

OUR BOOK SHELF.

Questions and Examples on Elementary Experimental Physics. By Benjamin Lœwy. (London: Macmillan and Co., 1888.)

THIS book contains some 470 questions and examples in elementary physics, selected from the various papers set by the author for the examinations of the College of Preceptors. The questions are arranged under the four sections, sound, light, heat, and electricity and magnetism, and are further subdivided in each section into groups of five or six, with the suggestion that each group should form the subject of an ordinary school lesson. Problems involving a knowledge of mathematics beyond elementary arithmetic and geometry are avoided; in other respects the general standard of the questions is about that of the advanced stage of the Science and Art Department's examinations. The questions are well selected, and free from ambiguity or repetition. We notice under Heat, ix., 1, the question: "In the process of graduating a thermometer, why must the freezing-point be determined before the boiling-point?" This is the order of operations as usually given in the text-books, but it has been shown in the elaborate report of the Bureau des Poids et Mesures that the interval between the freezing and boiling points is most constant when the freezing-point is determined as soon as possible after the boiling-point.

We can recommend this little book to the attention of those teachers who have to prepare pupils for the public examinations in elementary physics. For success in such examinations it is not sufficient that the pupils should possess the requisite amount of knowledge: they must also acquire the power to express their knowledge clearly and concisely on paper, and such power it is one of the functions of such a book as this to impart.

H. H. H.

The Unknown Horn of Africa. By F. L. James, F.R.G.S. (London: G. Philip and Son, 1888.)

THIS is an extremely interesting record of an exploration from Berbera to the Leopard River, undertaken about four years ago. Various attempts had been made, before Mr. James's journey, to penetrate to the interior of Somali Land, but without success. Mr. James and his companions, more fortunate, or more skilful, than their predecessors, contrived to push their way to the goal for which they started; and the result is that the present volume is accompanied by a map embodying much new information regarding a district of considerable extent and importance. Some of the difficulties encountered by the party were formidable, but courage and perseverance enabled the travellers to overcome every obstacle. Mr. James has much to tell us about the flora and fauna of the country, as well as about its physical features; and he has many lively and instructive passages describing his relations with the natives, whose peculiarities he seems to have thoroughly understood. The story is itself so interesting, and is told in so bright and pleasant a style, that the book ought to be one of the most popular of recent works of travel. It is illustrated by a number of excellent coloured plates, and by various effective pictures, composed from photographs of natives and native scenery taken on the spot.

Seas and Skies in Many Latitudes. By the Hon. Ralph Abercromby. (London: Edward Stanford, 1888.)

THIS is not an ordinary book of travels. It has been written mainly for the purpose of calling attention to such phenomena of the sky and weather as Mr. Abercromby has observed in various parts of the world. The opening chapter describes the author's experiences in Canada and the United States in the year 1865. Then he gives an

account of a voyage round the world, beginning with what he saw in Egypt, and passing on to descriptions relating to Australia, New Caledonia, Fiji, New Zealand, Cape Horn, and Rio Janeiro. Mr. Abercromby next takes his readers within the Arctic Circle, and afterwards he tells of a long journey, in the course of which he was at the Cape of Good Hope, Mauritius, Ceylon, the Himalayas, Borneo, Manilla, San Francisco, and Washington. He by no means confines his narrative to matters specially attractive to meteorologists. He takes interest in many different classes of subjects, and has something more or less memorable to record about almost all the places he has visited. It is, however, meteorology that he keeps chiefly in view, and we need scarcely say that on this subject, which he has so long and carefully studied, his book is always fresh and instructive. The value of the work is increased by good maps and illustrations.

LETTERS TO THE EDITOR.

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Alpine Haze.

WITH the caution of a true man of science, Prof. Tyndall has given this name to a phenomenon observed by him in the Alps. Does not W. Clement Ley beg the question by calling it "dust-haze"? I should translate his *nebula arida* by "dry haze."

Two hundred years ago, Ludolf gave the best definition of *qobar* by translating it: "opacitas aeris qualis solet esse tempore feruissimæ æstatis."

In my last letter I quoted several names of it, in order to show that the vulgar eye has long distinguished this phenomenon. I have since learnt that, in the Basque dialect of Gipuzkoa, its proper name is *bisuntz*, but that seafarers call it *lur-autsa*, i.e. "earth-haze," *lañoa*, meaning common fog. The Ethiopic name, *qobar*, comes from *gabbara*, a root extant also in Hebrew and Arabic, and meaning to bury. *Qobar* hides the landscape, and conceals stars of the third magnitude, even in the zenith. Gasparin observed it on Mount Ventoux, where he crossed a thick cloud which made no impression on his hygrometer. Humboldt, viewing *qobar* in Peru, says, "Quelle est cette vapeur qui est visible et qui ne mouille pas?" but leaves his question unanswered.

While travelling in Spain, Willkomm remarked *qobar* at a distance of 3 or 4 miles, yet, on reaching the actual spot, he saw nothing. He clearly distinguished it from the *landrauch* ascribed to smoke caused by turf burning in Westphalia, and thinks, like Spaniards, that *callina* increases with solar heat. Several German authors have spoken of this phenomenon as smoke, but Egen is the only one who has followed it up from place to place through an extent of 200 kilometres, and rendered it probable that it then covered a space of more than a thousand square myriametres. It seems, however, that particles of smoke should attract moisture, if there were any in the air, and then form real clouds or otherwise fall to the ground by increase of weight.

Bravais saw *qobar* on the Faulhorn, when his hygrometer was at 51, air saturated with moisture marking 100. In Ethiopia, where I have observed it so low as 20, the hygrometer's mean reading was 41 when *qobar* was conspicuous. Above 72 it disappeared. These figures apply to the place of observation. Conclusions can be safely drawn only when the air's moisture shall have been measured in several places along the line of sight up to the spot where *qobar* prevails, or, better still, in that spot itself when recognized from a distance.

Since I published my first account of *qobar*, Martins, who observed it in Auvergne, Switzerland, and from Mount Canigou, is the only author who has specially described it. He says that the Swiss call it *hâle*, and that he saw none of it in Lapland. In spite of Kaemtz's remark that, moisture being the essence of all fogs, a "dry fog" is an expression not less un-