

and distribution are added. These, in conjunction with a glossary of terms, render the book available to everyone possessed of an elementary knowledge of botany. In addition to the descriptive text, Mr. Duthie has collected into the notes appended to the species a vast amount of information dealing with the identification and economic uses of the plants, both indigenous and cultivated. A perusal of the book not only serves to indicate how large a proportion of the Indian plants possess valuable properties, but also cannot fail to impress one with the comprehensive knowledge which has been acquired by the assiduous work of the author and other botanists in India who have occupied similar responsible positions. This part includes the orders Ranunculaceæ to Cornaceæ; the first volume will extend to the Campanulaceæ, and two volumes will complete the work.

*A Laboratory Guide to Qualitative Analysis with the Blowpipe.* By F. W. Martin, Ph.D. Pp. iv+47. (New York: John Wiley and Sons; London: Chapman and Hall, Ltd., 1903.) Price 2s. 10d.

THE author regards the restricted employment of the blowpipe in analysis as due to the lack of a convenient manual or work of reference, which this modest little volume of fifty pages is now intended to supply.

It may be questioned whether, in a well-equipped laboratory, the use of the blowpipe as a delicate instrument for qualitative analysis will supersede other methods. For the mineralogist, and especially for the mining prospector, the classic of Plattner-Richter, which has been translated into English by Cornwall, will always hold its place.

There is nothing in the present volume to call for special notice. The matter is very condensed, occasionally at the risk of becoming confused. This is a description of a coal gas flame:—"Its luminosity is due to superheated, separated carbon set free from acetylene, an easily decomposed gas, which is formed from other hydrocarbons composing the gas used as fuel by the heat of combustion in the outer envelope." One is accustomed to the American spelling of "luster," "vapor," &c., but the omission of the final e in "oxid," "sulfid," "chlorid," &c., if intentional (*oxide* also occurs), is un-English.

J. B. C.

*Elementary Experimental Science. Physics.* By W. T. Clough. *Chemistry.* By A. E. Dunstan, B.Sc. Pp. vi+239. (London: Methuen and Co., 1904.) Price 2s. 6d.

THE course of work provided in this little book is intended for young beginners who propose to present themselves for examinations of the standard of the University Junior Locals. The book aims at supplying the necessary general information, and also sufficiently explicit instructions for laboratory work. In the physics section 157 experiments are provided, and in chemistry there are 110, but a number of them are more suitable for lecture demonstrations than for laboratory exercises. A pupil who works through the book, performing the more important of the experiments given, cannot fail to obtain a fair knowledge of the fundamental principles of physical and chemical science.

*Notes from a Lincolnshire Garden.* By A. L. H. A. Pp. 93. (London: Elkin Mathews, 1903.) Price 2s. 6d. net.

THESE notes are chatty, interesting, and intelligent. The writer loves the garden and everything that happens in or near it. The book is an instance of the humanising effect of nature-study undertaken for the love of the subject. The little book may be recommended to all lovers of country gardens.

NO. 1780, VOL. 69]

## 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.]

### Heating Effect of the Radium Emanation.

IN a letter to NATURE of November 5, Prof. Schuster has made some remarks on a letter published by us the week previously, containing a brief account of some experiments to show that the heating effect of radium is temporarily reduced by the removal of the emanation, and that the tube containing the emanation separated from the radium shows a considerable heating effect.

The difficulty felt by Prof. Schuster apparently arose from the fact that we included in the heating effect of the emanation not only that due to the emanation itself, but also that due to the secondary products to which the emanation gives rise. It was an oversight on our part to have omitted in the sentence "more than two-thirds of the heating effect is not due to the radium at all, but to the radio-active emanation which it produces from itself," the words "together with the secondary products to which the emanation gives rise." We were fully aware that the heating effect was in part due to the "excited activity" produced by the emanation. We specially mentioned the gradual decay of the heating effect of radium to a minimum in the course of a few hours, and the increase of the heating effect of the emanation tube during the same period. These effects are connected with the gradual decay and rise, respectively, of the excited activity produced by the radium emanation. The results would have little meaning if we believed the heating effect was due to the emanation alone, for, as Prof. Schuster quite correctly points out, the heating effect in such a case should at once drop to a minimum after removal of the emanation, and the heating effect of the tube containing the emanation should not at first increase.

On account of the rapid rise of the excited activity in a tube containing the radium emanation, the separation of the heating effect of the emanation from the complicated secondary changes which result from it is a difficult experimental problem.

Our letter was merely a preliminary announcement of the results of our experiments. It is not possible to discuss the consequences to be deduced from the experiments without entering into a detailed description of the measurements. We hope to publish shortly a full account of our work on the various heating effects.

McGill University, November 20.

E. RUTHERFORD.

H. T. BARNES.

### The Pearl-Oyster Parasite in Ceylon.

MR. JAMES HORNELL, who is still in Ceylon carrying on the investigation of the pearl-oyster fisheries which I started in 1902, tells me in a letter just received that he has now succeeded in finding the final stage of the cestode larva which we found to be the nucleus of the best Ceylon pearls. We found this larva (a *Tetrarhynchus*), in the spring of 1902, in the pearl-oyster, and, later on, what we took to be its later stages in the file-fishes (*Balistes*) which feed upon the pearl-oysters, and we felt pretty certain (as I stated in the first part of my report, now published) that the adult would be found in Trygon or some other large Elasmobranch. Mr. Hornell writes from Trincomalie, November 16, as follows:—"Just a line to tell you that I have found the final host of *Tetrarhynchus unionifactor*.<sup>1</sup>

"It occurs, as surmised, in one of the large rays—a Trygon, I believe, but I have no work on fishes, and cannot identify at present.

"There is, I believe, practically no doubt as to species, in the stomach of the ray being two *Balistes* entire, and apparently just devoured, and plenty of bones. In the folds

<sup>1</sup> The name we gave to this *Tetrarhynchus* larva in our notes and letters until it was ascertained whether the species was known or new.—W. A. H.