31—of last year, and this is awkward. We stupidly begin our year at an arbitrary and unreasonable time. It is as if we passed the solstice without recognizing it, and only began our year when, ten days late, we first noticed the lengthened day. But the quarters are reasonable divisions, marked with astronomical precision, and not to be designated by terms already in use with a different meaning.

I resent the arrogance of those who say that the everyday and historic meaning of a common word is wrong. They are like those small girls who read Emerson's poem, "The Mountain and the Squirrel," in their fourth readers, and noted that he referred to the squirrel as bun. They announced at once that we were wrong in using bunny to call our pet rabbit. We grant now that the solstice comes on June 21, and we know what the word means. We do not think the solstice marks the advent of summer, and we will not use the word summer to denote the third quarter of the year.

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SCIENTIFIC BOOKS

SIR JOHN CUNNINGHAM MCLENNAN

Sir John Cunningham McLennan, a Memoir. By H. H. LANGTON. With a chapter on his scientific work by E. F. BURTON. Toronto: University of Toronto Press. 1939. $2.50.

THE biography of a scientist and a man of great achievements is always welcome and of interest. In this age of the dominance of physical science (a true luxury age for the physicist) in the light of things that have been and perhaps in the light of the days to come, the biography of a man like Sir John is of more than passing interest. Very few of the modern generations of physicists realize what were the conditions in our laboratories in the western hemisphere less than fifty years ago. It is to the sterling leadership, the untiring enterprise and zeal and the scientific idealism of men like Sir John C. McLennan that we owe the present status of research and learning in North America. Starting in an impoverished and lay community with no support and little encouragement Sir John in some thirty years educated this community to a true appreciation of science, built one of the leading physical research laboratories in North America and contributed his share to the fund of knowledge. How this was done and how Sir John himself developed as a physicist is covered in the first chapters of the book, which essentially mark episodes in his life under the titles, "Early Life," "The Department of Physics," "The Alumni Association" and "The Physics Laboratory." The subsequent episodes in this rich and active life are "The War," "Research, Public and Academic Activities after the War" and "The Last Years." In view of the present world situation the relations of science to national defense as illustrated by the activities of Sir John furnish valuable reading. It may be of interest to point out that the magnetic mine so much discussed in recent months was invented and developed as an anti-submarine measure by Sir John. With these mines placed in defensive positions there were gotten one enemy cruiser, three destroyers, three mine sweepers and two submarines. Incidentally, one of these submarines had successfully negotiated all defenses in the entrance to Scapa Flow only to blow up on Sir John's magnetically controlled mine, thus saving the fleet anchored there serious losses.

An Appendix by Professor E. F. Burton lists the scientific achievements of Sir John. Of these the most valuable were some of his early researches on electrical discharge in gases, the discovery of the earth's penetrating radiation and the isolation by means of an ice ionization chamber on Lake Erie of what is now called the cosmic radiation, the studies on spectra and ionization potentials, the successful construction of the world's second cryogenic laboratory and his discovery of the origin of the green auroral line. In a final Appendix there is a complete list of Sir John's published works.

The biography is historically accurate and well documented. The style is terse but readable, the material is well organized, and the contents are largely factual. No attempt at character analysis is made, although a chapter entitled "Characteristics" describes Sir John in terms of the author's impressions and quotations from his contemporaries.

LEONARD B. LOEB

THE MICROSCOPE

The Microscope. By ROY M. ALLEN. iv + 286 pp. 82 figs. 17 plates. New York: D. Van Nostrand Company, Inc. 1940. $3.00.

BOOKS dealing solely with the microscope in general are fairly numerous; those that cover the subject and further attempt to describe methods of preparing materials for microscopical examination are less common. The text under review belongs in the latter category despite the statement in the preface that it is "devoted wholly to the theory and manipulation" of the microscope. Actually, however, only 177 of the 286 pages are strictly devoted to microscopes and their operation.

The author, a consulting microscopist and former president of the New York Microscopical Society, ex-