

nature with an opened eye, and a little correct seeing must surely inspire him with the desire to understand, and to know nature as the sculptor knows the human body. The anatomy of scenery can only be fully grasped by industrious study, and every landscape painter should be put, as a prime essential, through properly devised courses of meteorology, botany, and geology since they are the only clues to the working of the bones and muscles of the world.

#### OUR BOOK SHELF.

*The Hills and Valleys of Torquay: a Study in Valley-Development and an Explanation of Local Scenery.* By A. J. Jukes-Browne. Pp. viii+124. (Torquay: Published by the Author, Florist, Torquay, 1907.) Price 3s. 6d.

This is a pleasantly written but withal scientific explanation of the sculpturing of the land which forms the Torquay promontory. The natural attractions of the region are great, and Torquay itself is said to spread over eight hills. Among these, Lincombe and Warberry Hills, formed of red Devonian grits, rise from 400 to nearly 500 feet; while the coast scenery is diversified by the limestone crags and cliffs of Torquay and Babbacombe, the slates of Ilsham, the dark igneous rock of Black Head, and the red conglomerates, sandstones, and clays of Watcombe and Livermead.

In describing the various stages and processes that have led to the present scenery, the author has endeavoured to make his work as simple as possible, but the reader who has hitherto paid no attention to geology must give earnest application to the introductory geological chapters in order to understand the subject.

The author shows how the present features were gradually developed after the Bovey Beds of Eocene age had been spread over an eroded surface of older rocks. The rivers then took their courses over soft strata, and cut channels through this covering into the Permian and Devonian rocks beneath. In process of time all traces of Bovey Beds have been removed from the area, and there have been revealed the remnants of old rock-platforms like that of Babbacombe, trenched in places by river action, before the present outlines of the coast were shaped.

The work, which will be of special interest to residents and visitors, is illustrated by a number of excellent pictorial views, and by a series of maps, based on those of the Geological Survey. The student may with advantage colour by hand the different geological formations represented on these maps. The author would have done well to mention the Geological Survey memoir on the country around Torquay by Mr. W. A. E. Ussher, a work which must form the basis of future research in the area.

*Ammonia and its Compounds.* By Dr. J. Grossmann. Pp. x+151. (London and New York: Harper and Bros., 1906.) Price 2s. 6d. net.

This is the first volume of a series of handbooks on chemical technology which, so the preface informs us, are not intended to be highly elaborated treatises, but are rather to afford a general survey of the subject and to serve as guides to the larger standard works. Although the author of the present volume disclaims either originality in the subject-matter or completeness in the compilation of his materials, the careful reader will soon realise that whatever defects the book may possess, it is written by one who is not only familiar with his subject, but combines a full knowledge with

the power of clear and concise exposition. A more comprehensive treatise may possess the advantage of a work of reference for specialists, but a small volume like this will no doubt attract a wider circle of readers, and should find its way to the shelves of the student of general chemistry. We can only express a hope that the succeeding volumes may maintain the high standard of excellence attained by the pioneer volume of the series.

But if the publishers are to be congratulated on their new venture, we must candidly express regret that so admirable a little volume should have been printed on such inferior paper. It may be desirable to buy a good book at a low price, but no one would grudge a small additional cost if it enabled him to decipher the lines of the illustrations. We would specially direct attention to the figure on p. 85, in which, owing to the character and surface of the paper, all the fine lines are obliterated, and the drawing rendered quite worthless as an illustration.

J. B. C.

*Ventilation, Heating, and Lighting.* By W. H. Maxwell. Pp. vi+151. Second edition, revised and enlarged. (London: The Sanitary Publishing Co., 1907.) Price 3s. net.

The simple principles and practice of ventilation, heating, and lighting are described in this volume from the point of view of the sanitary engineer. It would be to the advantage of the community if every architect and sanitary engineer were not only familiar with the physical laws upon which successful ventilation, heating, and lighting depend, but also based their work upon them. Usually, the provision made to ventilate and heat a building is quite inadequate; and when any means are provided they are constructed according to rule-of-thumb methods, with little consideration for the possibly peculiar nature of the building to which they are adapted. A few new devices and systems are described by Mr. Maxwell, and the views of authorities on requirements and efficiency are freely cited. The student and the practical man will find the book easy to understand, and a useful guide to success in examinations or in building construction.

*Practical Physiological Chemistry.* By Dr. Philip B. Hawk. Pp. xiv+416; illustrated. (London: J. and A. Churchill, 1907.) Price 10s. net.

DR. HAWK'S name is well known as an investigator in the subject of physiological chemistry. The present volume testifies to his ability as a teacher of the subject. Although there is nothing strikingly original in his presentation of the subject, the book he has produced is free from error, is clearly written, is practical, and sufficiently full for most purposes. The recent work published by Fischer and his colleagues on the question of protein cleavage products is given with special fullness; the urine, also, is naturally a subject which occupies considerable space; indeed, nearly half the book is devoted to this important secretion. The volume is admirably illustrated and well printed.

W. D. H.

*Résistance des Carènes.* By M. Fricker. Pp. 170. (Paris: Gauthier-Villars; Masson et Cie., 1907.)

This latest addition to the series of little volumes known as "Encyclopédie scientifique des Aide-Mémoire," to which attention has often been directed in these columns, deals with the propagation of waves and questions of resistance of liquids to motion through them, with particular reference to the motions of ships. The problems considered are treated theoretically and experimentally, and the student of naval architecture with some knowledge of the calculus should find the book useful.