

and their position thereon. The proofs here given should serve to elucidate some of the puzzling cases not infrequently met with in testing errors of refraction. Chapter x., again, gives much valuable information on the use of the ophthalmoscope to the best advantage, and the difficulties of retinoscopy are sufficiently dealt with in the last chapter. There is no mention of accommodation or presbyopia, several points in which might well have been touched upon. An index would have been of assistance in the search for any equation relating to a particular case.

The Process Year Book, 1901-2. Edited by William Gamble. Pp. xvi+152. (London: A. W. Penrose and Co., 1901.)

EVERY year we receive this admirable and beautiful book illustrating the present state of process work, and we cannot do better than again suggest that everyone interested in the art of picture reproduction should be the possessor of this volume. The illustrations and text still maintain their high standard of excellence, and the variety of the subjects and processes dealt with gives the reader a good insight into the manifold methods in photo-mechanical engraving and the allied arts and crafts.

It may, perhaps, be specially mentioned that in consequence of the great advance in the department of process work relating to the three-colour method the editor has introduced a variety of specimens such as perhaps never before has been collected together between the covers of a single book. A glance at these soon suffices to illustrate the high state of efficiency of the methods employed to-day; and one only wonders what the future has in store for us, since it is to this branch of process work that we look for the possibility of the greatest progress.

Nautical Astronomy. By J. H. Colvin, B.A. Pp. 127. (London: E. and F. N. Spon, Ltd., 1901.) Price 2s. 6d. net.

ONE of the greatest difficulties encountered in the study of spherical and nautical astronomy is to obtain a proper comprehension of the various circles of the celestial sphere, without which the solution of the problems involved can never be anything more than mechanical. The author of this book, however, has not thought it necessary to assist the student greatly in this direction, for fifty very brief definitions can by no means be regarded as an adequate introduction to celestial geometry. Thus, unless the student is endowed with an exceptionally good geometrical imagination, or has the advantage of a good teacher, it does not seem likely that he will be able to use the book with profit. The initial difficulties excepted, however, the book has many good features; the explanatory matter is brief and clear, and there is a useful collection of formulæ, rules, numerical illustrations and exercises to be worked out. Much space is saved by the omission of tables which do not vary, while specimen pages of the "Nautical Almanac," adapted to the exercises, have been introduced.

The book is designed to cover the elementary and advanced stages of the South Kensington syllabus, and also includes the course for "extra master" in the Board of Trade examination.

Elementary Chemical Theory. By G. H. Martin, M.A., F.C.S. Pp. 24. (London: Rivingtons, 1902.) Price 9d.

THE only use to which this collection of didactic statements can be put is to furnish students of chemistry with material suitable for copying into their notebooks. It was scarcely worth while to attempt to extend the use of the book beyond the author's own pupils.

NO. 1683, VOL. 65]

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.]

Cherry Disease.

IN NATURE for January 9 (p. 239) there is a report of the meeting of the Royal Microscopical Society on December 18. The president, Mr. William Carruthers, F.R.S., made a communication with respect to the cherry disease which has appeared in Kent, from which I extract the following:—

"The results of experiments in the cultivation of the fungus showed it to be one which belonged to the genus *Gnomonia*. Many of the fungi in this class passed through various stages in their life-history, for example the mildew on wheat, which was first developed on the berberry and then spread to the wheat, appearing first as rust and afterwards as mildew from the same mycelium. The president referred to the absence in this country of any authority competent to investigate cases such as this; on the continent, however, the Governments had taken up the matter, and the experts who had inquired into it had found that to check the spread of the disease it was necessary to collect all the dead leaves and burn them."

Prof. A. W. Bennett followed in the same strain and "enlarged upon the absence in this country of investigations into such matters by State-paid establishments, and described what was being done in the United States, where every State had its own experimental station."

Now it is not my intention to discuss whether the Government does as much for scientific inquiry in the interests of the community as it might do. But it is clear to me that nothing is gained by overstating the case. There are two "State-paid" establishments devoted to botany in this country, Kew and the Botanical Department of the British Museum. Each happens to have upon its staff an officer trained in mycological investigation. And it may be added that Mr. Carruthers is himself consulting botanist to the Royal Agricultural Society.

So far as Kew is concerned, the matter was promptly dealt with in ordinary routine. Mr. Masee, who has charge of the cryptogamic collections, had given a brief account of the disease in his "Text-book of Plant Diseases," with a figure (pp. 110, 111), although at the time (1899), so far as I am aware, the disease had not been noticed in this country. Mr. A. O. Walker, of Maidstone, sent specimens in November, 1900. I quote the *Gardeners' Chronicle* for May 23, 1901 (p. 191), where he writes:—

"Early in November I sent specimens to Mr. G. Masee, of the Kew Herbarium, who reported to me that the leaves were affected by the fungus *Gnomonia erythrostoma*, and quoted Frank's opinion that the leaves should be gathered and burnt."

The council of the Royal Agricultural Society issued on February 6, 1901, a report by Mr. Carruthers giving the history of the disease and recommending Frank's remedy of burning the leaves. There is nothing very profound in this recommendation, as it is a general method applicable to all plant diseases propagated by spores, and aims at removing the source of infection.

As I recently pointed out in NATURE (vol. lxiv. p. 212), we owe to the late Prof. Cornu "the principle now so familiar as to seem almost obvious, of preventive treatment by the careful destruction by burning of the debris of plants which may harbour spores."

I may add that the *Gnomonia* is well known to mycologists, having, in fact, been first described by Persoon as a *Spheria* a century ago, and there are in the Kew Herbarium specimens of it from no less than eight published collections. Mr. Carruthers in his report, which is reproduced in the *Journal* of the Royal Horticultural Society (n.s. xxv. pp. 313-316), does not give an illustration of the *Gnomonia*, but figures instead a "Fragment of Leaf of Cherry Tree showing groups of Parasitic Fungi." These belong, apparently, to a species of *Phoma* and, so far as I am aware, there is no evidence that they have anything to do with the *Gnomonia*.

There the matter stands, and for my part I entirely fail to see how "the authority competent to investigate cases such as this" of whom we are said to be in want, could carry it farther. The