

is emphasised by new evidence from North America, in addition to that known from Cape Colony. A brilliant suggestion of Carvill Lewis becomes thus fully justified.

In the fine chapter on the geological history of the colony, the influence of Prof. W. M. Davis (p. 451) now becomes justly manifest. There was little to modify, however, in Dr. Rogers's original review of the great processes that have made South Africa. His suggestion that the S-bends of the rocky gorges in the south are the descendants of meanders formed when the rivers ran over a great plain remains happily unaltered. If South African geologists have learnt willingly from friends whom they invited in 1905 to the coast-ranges and the veld, it will be long before those friends can repay what they themselves received. The guidance then given by Dr. Rogers is renewed and extended in the present admirable volume.

G. A. J. C.

#### OUR BOOK SHELF.

*The Romance of Modern Chemistry.* By Dr. J. C. Philip. Pp. 348. (London: Seeley and Co., Ltd., 1910.) Price 5s.

ACCORDING to its subtitle, this book is "a description in non-technical language of the diverse and wonderful ways in which chemical forces are at work, and of their manifold application in modern life." After some prefatory historical and theoretical matter, the reader is provided with a wealth of brightly-written and interesting information about fuel and its uses, explosives, low-temperature and high-temperature appliances, and spectroscopy. Modern phases of agricultural chemistry and of industries relating to sugar, starch, fats, and oils are discussed, and the concluding chapters give well-chosen illustrations of applied chemical science in relation to the adulteration of food, the utilisation of by-products, coal-tar products, large-scale electrolysis, solutions, crystals, and industrial catalysis. The last chapter illustrates vividly the part that "accident" has played in chemical discovery.

The most formidable difficulty in writing a book of this kind is to get the reader sufficiently acquainted with the elements of chemical fact and reasoning to enable him to understand the applications. Dr. Philip has adopted a light treatment and allowed himself a free use of imagery of an anthropomorphic kind, which will probably make an impression. To a reader who knows just a little chemistry the interest from the beginning of chapter vi. to the end of the book (chapter xxx.) will be kept fully alive, and as the body of information contained in these chapters is just that which is apt to be omitted from school or evening-class courses of formal chemistry, the book has a very distinct place of usefulness. It is written with an unimpeachable knowledge of scientific chemistry, a very unacademic appreciation and knowledge of practical problems, and a certain amount of human nature, which make the best possible equipment for the author of a book intended to popularise science. The chapter on solutions is particularly worthy of mention as an example of admirable exposition. There are twenty-nine excellent illustrations, which have been selected with care and at considerable trouble, but a long accumulating detestation of the very names stalactite and stalagmite would have reconciled the present writer to a suppression of the three plates dealing with these bedridden natural and etymological phenomena.

A. S.

*Hayward's Botanist's Pocket-book.* 13th edition, revised and enlarged. By G. C. Druce. Pp. xlv+280. (London: George Bell and Sons, 1909.) Price 4s. 6d. net.

THE "Botanist's Pocket-book" is well known as a handy companion of a convenient size for the pocket, and containing sufficient data to determine ordinary plants in the field. The original work, published in 1872, was enlarged in 1886 by the addition of an appendix, but, as many changes have recently been rendered necessary, the publishers have wisely authorised Mr. G. C. Druce to make a thorough revision. The general plan remains the same, but there is evidence of Mr. Druce's emendations from the first page to the last. Notably, the synopsis of the natural orders has been corrected, the arrangement of the genera has been altered, and both genera and species have been carefully revised to incorporate the conclusions of present-day authorities and present the nomenclature in accordance with the recommendations of the Vienna Congress.

The revision gives all species and varieties, even certain hybrids, except for the genera *Hieracium*, *Euphrasia*, and *Rubus*. Although the identification of many critical species and varieties will not be decided in the field or even on the scanty data supplied, botanists will not cavil at the decision to include them, especially as it has not necessitated an increase in the size of the volume. It is not apparent why the family names *Lamiaceæ* and *Graminaceæ* have been coined, while the substitution of *Pinaceæ* for *Coniferæ* to include *Taxus* cannot be accepted; further, it would have been less perplexing to many botanists to find the nomenclature if not the sequence of the last edition of Babington's "Manual." Doubtless the last point has received the consideration of the reviser, who has rendered another service to botany by placing on record his conceptions based on many years' constant study of British plants.

*Yorkshire Type Ammonites.* Edited by Mr. S. S. Buckman. Part I. Pp. i-xii, i-ii, plates 12, and descriptions Nos. 1-8. (London: W. Wesley and Son, 1909.) Price 3s. 3d. net.

It is intended that this work shall appear in about sixteen parts. The object of the publication is to give an adequate pictorial and critical revision of the type-specimens of Jurassic ammonites from Yorkshire which were unsatisfactorily described or figured by the early authorities Young and Bird, John Phillips and Martin Simpson. The treatment is similar to that in the well-known "Palæontologia Universalis," and the excellent illustrations in colotype process are from photographs of the actual specimens, mainly by Mr. J. W. Tutcher. In addition to a reprint of the original diagnoses, supplemented by useful critical remarks, the editor has supplied a clearly arranged and concise account of the comprehensive system of terminology which has been adopted by those who have made the most advanced studies of ammonite-development. He has also added some original and suggestive remarks on the cyclical development of the shell-form. In another section of the work there are useful notes on generic names. Twelve plates are issued in the present part, with text relating to eight species, and the introductory matter is uncompleted. This work will prove indispensable, not only to those who take a serious interest in Yorkshire geology, but to all students of Jurassic ammonites.

*Klimatographie von Österreich.* Part IV. *Tirol und Vorarlberg.* By Dr. H. v. Ficker. Pp. vi+162. (Vienna: Gerold und Komp, 1909.)

This volume forms part iv. of the valuable handbook on the climatology of Austria which is being issued by