



A Shocking Tale - BB (Boring)

AC/DC by Tom McNichol

Reviewed by Nick Sands

In recent months there have been many discussions about the development of a wireless standard and the fear of a repeat of the so called Fieldbus wars. Tom McNichol delivers a warning that standards wars are nothing new in his book, *AC/DC: The Savage Tale of the First Standards War*. McNichol is a contributing editor for Wired magazine and has contributed articles to the New York Times, Salon, the Washington Post, and the Guardian. His radio commentaries and satires have aired on NPR's All Things Considered, Morning Edition, and Marketplace. He is also the author of *Barking at Prozac*.

McNichol provides a brief history of electricity from the cave man's experience with lightning to the development of the Leyden jar by Pieter van Musschenbroek. The first character in the story is none other than Ben Franklin, who in six short years performed many experiments in electricity and developed the lightning rod. He did not experiment with lightning striking a kite as commonly depicted. The great experimenter Michael Faraday, inspired by Alessandro Volta, developed the transformer, the generator, and the electric motor by 1831.

Edison, born in 1847, had little education, but great curiosity and energy. He was inspired to become an inventor by Michael Faraday's experiments. The first of his many patents was for an electric vote recorder, but his first great invention came in 1877; the phonograph. Edison witnessed the electric lights of the day, high voltage direct current arc lamps, and had a vision of the future. Forming the Edison Electric Light Company with investor's capital and no products, he went about the systematic development of not only the first long lasting incandescent light bulb, but also the electrical generation and distribution system needed to light the world. His persistence is legendary, testing over 1,600 materials by trial and error for the right filament to use in the vacuum sealed one piece bulbs.

During his invention of the light bulb and the construction of the world's first electrical power plant on Pearl Street in New York City, the gas companies that had previously provided light, publicly attacked electricity as dangerous and deadly. But on September 4, 1882, Edison's electric lights powered by Edison's power station, first lit Wall Street. The lights and motors were powered by 110 volt direct current. Edison, and his associate Harold Brown, used similar public accusations against George Westinghouse and his alternating current electricity, which is the core of McNichol's story. The details are shocking.

Nikola Tesla's invention of polyphase power to drive his AC motors was an elegant solution to George Westinghouse's problem of finding the right way to show the advantage of alternating current. But it took the successes of the Ames hydro-electric power plant in Telluride Colorado in 1891 and the World's Columbian Exposition in Chicago in 1893 to tip the scales to alternating current.

The story of the war between Edison and Westinghouse is more about egos, money, and dirty tricks than it is about technology. Perhaps the same is true of most standards wars. If each were chronicled as McNichol has done we may learn some lessons. *AC/DC* is a quick read, but one without illustrations of the devices or a single equation. A little more historical and technical content would have put this book above BB (Boring). It is available at Amazon.com for about \$18.