

Solvents

By Dr. Thos. H. Durrans. (Monographs on Applied Chemistry, Vol. 4.) Sixth edition, revised and enlarged. Pp. xv+242. (London: Chapman and Hall, Ltd., 1950.) 21s. net.

THIS well-known and useful monograph was first published in 1930 to provide a scientific exposition of the technical application of solvents, more particularly in connexion with the cellulose-lacquer industry. The considerable advances in the production of solvents and plasticizers during the past twenty years made it necessary to subject the book to frequent revision if it was to retain its usefulness as an up-to-date manual, and it has now reached its sixth edition, which fully maintains the standard of its predecessors.

The general arrangement of the previous editions has been retained, the first part of the book discussing the more theoretical aspects of the subject, and the second part dealing with the characteristics and uses of individual solvents and plasticizers. The chapter on toxicity has undergone considerable revision and extension in the light of recent discoveries and opinions. Appendixes give a very useful and comprehensive list of trade names with probable compositions (now extended to some 576 entries), solubility tables and plasticizer proportions. The solubility tables give information on the solubility of twenty-seven different substances, such as cellulose acetate, rubber, gums, oils, etc., in more than a hundred different solvents.

The present edition may be accepted as containing the most recent information and experience in its particular field, and can be recommended with confidence to all who have to deal with solvents and plasticizers.

E. H. NURSE

British Journal of Applied Physics

Edited by Dr. H. R. Lang. Vol. 1, 1950. Pp. iv+340. (London: Institute of Physics, 1950.) £4.

THE monthly periodical, *British Journal of Applied Physics*, was launched in January 1950 by the Institute of Physics in order to provide the steadily increasing number of physicists employed in industry with a medium for the publication of new applications of physics, especially in industry, and for the description of developments of older applications. The completion of Vol. 1 provides a welcome opportunity to direct attention again to the excellence of the *Journal*, and to commend the editor, Dr. H. R. Lang, and the advisory committee for their continued meritorious efforts.

All but one of the twelve monthly issues have contained one or more special articles or special reports, in addition to the several original contributions, reviews of new books and notes and comments. Scientific education, environmental warmth and human comfort, the 1948 revision of the international temperature scale, and electrical conduction in glass are the subjects of the four special articles, and the special reports consist of summaries of the proceedings of various conferences and discussions held by branches of the Institute during the past two years. It is impossible to summarize adequately the various original contributions. They range over a wide field covering electronics, vacuum technology, photoelasticity, rheology and glass technology. Only one of the contributions, "An Electromagnetic Problem", by Dr. G. F. C. Searle (p. 268), seems to be out of place in a periodical devoted solely to applied physics, but the editor may be excused for

this apparent lapse because the problem discussed is of considerable fundamental interest. It arose when preparations for the celebration of the centenary of Heaviside's birth reminded that veteran of experimental physics, Dr. Searle, that, in 1916, he sent an electromagnetic problem to Heaviside for solution but which, apparently, Heaviside either could not solve or merely ignored. The original problem presents great mathematical difficulties; but, in his article, Dr. Searle considers a simplified case which he then proceeds to solve in an elegant manner. Perhaps some physicist may now be prompted to tackle the more difficult problem submitted to Heaviside.

The illustrations, index and binding of this first volume are of a high standard, and the large clear type is particularly welcome. It is to be hoped that proper and adequate support will be forthcoming from members of the Institute, industrial organizations and professional societies for the *Journal* to continue as a medium for bridging the gap between applied physics in the laboratory and its eventual translation into industrial practice.

S. WEINTROUB

Light and Sound

By M. Nelkon. Pp. viii+342+2 plates. (London: William Heinemann, Ltd., 1950.) 11s. 6d.

IN view of the number of text-books of intermediate standard already in existence, the value of yet another is rather doubtful, and it could only be justified by some particularly original treatment and ideas. In this book, however, the treatment throughout is conventional.

University teachers will also note with regret that the author uses the 'real-is-positive' sign convention in light, thus helping further to establish its hold at the school level of teaching. This convention, since it is not easily extended to non-axial points, is of little use in degree courses, and thus a definite cleavage now exists between the teaching of optics in the schools and the universities. The author admits this difficulty, and gives an introduction to the 'new Cartesian' convention in an appendix. Since this convention was recommended in 1934 by a committee appointed by the Physical Society, it is a matter for regret that it is not more widely adopted.

Applied Mycology and Bacteriology

Originally compiled by L. D. Galloway and Dr. R. Burgess. (Modern Chemical Industries Series.) Third edition, revised by L. D. Galloway. Pp. viii+184+8 plates. (London: Leonard Hill, Ltd., 1950.) 12s. net.

MANY workers in mycology and bacteriology will already know this book from earlier editions. It is perhaps most valuable as a general introduction to methods of work and to the techniques of handling and control of micro-organisms. Part 1 deals with such questions, and includes several modern contributions. Part 2 is a wide review of the ways in which fungi and bacteria are connected with industry, medicine and food. There is here not sufficient detail for the specialist, who may, nevertheless, be able to glean one or two ideas from other fields of action. The section serves as a very good introduction for the student or laboratory worker, and it makes interesting reading. Mr. L. D. Galloway has considerably re-written the text for this third edition, and the ten illustrations are so good that more would be acceptable.

JOHN GRAINGER