

importance of his researches, which will stand for all time as the foundation of our knowledge of the geology of the Chinese Empire, or whether we regard the fact that the author himself was only able to publish a portion of his work, the greater part having been prepared for and put through the press by the devoted industry of his friends and former pupils.

Of the two volumes before us, one contains v. Richthofen's account of his travels through southern China, edited and amplified by references to the observations of later travellers by E. Tiessen. These additions are most extensive in the account of the salt and gas fields of the upper Yangtsekiang, which v. Richthofen was prevented from visiting, where the ingenuity and indomitable perseverance of the Chinese have enabled them, in spite of the primitive nature of their appliances, to rival the achievements of the modern driller and to obtain a supply of natural gas from depths of 2000 ft. and even 3000 ft. The detailed observations of so acute an observer must always be of interest, and although all the more important results of his journey have already been published in one form or another, we welcome the completion of publication of the record, which will always be of importance and value to the student of the geology and physical geography of Eastern Asia.

The other volume is entirely the work of Dr. Fritz Frech, to whom Baron v. Richthofen entrusted the elaboration of the palæontological material collected by him. The description of the fossils is supplemented by a series of essays on the distribution and development of the different rock systems in China and Eastern Asia, and by a general review of the geographical evolution and the geological history of sea and land in China.

OUR BOOKSHELF.

Die gnomonische Projektion in ihrer Anwendung auf kristallographische Aufgaben. By Dr. H. E. Boeke. Pp. iv+54. (Berlin: Gebrüder Borntraeger, 1913.) Price 3.50 marks.

THIS little book on the gnomonic projection of crystals is a welcome addition to crystallographic literature. The standard work on the subject, "Ueber Projektion und graphische Kristallberechnung," by Prof. V. Goldschmidt, of Heidelberg, was published in the year 1887, before the advent of the two-circle goniometer, which has both simplified the method and enlarged the field of usefulness of the gnomonic projection. The greater number of the subsequent improvements in the method we owe to Dr. G. F. Herbert Smith, Mr. H. Hilton, Dr. A. Hutchinson, Dr. J. W. Evans, Sir Henry Miers, Prof. von Fedorow, and Prof. F. E. Wright.

The gnomonic differs from the stereographic projection in that the plane of projection is a

tangent plane to the sphere (within which the crystal is supposed to be concentrically situated), and the eye is imagined to be placed at the common centre of the sphere and crystal; while in the stereographic projection the eye is situated at the north or south pole of the sphere, and the plane of projection is that containing the equatorial great circle. Just as we have the most useful stereographic nets of Hutchinson, Penfield, and von Fedorow, so we have the gnomonic net of Hilton, and Herbert Smith has furnished us with a table to facilitate the plotting of the gnomonic diagram from the results of the measurements of the crystal made on the two-circle goniometer, an excellent type of which he has invented. With the exception that no mention appears to be made of the important work of Herbert Smith (no index is provided), Prof. Boeke has given in the concise space of fifty-four pages a very fair account of the principles of the method, together with some useful tables of chords and tangents. The illustrations are simple ones from original drawings of the author, and are very practical, but an obvious omission is that of a few typical gnomonic projections of fairly complex crystals belonging to each system of symmetry. Such a series of concrete examples would have afforded students a more comprehensive idea of the scope, possibilities, and actual application of the gnomonic projection.

A. E. H. T.

The Extra Pharmacopoeia of Martindale and Westcott. Revised by Dr. W. Harrison Martindale and Dr. W. Wynn Westcott. Fifteenth edition. Vol. i., pp. xxxi+1114. Price 14s. net. Vol. ii., pp. viii+370. Price 7s. net. (London: H. K. Lewis, 1912.)

THIS valuable work has now reached its fifteenth edition, eloquent testimony of its worth. The subject-matter has grown to so great an extent that it has been necessary to divide it into two volumes: the first, of more than 1000 pages, contains the description of the chemicals and drugs and the sections on vaccine and serum therapy, therapeutic index, &c.; the second embodies analytical and experimental work and a *résumé* of investigations on infective and other diseases. For the medical man and pharmacist, the book contains a wealth of information scarcely to be found in any other work, while numerous data are scattered through it which render it a volume of reference which will be found of the greatest service in the chemical and the biological laboratory.

R. T. H.

Practical Physiological Chemistry. By S. W. Cole. Third edition. Pp. xii+230. (Cambridge: W. Heffer and Sons, Ltd., 1913.) Price 7s. 6d. net.

UNDER the title "Practical Exercises in Physiological Chemistry," this book was reviewed in the issue of NATURE for March 2, 1905 (vol. lxxi., p. 412). In the present edition Mr. Cole directs particular attention to analytical methods. He urges that medical students should be taught the micro-chemical methods of urinary analysis introduced by Folin, and that more conclusive qualitative methods should replace Fehling's sugar-test.