

plane. The hyper-elliptic integrals of this more general problem are interpreted in a similar way to the elliptic integrals of the previous discussion. From the nature of the case, in these lectures, an outline sketch of a large subject is all that can be given, but the lines are traced by the hand of a master; and for filling in the details we must look to the author's treatise, "Ueber die Theorie des Kreisels," which is now in course of publication by Teubner.

William Stokes, his Life and Work (1804-1878). By Sir William Stokes. *Masters of Medicine.* Pp. 256; plate i. (London: T. Fisher Unwin, 1898.)

THE memoir before us is an interestingly written account of a man whom all physicians respect. Stokes was a master of medicine, and the inclusion of his biography in this series shows the wisdom of the editor. The name and work of Stokes are perhaps not as well-known to the modern student of medicine as they ought to be; this is probably due to the fact that not sufficient time has passed for us to appreciate his work, or rather for us to estimate its great value. He worked and taught at the time when exact methods of physical diagnosis were beginning to be applied by the clinician. Pathological chemistry and bacteriology were practically non-existent, and clinical thermometry was in its infancy. The work of Laennec on the stethoscope had attracted the attention of medical Europe, and opened up the enormous field of the correlation between physical signs and symptoms. It is in this particular field that the work of Stokes was done, and his treatise on the diagnosis and treatment of diseases of the chest still remains a classic. With the exception of Laennec's work, which it considerably amplified, this book must be regarded as one of the most noteworthy upon this subject which had until then been written.

To turn from his professional to his private life, the letters which are given us in this biography show us Stokes as a cultured Irish gentleman, forming the centre of a wide circle of friends. The biography is carefully written, and will appeal to all those who are interested in that epoch of the history of medicine to which its subject belongs.

F. W. T.

Practical Organic Chemistry. By George George, F.C.S. Pp. 94. (London: W. B. Clive.)

THERE is no date on the title-page of this book, but the preface bears the date May 1898. No scientific book should, however, be published without the year of publication being printed upon the title-page.

The book is intended "for the elementary and advanced examinations of the Science and Art Department." It contains a few experiments on the detection of common elements in organic compounds, on melting and boiling points, organic acids, alcohols, sugars, &c., notes on the methods of examination of mixtures containing organic compounds, and on the preparation of some reagents used in organic analysis. The volume will thus make the student acquainted with the reactions of, and the tests for, common organic bodies.

Food Supply: a Practical Handbook for the use of Colonists and all intending to become Farmers Abroad or at Home. By Robert Bruce. With an Appendix on Preserved and Concentrated Foods, by C. Ainsworth Mitchell, B.A. Pp. xvi + 159. (London: Charles Griffin and Co., Ltd., 1898.)

THIS is the second volume of the "New-Land" Series, edited by Prof. G. A. J. Cole. It is a concise and soundly practical manual of farming in which the fundamental principles of successful agriculture, and of the selection and management of live-stock, are described. It is only paying a compliment to the author to state that the book contains the kind of information published by

the Department of Agriculture of the United States, and in such official publications as the *Agricultural Gazette* of New South Wales and the *Agricultural Journal* of the Cape. As we are at present without a central office for supplying information to British farmers, it is the more necessary that the means of education in the science and practice of agriculture afforded by such books as the one under notice, should be widely known. The volume deals with the fundamental principles of most branches of farming, and will prove of service in any part of the world. The forty-nine half-tone reproductions of photographs of representative animals, illustrating the chief breeds of live-stock, will be of particular interest to farmers.

Royal Gardens, Kew. Bulletin of Miscellaneous Information, 1897. Pp. 437 + 68. (London: H.M. Stationery Office, 1897.)

THE well-known *Kew Bulletins* afford the best of evidence of the valuable work done at the Royal Gardens in advising upon possible developments of the natural resources of our Colonies and dependencies. Each *Bulletin* contains a number of plain statements of attempts made to introduce new and commercially profitable plants in suitable districts, of improved methods of cultivation, and of work that men trained at Kew are doing in the various parts of the world to which they have gone from the Royal Gardens. The *Bulletins* issued in 1897 are collected in the present volume, and together they make a worthy contribution to economic botany. Among the contents is a long list of publications issued from Kew during the years 1841-95. This record of accomplished work is an eloquent testimony of the important part which the Gardens take in botanical research, and in developing the resources of the Empire. Several papers on botanical exploration and enterprise are included, and sixty-three pages are devoted to the report of the Royal Commission appointed to inquire into the condition and prospects of the West India Colonies.

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.]

The Spectrum of Metargon.

WE have delayed in replying to Prof. Schuster's letter in your issue of June 30 in order that we might make further experiments on the subject. We have had the kind assistance of Prof. Schuster, who demonstrated to us the close similarity between the group of green lines in the metargon spectrum and the spectrum of the blowpipe flame. We subsequently satisfied ourselves regarding the similarity of the metargon spectrum and the "Swan" spectrum, shown by carbon monoxide in a vacuum tube. At first sight, Prof. Schuster seems justified in attributing that spectrum to the presence of carbon or of one of its compounds. Yet we think that careful consideration of the following facts will necessitate a suspension of judgment:—

(1) The sample of metargon was mixed with twice its volume of oxygen, and sparked for two hours in presence of caustic soda. This sample, introduced into a vacuum tube after removal of oxygen, still showed the same spectrum.

(2) A little oxygen was introduced into the gas, and the mixture was then admitted to a vacuum tube. Oxygen lines became visible, but no bands of the so-called "carbonic oxide" spectrum. On removing the oxygen by means of phosphorus, the original spectrum appeared with its customary brilliancy.

Thinking it possible that the ordinary spark may not have had a sufficiently high temperature to decompose an imaginary stable carbon compound, a jar and spark-gap were introduced, and sparks passed through a mixture of metargon with twice its volume of oxygen, standing over caustic soda, for six hours. No