

OUR BOOKSHELF.

A Manual of Oils, Resins, and Paints, for Students and Practical Men. By Dr. H. Ingle. Vol. I., Analysis and Valuation, by the author and J. A. L. Sutcliffe. Pp. 129. (London: C. Griffin and Co., Ltd., 1915.) 3s. 6d. net.

THIS small volume is intended for students, analysts, and works chemists who are familiar with general chemistry but have had little or no practical experience in analysing oils, or preparations which contain oils. It includes much of what one would put in a good notebook intended for personal use in the laboratory. A short introduction serves to refresh the reader's memory upon points in organic chemistry specially relevant to oils and fats, after which the authors give short accounts of the most approved chemical and physical methods used in examining these bodies. Theoretical explanations are included as well as practical details. For example, the chemical reactions concerned in the absorption of iodine by oils are described more fully than usual—though it is true that we have to look in more than one place for them. A chapter on technological analysis deals not only with oils, fats, and waxes as such, but with articles such as paints, pigments, and varnishes which may contain oil as an ingredient, and with allied substances, such as turpentine and gum-resins.

The correct interpretation of the results obtained would often require much more knowledge than could be obtained from the descriptions given. Information as to the origin and methods of preparation of the various oils is not within the scope of the work. It is understood, however, that further volumes are to follow, dealing with these matters. The book is a useful introduction to laboratory work in the subject.

Potting, for Artists, Craftsmen, and Teachers.

By G. J. Cox. Pp. ix+200. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1914.) Price 5s. 6d. net.

THE book will prove a distinct help to an artist craftsman who wishes to "do something" with clay. The author is right in saying: "Too much stress cannot be laid upon the importance of close study of the best work, both ancient and modern, for it is a truism that however handily a craftsman may work, his output will be worthless if he has not, with his increasing powers of technique, developed a sound judgment and refined taste." The description of the various simple processes of pottery work is very exact, and the illustrations are admirable.

The book, indeed, is a simple, though thorough and concise, first tutor to an artist craftsman, and should, to use the author's words, "set one or two sincere students to the making of some of the many beautiful objects of utility and art with which the craft abounds."

The list of pottery terms is useful, though there are a few which are not employed in this country in the sense given by the author, for example,

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clammings in England means the doors of the kiln, and not simply the sand or siftings applied to the cracks in them; *pug* in this country is used to mean the mechanical wedging of clay; *galena* is classed by the author as highly poisonous, and lead as poisonous, whereas galena is practically safe to use, but there may be considerable danger in using white lead carelessly.

BERNARD MOORE.

LETTERS TO THE EDITOR.

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The Principle of Similitude.

WHEN Lord Rayleigh directs attention to the neglect among physicists of the principle of similitude (NATURE, March 18), he has perhaps forgotten the excellent paragraph in which Tait deals with the question in his "Properties of Matter." Curiously enough, one of Lord Rayleigh's first illustrations is also Tait's, namely, the fact that the velocity of waves on deep water is as the square root of their lengths, to which Tait adds the corresponding fact that the velocity of ripples is inversely in the same proportion.

The principle is of great use in biology, as Herbert Spencer was the first to show. By its help we understand how there is a limit set to the possible growth in magnitude of terrestrial animals; how, on the other hand, the whale gains in activity and speed the bigger it grows; why the ostrich is unable to fly; why the bee's wing vibrates so much quicker than a bird's; and why the flea can jump well-nigh as high as a man. And not less does the principle deserve to be borne in mind when we consider what must be the conditions of life in the most minute organisms: especially if there be any so small as that *Micrococcus* of the rabbit, the diameter of which is given in the books as only 0.00015 mm., or not far from the limits of microscopic vision.

D'ARCY W. THOMPSON.

It is rather curious that Prof. D'Arcy Thompson should refer to Tait's "Properties of Matter," for I fancy I might claim some part of the credit for the paragraph in question. In a review of the first edition (NATURE, vol. xxxii., p. 314, 1885) I wrote:—"There is one matter suitable to an elementary work which I should be glad to see included in a future edition, viz., the principle of dynamical similarity, or the influence of scale upon dynamical and physical phenomena. It often happens that simple reasoning founded upon this principle tells us nearly all that is to be learned from even a successful mathematical investigation, and in the numerous cases where such an investigation is beyond our powers, the principle gives us information of the utmost importance."

And, after an example or two: "I feel sure that in Prof. Tait's hands this very important and fundamental principle might be made intelligible to the great mass of physical students." Though I believe I was in correspondence with him at the time, I do not remember to have seen Tait's second (or later) edition.