

THURSDAY, FEBRUARY 14, 1918.

*LIFE AND WORK OF JAMES GEIKIE.*

*James Geikie: The Man and the Geologist.* By Dr. M. I. Newbigin and Dr. J. S. Flett. Pp. xi+227. (Edinburgh: Oliver and Boyd; London: Gurney and Jackson, 1917.) Price 7s. 6d. net.

THE life of James Geikie deserved to be written, for he was not only a good geologist with marked literary gifts, but also had an innate love of travel, Nature, and the humorous, with the art of making friends. The task has been well done, the biographical part by Dr. Marion Newbigin, the strictly geological by Dr. J. S. Flett. The book avoids the error, so common in biographies, of needless prolixity; it contains well-selected specimens of Geikie's letters and writings, grave and gay, with three good likenesses and an amusing sketch, and abstains from commonplace padding.

Born at Edinburgh in 1839, James Geikie (Murdoch, his second Christian name, was early discarded), after its High School and a short period of uncongenial employment, obtained, in 1861, an appointment to the Geological Survey. On that he worked for twenty years, rising to be District Surveyor, then gave it up reluctantly to become Murchisonian Professor in the University of Edinburgh. One of his earliest duties in the former capacity was to map the drifts of Fifeshire and the Lothians, which attracted him to the problem of their origin and moulded his future studies. Then he went on to the solid geology of Ayrshire, the Lanark coalfield, the Cheviots, and other districts of southern Scotland. As professor he discharged the duties of his chair zealously until the early summer of 1914, and on March 1 of the following year died suddenly from heart failure. As a worker, whether in the field, the class-room, or the study, he was indefatigable; in fact, he evidently overtasked even his vigorous constitution, often suffering in his later years from more than one form of nervous exhaustion, and probably somewhat shortened his span of life. Notwithstanding his numerous ties, professional and social—for he was a devoted husband, father, and friend—he was able to see more than a little of other lands, visiting Iceland, the Farøes, and Norway, France, Germany, Switzerland, and Italy, with Egypt, the Canaries, Canada, and the United States, always keenly observant and gathering notes for use in the lecture-room and his numerous contributions to scientific literature.

The most outstanding of his works are "The Great Ice Age" and "Prehistoric Europe." Of them and of the author's position in the Glacial controversy Dr. Flett writes clearly, concisely, and apparently as if he thought his client to have gained his cause. Be this as it may—and the present writer unfortunately differs in some important respects from the late professor's interpretation of Nature's hieroglyphs of the Ice age,

NO. 2520, VOL. 100]

scarcely less than from his inferences about metamorphism in Ayrshire—all students will gladly acknowledge the value of the above-named books. The third edition of "The Great Ice Age" (published in 1894) is a veritable mine of information, collected from many lands and diverse sources, about its deposits and their significance; and the other volume—"Prehistoric Europe"—discusses in addition the advent of man, which, according to its author, was anterior to the Glacial Epoch.

But even antagonists who think that he was a little too prone to put his trust in Continental prophets of the Ice age (when they were favourable to his views), and to ignore rather than to refute the criticisms of opponents, will assign a high place to these volumes as works of reference. The same may be said of his geological articles—and they would themselves make a volume—in "Chambers's Encyclopædia," where he successfully puts off the advocate to become the judge. In all that he published his style was attractive; he evidently wrote with facility, sought to make himself intelligible, and never shirked his work. In brief, he was a many-sided, very able, and most genial man, who had the power of winning the regard of his students, and whose loss was regretted by everyone who had been his workfellow, his friend, or even his antagonist.

T. G. BONNEY.

*THE COMPLETE DAIRY FARMER.*

*Dairy Cattle Feeding and Management.* By Dr. C. W. Larson and Prof. F. S. Putney. Pp. xx+471. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1917.) Price 11s. 6d. net.

THE ancient art of agriculture has always been invested with a halo of romance, through which only in times of the severest national stress has its essentially prosaic character as the great industry of food production been clearly discernible to the popular eye. In the lay imagination the idea commonly persists that the art still retains essentially its primitive form, amounting to little more than a crudely systematic collection of the gifts which from year to year a benevolent, though not always generous, Providence is pleased to bestow upon mankind.

It is lamentable, but inevitable, that in all aspects of human activity the advance of knowledge should tend to overlay the rosy tints of romance with the more sombre hues of reality. The philosopher-ploughman of yesterday gives way to the motor engineer of to-morrow; the milking machine dispels the last vestige of romance from the art of the dairymaid.

In the days before the Industrial Revolution the production of milk was largely incidental to the production of crops and meat, and the needs of the community could be satisfied without recourse to even such simple intensive methods of milk production as could then have been employed. With the steady divorce of the food consumer from food production, and the increasing dependence of civi-

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