it became the basis of the present Institute. If Mr. Rogers had accomplished no more than this, he would yet have done a great service to the cause of science and education. He was, however, an active investigator, and the two volumes before us testify to the keenness of his interest in all scientific subjects.

William Rogers was born in 1804. He became professor of natural philosophy and chemistry at William and Mary College, Williamsburg, Virginia, in 1828, and professor of natural philosophy in the University of Virginia, and director of the geological survey of Virginia, in 1835. He resigned his professorship in 1853, and removed to Boston, where, a few years later, he took the chief part in founding and organising the Massachusetts Institute of Technology. The physical laboratory of the Institute was afterwards given the designation of "The Rogers Laboratory of Physics," in recognition of his services to physical science and devotion to the interests of the Institute. Mr. Rogers was president of the American Association for the Advancement of Science in 1876, and succeeded Prof. Henry as president of the National Academy of Sciences in 1879. He died suddenly in May 1882, while delivering a short address to the students of the Institute of which he was the father.

Prof. Rogers was one of a gifted quartet. His brother Henry became Regius Professor of Natural History and Geology in the University of Glasgow in 1857, and was elected a Fellow of the Royal Society in the following year. To the two brothers William and Henry, geology owes the wave theory of mountain chains—a theory deduced from an extended study of the great Appalachian chain. The eldest of the four brothers, James Rogers, served as professor of chemistry, successively, in the Philadelphia Medical Institute, the Franklin Institute, and the University of Pennsylvania. Upon his death in 1852, the youngest of the brothers, Robert, then professor of chemistry in the University of Virginia, succeeded him in the chair of chemistry at Philadelphia. It was in connection with Robert Rogers that William investigated the solvent action of water—especially when charged with carbon dioxide—on various minerals and rocks.

The wide range of William Rogers' studies and researches, his eminence among men of science in America, his enthusiasm for the advancement of knowledge, and his fraternal affinities, have all assisted in providing material for the two volumes under notice. The memoir is practically filled with letters, only sufficient editorial comment being added to make it a connected history. It would be easy to fill many pages of NATURE with interesting extracts from these letters, but the limitations of space forbid. Naturally the volumes will appeal most to Prof. Rogers' American contemporaries, and to the officers, graduates, and students of the Institute to which they are dedicated. There are, however, many British men of science who will be interested and inspired by this record of his life and work.

L'Ottica delle Oscillazioni Elettriche. By Prof. A. Righi. Pp. vii + 254. (Bologna: Zanichelli, 1897.)

TWO years ago (May 9, 1895) we drew attention to two memoirs by Prof. Righi, who in 1893 succeeded in producing and investigating the behaviour of Hertzian waves only a few centimetres in length. He has now collected the results of these and other researches, which he has made, in the form of a convenient volume, arranged in two parts. The first contains a detailed description of his apparatus, its mode of construction and use, together with the effects which can be produced by it, especially such effects as are easily exhibited by electro-magnetic waves, but only with difficulty by light-waves, on account of the extremely short wave-length of the latter. The second and longer part corresponds more closely to the title of the book, and gives an account of the following phenomena: interference-phenomena with electro-magnetic waves carried out with experimental arrangements which in the main correspond exactly to the well-known optical ones (*e.g.* Fresnel's mirror and the bi-prism); experiments analogous to the interference of light in thin plates; diffraction-experiments; absorption, transparence and opacity; reflection from the surfaces of conductors and dielectrics; experiments in reflection and total reflection which are exact analogues of optical experiments with prisms, lenses and totally reflecting prisms; elliptic and circular polarisation, and double refraction. An appendix contains a series of notes on the theory of electro-optics. The book is well printed and illustrated, and will be welcomed by all who are interested in the development of the work of Maxwell and Hertz. *pv.*

The Concise Knowledge Natural History. Edited by Alfred H. Miles. Illustrated. Pp. xvi+771. (London: Hutchinson and Co., 1897.)

THIS book of less than 800 octavo pages deals with the animal life of the world. The arrangement is systematic; the space allowed to each group is proportioned to its popular interest, and the authors have done what they could under the prescribed conditions to make their contributions readable. Since the Vertebrates occupy more than five-sevenths of the volume, the Invertebrates come off poorly. Mammals, by Mr. Lydekker, and Birds, by Dr. Bowdler Sharp, are more liberally treated, and these sections are far more interesting than the rest. It will be seen that though the book has its merits, its use is limited. We can hardly recommend it to students or to field-naturalists, or to collectors, but it will suit those who desire information about the animals which they meet, not in the flesh, but in the newspaper or book of travel. The quantity and quality of the information are equal to what would be found in any encyclopædia except the Britannica. The cuts, which are numerous, are not good; some of the frogs and salamanders, for instance, are almost unintelligible. There is a full index, which will prove a useful feature. Is it worth while to point out that there is no such plural as *Animalculæ?*

L. C. M.

Through a Pocket Lens. By Henry Scherren, F.Z.S. Pp. 192. (London: The Religious Tract Society, 1897).

GIVE this book to an intelligent boy or girl with a taste for natural history, and let it be used not merely as a reading-book, but as a guide-book to nature study, and you will do more towards cultivating the spirit of investigation than by dozens of lectures. The common idea that very little real work can be done without a compound microscope and numerous accessories has tended to discourage young naturalists, but Mr. Scherren describes so many interesting objects, all of which have been seen by him with a pocket lens, that his book will induce many to study nature who would otherwise acquire knowledge second-hand. All the examples described are taken from the Arthropoda. The group is interesting, and specimens belonging to it are so common that they can easily be procured. We have no doubt that many young students will profit by this instructive introduction to one of the main divisions of the animal kingdom.

The Young Beetle Collector's Handbook. By Dr. E. Hoffman, Curator of the Royal Natural History Museum at Stuttgart; with an Introduction by W. Egmont Kirkby, M.D. Pp. viii + 178. (London: Swan Sonnenschein and Co., Ltd., 1897.)

THIS work contains twenty coloured plates, comprising about 500 figures of Coleoptera, which may certainly, in many cases, prove of considerable service to the young beetle collector; but the letterpress is of comparatively little value, consisting, as it does, mainly of very short and more or less disjointed descriptions of selected