

THE MASTER OF LIGHT.
A Biography of A.A. Michelson. By Dorothy Michelson Livingston. 376 pp. Charles Scribner's Sons \$12.50.

The first Nobel Prize received by an American was in the field of physics, bestowed upon Albert A. Michelson in 1907. He was not a native American but was born in Strzelno, in today's Poland. What a strange destiny for a child, not quite four years old, brought by his parents in 1857 to the rugged gold mining Murphy Camp in California, to later become co-founder of the now famous American Physical Society.

Dorothy Michelson Livingston, youngest daughter of Michelson's second marriage, after ten years of research both in the USA and Europe, has written a fascinating story of the rich and adventurous life of a great physicist. One need not be a physicist to enjoy this volume to the very last page. The author confesses that she, herself is no expert in her father's calling, and attempts to present intelligently topics that concern Michelson's "holy of holies" — the realm of physical science and its laboratory in particular.

Michelson's road to physics was via the U. S. Naval Academy where he graduated in 1873. From 1894 to 1929 he was head of the department of physics at the University of Chicago. During my years at Yerkes Observatory, 1926-30, I saw him occasionally, operating a small interferometer on the observatory grounds. American physicists particularly will welcome this significant and complete Michelson biography, offering as it does excellent

documentary material for any historian of science while including a human interest aspect for the general reader. Michelson's life story reveals not only the struggling years of the rise of American science at a time when the average concern was still "clearing the forests" but, above all, his primary life dedication — measuring the velocity of light. In his expertise in this, he has been unexcelled, and while doing so he encountered the strategic divide between classical and modern physics. In his patient and enduring preoccupation in optics, repeatedly re-measuring the most fundamental constant of physics, the velocity of light (186,292.3960 miles/sec.), for which primarily he became Nobel laureate, he was guided to the invention of an ingenious tool of experimental physics, the interferometer.

While the interferometer solved some problems with its highly accurate measurements, it also produced the famous enigma of negative results in the Michelson-Morley experiment. Michelson was a complete devotee of Newtonian physics and he

was disturbed at the impossibility of measurement of the earth's motion in reference to light transmitting (luminiferous) ether, as his interferometer indicated with his scrupulous care. This experiment actually accelerated Einstein's formulation of relativity. Michelson in America and his friend, Lord Kelvin in England, among other conservative physicists, never quite reconciled to the disturbing Einsteinian revolution. This volume is accompanied by

a series of historical photographs, sketches and references to original sources and comprehensive index, making this work of high documentary value.

A touching incident relates to Michelson's family problems, occurring in 1907 during the Nobel Prize ceremony in Sweden. Among members of the audience who came forward to congratulate Michelson, a young man presented himself shyly, "You don't know me?" Michelson studied his face with uncertainty, "I am your son." He was Albert Heminway Michelson, his only son, from Michelson's first marriage to Margaret Heminway Michelson, whom he had not seen for more than 10 years. After the divorce, Margaret, a wealthy woman, had taken all three children with her. Thus began a loving friendship with his only son who by that time was the American Consul in Turin, Italy, but not for long. Some half year later his son passed away after a severe case of pneumonia.

This volume is most warmly recommended to any reader concerned in the inspiring rise of American science as represented by the hard working master of light, the immigrant A. A. Michelson.

—KAREL HUJER

