

metallurgical processes by diagrammatic schemes such as the author has adopted; see p. 198, for instance. The one given for the blast furnace (p. 110) is certainly instructive.

The illustrations, of which there are nearly one hundred, are clear, but some of them are very old friends, while others are perspective drawings; and for a book like this, the reviewer would have preferred to see suggestive outlines and sketches, which the student could have transferred to his note-book with a few strokes of the pencil.

W. R.-A.

#### OUR BOOK SHELF.

*Milk, its Nature and Composition; a Handbook on the Chemistry and Bacteriology of Milk, Butter, and Cheese.* By C. M. Aikman, M.A., D.Sc. Crown 8vo. Pp. 173. (London: Adam and Charles Black, 1895.)

THE design of this little work is to give a short, popular statement of the more important facts concerning the chemistry and bacteriology of milk; and Dr. Aikman has succeeded admirably. A great deal of most valuable information is conveyed in a simple and eminently readable form, and it is a volume which is not only suitable for students in our recently started dairy-schools, but might well find a place in the library of any country-house. The general public is only very slowly awakening to the dangers which surround the consumption of dairy produce, and it requires the pressure of enlightened public opinion to produce the requisite reforms in the hygienic management of dairies. Dr. Aikman's volume, together with Dr. Freudenreich's "Bacteria in their relation to the Dairy," recently reviewed in these columns, should help a great deal in bringing about such reforms, which are not only of hygienic but of commercial importance to this country. In the section on the pasteurisation of milk, Dr. Aikman has overlooked an important fact, upon which the subsequent keeping power of such milk so largely depends, *i.e.* the *immediate* chilling of the milk after pasteurisation to a temperature below the point most favourable for germination. We think, in view of the recent valuable experiments, made in America and elsewhere, on the production of pasteurised milk on a commercial scale, and the importance of our adoption of a practice which has already gained considerable ground on the continent, Dr. Aikman might with advantage have entered more fully into this branch of the subject. Doubtless in a second edition Dr. Aikman will also expand somewhat the part devoted to cheese, and include some of the important and interesting results obtained by Bondzynski on the chemical composition of some varieties of cheese, published in the *Landw. Jahrbuch der Schweiz* last year. The illustrations accompanying the text are carefully chosen and well executed.

*Elementary Physics.* By John Henderson, B.Sc. (Edin.). Pp. 128. (London: Longmans, Green, and Co., 1895.)

IT may be well to remark at once that this is not a text-book of physics, but the first volume of a series of manuals designed solely for use in physical and electrical engineering laboratories. The present book is a general introduction to practical work in physics, and future volumes will be devoted to more advanced experiments. Altogether, eighty experiments are described, and are arranged in sections having the following succession: general physics, magnetism, electricity, heat, light, and sound. No serious attempt seems to have been made to connect the experiments in any particular order, so that, with few exceptions, they are independent of one another. A slight knowledge of physics is necessary before the student can understand and carry out the course of work described. This information may, however, be obtained

from lectures given concurrently with the laboratory work, though the order of the practical course is not what most teachers follow in their lectures.

The experiments can be performed without any very elaborate apparatus, and we have no hesitation in saying that the student who works through them will by so doing obtain a sound knowledge of many important physical laws. The knowledge thus gained by direct observation is far and away better and deeper than that obtained by reading text-books.

*Practical Trigonometry.* By H. Adams, M.I.M.E. (London: Whittaker and Co., 1896.)

THE author of this small book is careful to point out that it is not a text-book; but it will be found useful to practical men, in enabling them to undertake the perusal of other than elementary works where a knowledge of trigonometry is essential.

The book is so arranged as to gradually disperse the difficulties to beginners in trigonometry, and it cannot but prove an incentive to further study. As an *aide-mémoire*, however, the absence of proofs, to secure brevity, will diminish its value for examinations where trigonometry is a special subject.

W. S.

#### LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

#### Remarkable Sounds.

WITH reference to Mr. McKenny Hughes' letter on this subject, which appears in your issue of the 14th ult., and to his suggestion that it "would be of great help if we would get some exact data as to the distance at which the sounds of great guns, of blasting, or of waves, can be proved to have been heard," I would ask permission to be allowed to cite my experience on the north coast of Spain at the fishing village of Comillas, about twenty-four miles west of Santander. The bay which gives rise to the port is relatively small, and of inconsiderable depth inland; the south-east part of it is limited shoreways by cliffs of limestone, which rise to a height of about 120 feet, and somewhat overhanging the base or water-line. When the ground-swell—so characteristic of the Bay of Biscay—comes in to this bay, the breakers are very remarkable, and dangerous for small fishing-boats, being relatively high, and succeeding one another with great regularity. They break against the cliff mentioned with a thundering noise, and such that I have frequently heard them at eight miles' distance inland, although high and uneven ground lay between me and the coast, and the weather was relatively calm, so that the sound could hardly be favoured in its transmission by the wind. In stormy weather, and when the weather has been bad seaward, then the waves are even more terrible, and the sound heard still farther away.

Dublin, November 27.

J. P. O'REILLY.

IT is a pleasure to me to see Prof. Darwin's note on curious sounds, in NATURE for October 31, since I have often been puzzled by what is obviously precisely the same phenomenon along the Bay of Fundy coast of New Brunswick, particularly about Passamaquoddy Bay, where I have been a great deal in the summer. Locally it is explained as the reports of the guns of Indians shooting porpoises off the islands of Campobello and Grand Manan; but, for several reasons, I never believed this: in fact, I have always been sure it must be due to some other cause, though I could think of no explanation. It is heard most often in summer, in rather still and warm weather, on those days when the heat-haze hovers upon the ocean, and appears to come from seaward.

W. F. GANONG.

Smith College, Northampton, Mass., U.S.A.

THE "humming in the air," to which Mr. Tomlinson calls attention in your last number, is noticed in White's "Selborne."

"There is a natural occurrence to be met with upon the