

## **Benjamin Franklin' electrifying classic of scientific thought in its original form**

Benjamin Franklin, *Experiments and Observations on Electricity*. London: E. Cave, 1751. 9 inches x 7 1/4 inches (229 x 184 mm), 170 pages.

It is hard to think of a scientific book as widely read as Benjamin Franklin's *Experiments and Observations on Electricity*. In Franklin's own century there were five editions published in English, three in French, and one each in German and in Italian.

The simple and elegant style of Franklin's book appealed to scientists and general readers alike. The British chemist Sir Humphrey Davy wrote that the "style and manner" of Franklin's "book on electricity are almost as worthy of admiration as the doctrine it contains." Science, Davy concluded, appears in Franklin's expositions "in a dress wonderfully decorous, the best adapted to display her native loveliness."

One of the most important scientific treatises of the eighteenth century, Franklin's book presented a large variety of astounding new experimental discoveries. One of the most sensational was his analysis of the "Leyden jar," the first capacitor or condenser; its action produced electrical effects on a grand scale, baffling all students of electrical phenomena.

Additionally, the book presented Franklin's bold new theory of electrical action which, for the first time, enabled experimenters to make accurate predictions of the outcome of experimental manipulations in the laboratory. This theory transformed the subject of electricity into a proper science; even with some major modifications, it is still the basis of our discussions of electrical phenomena.

One of the reasons Franklin became one of the most famous scientists of his age was, of course, his lightning experiments and the resultant invention of the lightning rod, which is detailed in this book. Franklin's theoretical and experimental work tested whether clouds are electrified. Both Descartes and Bacon predicted practical outcomes of pure or basic science, but there had

never been a major example until Franklin's invention of the lightning rod. As late as 1830, this case history was still being cited as the primary proof that scientific knowledge leads to practical applications that benefit mankind.

This copy of *Experiments and Observations on Electricity*, from the Warnock Library, is bound in contemporary brown sheep over pasteboard. The boards have gold double-rules on the four edges. The spine, which has been rebaced with calf, has a new dark red leather title label on the second panel. The bookplate is that of John William Ward (1781–1833), later (1823) 9th Lord Ward and 4th Viscount Dudley & Ward, and still later (1827) 1st Earl of Dudley of Castle Dudley, Staffordshire.

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