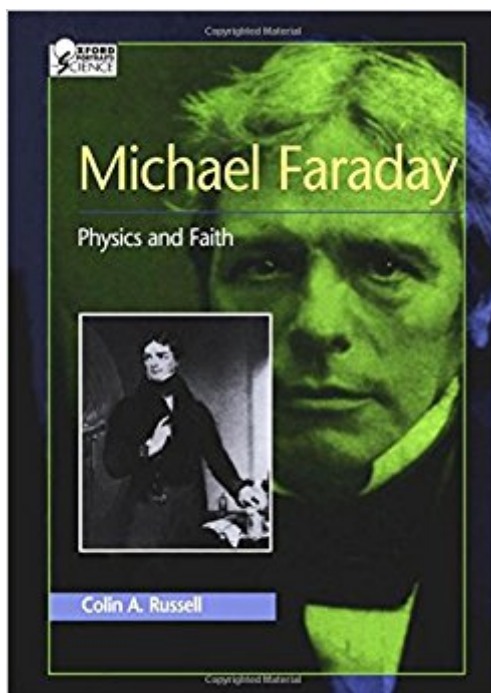


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# Michael Faraday: Physics And Faith (Oxford Portraits In Science)



## Synopsis

Michael Faraday (1791-1867), the son of a blacksmith, described his education as "little more than the rudiments of reading, writing, and arithmetic at a common day-school." Yet from such basics, he became one of the most prolific and wide-ranging experimental scientists who ever lived. As a bookbinder's apprentice with a voracious appetite for learning, he read every book he got his hands on. In 1812 he attended a series of chemistry lectures by Sir Humphry Davy at London's prestigious Royal Institution. He took copious and careful notes, and, in the hopes of landing a scientific job, bound them and sent them to the lecturer. Davy was impressed enough to hire the 21-year-old as a laboratory assistant. In his first decade at the Institution, Faraday discovered benzene, isobutylene, and two chlorides of carbon. But despite these and other accomplishments in chemistry, he is chiefly remembered for his work in physics. In 1831 he proved that magnetism could generate an electric current, thereby establishing the field of electromagnetism and leading to the invention of the dynamo. In addition to his extraordinary scientific activities, Faraday was a leader in his church, whose faith and wish to serve guided him throughout his career. An engaging public speaker, he gave popular lectures on scientific subjects, and helped found a tradition of scientific education for children and laypeople that continues to this day. Oxford Portraits in Science is an ongoing series of scientific biographies for young adults. Written by top scholars and writers, each biography examines the personality of its subject as well as the thought process leading to his or her discoveries. These illustrated biographies combine accessible technical information with compelling personal stories to portray the scientists whose work has shaped our understanding of the natural world.

## Book Information

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Age Range: 12 - 17 years

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## Customer Reviews

Gr 8 Up-The significance of the work of this 19th-century British scientist is well thought out in this biography. Most noted for his invention of the electric transformer and the dynamo, Faraday is also credited with the electric motor. The son of a blacksmith, he spent his teen years as a bookbinder's apprentice but his love of science led him to the Royal Institution in London. Experiments with whale oil and gases produced from it led to the discovery of benzene, now used in many useful substances. He remained loyal to his Sandemanian church, a sect known for its strict moral principles. This book, while trying its best to personalize this scientist, does a better job of describing Faraday's work in the context of the times in which he lived. Mature readers will appreciate a beginning chapter about London in the late 1700s in which a science lecture was as well attended as an opera. The way in which scientific etiquette affected Faraday's progression of experiments is complex but fascinating. A sample lecture, document reproductions, and excerpts from letters will satisfy a need for primary-source material.-Vicki Reutter, Cazenovia High School, NY Copyright 2001 Cahners Business Information, Inc.

Gr. 9-12. Michael Faraday is an exciting subject for a biography: the nineteenth-century British working-class, religious kid who grew up to change our daily lives with his groundbreaking discoveries in electricity and magnetism. Many teens will be interested in his religion and his synthesis of science and Christianity. Unfortunately, the style here is heavy going; it's laboriously detailed and dry, not only about the physics and chemistry but also about Faraday's life. Give this to good readers who need a fresh biography subject, especially those who want to know about the history of science and technology. Like others in the Oxford Portraits in Science series, this includes diagrams, a chronology, and a long bibliography. Hazel Rochman Copyright © American Library Association. All rights reserved

This thorough biography of Michael Faraday will provide challenging but rewarding reading for high school students and adults. Its careful documentation and objectivity make it an ideal source of

information on the scientific process and the relationship between religion and research in Faraday's time. Although Russell does a good job of placing Faraday in the context of the scientific, political, and social climate of Europe, he indulges in remarkably little editorializing. Russell explains how Faraday's lower middle-class background and religious roots contributed to his attention to detail and strong work ethic. He also emphasizes Faraday's ability to communicate with people from all educational and scientific levels with ease and humor. His scientific lectures were well attended not only by scientific, political, and social leaders but also by the common people. Young students can appreciate how these traits are essential to success in science. The illustrations, which are used judiciously, are usually copies of original work done from Faraday's life. The captions themselves add a great deal to the story being told. Samples of Faraday's original writings illustrate her persistence in following through with experiments until he solved the problem to his own satisfaction. The bibliography includes works written by Faraday as well as books about him and about the Royal Institute. A source for reading or research, this book will also provide young students many illustrations of the relationship between religious faith and scientific inquiry.

I have been to the 'stadium' in London, and long ago worked on science directly derived from his discoveries. The visit to London prompted me to get the book - and what a delight it was. Easy to read, and yet a great summary of his life - his Science life and his Religious life - which for him were not so separate. Anyone interested in the history of Science should read this book.

Michael Faraday came from poverty to become with Sir Issac Newton the h\greatest mathematician and the greatest chemist ever. His strong Christian faith supported him through his trials and troubles. Just as Sir Issac Newton was a fervent follower of Christ, Michael Faraday was a fervent follower of Jesus Christ. Faraday's work in chemistry and magnetic fields have had no equal. Unfortunately, Faraday did not have a strong worldwide press pushing him as mediocre scientists have in the Twentieth and Twenty first centuries. Faraday was a shy man who preferred the laboratory and his wife to sensational press coverage. Like Newton only a handful a men in the world could understand his scientific papers. The press was too dense. Faraday's Christmas lecture series was wildly popular with the young. Faraday had a unique skill in being able to make the complex simple and exciting to the youth. I recommend this book on the life of the greatest chemist of all time.

I love that Michael Faraday pursued his science and faith. His science was so amazing because of

his faith. Today many people tend to put these two things at odds - that's only because dogmatic science (false/wrong science) clashes with true belief and false belief clashes with true science.

The book is easy-to-read and does both Faraday's life and his career justice. The reason for this all too rare balance and accuracy is almost certainly because of the fact that both the book's author Colin A. Russell and its editor Owen Gingerich are recognized and well-respected religion and science scholars as well as eminent scientists (Russell a well-respected chemist, Gingerich an astronomer).

APPROX 60 YEARS AGO,MY LATE MOTHER GAVE ME A MAGAZINE OR BOYS ADVENTURE BOOK ,AND I WAS ABSORBED BY THE STORY OF MICHAEL FARADAY;THIS DESCRIBED HIS WORK ON ELECTROMAGNETIC FORCES.I WAS FASCINATED THEN AND AM VERY PROUD TO SAY I AM STILL FASCINATED NOW AT 70 YEARS OF AGE :I RECOMMEND THIS BOOK AS A MUST READ FOR ALL--REGARDS,ALBERT ANDREWS

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