciousness? The answers to these questions lie in the electrical signals constantly traveling through our bodies, driving our thoughts, our movements, and even the beating of our hearts. The history of how scientists discovered the role of electricity in the human body is a colorful one, filled with extraordinary personalities, fierce debates, and brilliant experiments. Moreover, present-day research on electricity and ion channels has created one of the most exciting fields in science, shedding light on conditions ranging from diabetes and allergies to cystic fibrosis, migraines, and male infertility. With inimitable wit and a clear, fresh voice, award-winning researcher Frances Ashcroft weaves together compelling real-life stories with the latest scientific findings, giving us a spectacular account of the body electric. 50 illustrations

## Book Information

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## Customer Reviews

âœThis is a wonderful book. Frances Ashcroft has a rare gift for making difficult subjects accessible and fascinating.â• - Bill Bryson, author of *At Home: A Short History of Private Life*

Frances Ashcroft is an award-winning scientist, a professor of physiology at the University of Oxford, a Fellow of both Trinity College Oxford and the Royal Society, and an internationally best-selling author. She lives in Oxford, UK.

This is a great book. It explains, in terms the layman can follow, how electricity works in the body, how it is different from the electricity that keeps the lights on, what exactly is a pore in the cell membrane and the staggering number of ions that can pass through a single pore, how the pore actively regulates the passage of phosphorus ions (large) and sodium ions (small) in and out of the cell across the cell membrane. Years ago I wondered how ATP worked, how did it actually make a muscle cell contract, and then I found an explanation: a fast acting ratcheting mechanism. This book answers "how does it work, really?" questions. I have not finished reading it yet, but every chapter is fascinating. It's a perfect book for Kindle.

I have a very rare channelopathy, so I picked up this book at my local library to better understand my condition. I was enthralled with her ability to simplify the complexity of the function of ion channels. In the last fifteen years the field has exploded with information. It has been difficult to keep up with all of the new research. This book laid it out in simple terms that a non-scientist can understand. I did not appreciate my disorder being compared to a syndrome suffered by quarter-horses or myotonic goats. Like most researchers, she seems to lack the understanding of a human living with a channelopathy. After reading it part of the way through, I bought the book, and suggested it to many others. It is a very good book for those trying to understand migraines, periodic paralysis, some forms of epilepsy, myotonia, cystic fibrosis, and other channelopathies. I will keep it on my shelf for reference. I hope she follows up with more indepth books on the subject.

A very engaging read. The author provides a thoughtful, wide-ranging discussion about the various facets of electricity in human and other organisms that will interest laymen (like myself) and, I believe, specialists as well. Ashcroft delivers an agreeable blend of history and science that keeps her readers engaged. (well, the ones with an interest in science in the first place) For the inquisitive mind, this book provides a substantial set of thought-provoking topics that will broaden horizons and open doors to new ideas.

Excellent information, only needs color graphs and details.

This book is a must for anyone interested in electricity in the human body. Ashcroft sometimes gets a little too scientific with her writing but overall she presents the material in a easy to understand format. Her dry English writing and humor also help. I myself suffer from heart problems and

Parkinson's and found the information on both helpful. The history of electricity she lays out is complete and interesting.

A very readable and informative book concerning the functioning of our bodies residing in the minutiae of the components of our cells. As the title suggests the relationship of electricity to our cellular functions is clearly explored. Interesting information is included concerning the progression of our knowledge of this subject over time with reference to maladies that have arisen due to dysfunction or mutation of our cells. The heart, brain and other organs are separately covered over the course of the book which utilizes pictures, diagrams and a bit of poetry to illustrate the information conveyed.

Ms. Ashcroft explains very clearly and very interestingly the workings of the cell, mainly the cell membrane and its protein ion gates. She illustrates with many examples that will hold your attention and you will find yourself saying "wow! I didn't know that!" as you read. The book is easily read, understood and a complicated part of human physiology is explained very well. I would even consider it suitable for a textbook or addition to any class discussing human physiology.

This book is required reading for my anatomy & physiology 313 class and I can see why! It is fun and educational. Very well written and enjoyable. The author explains concepts that can be difficult to understand in ways that are relatable for the non-scientist without sacrificing the details that keep a scientist reading. It is difficult to find science books like good. I am very glad that my professor has us read this for his class.

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