

**Popular Fallacies**

A Book of Common Errors, Explained and Corrected with Copious References to Authorities. By A. S. E. Ackermann. Fourth edition. Pp. xv+843. (London: Simpkin Marshall, Ltd., 1950.) 30s. net.

IT is almost exactly twenty-seven years since the third edition of this well-known work of reference was published, and in his preface the author states that eight hundred additional fallacies have been dealt with, an increase of some 60 per cent on the number included earlier. He adds, rather frighteningly, that he has still some 1,150 probable fallacies on his card index but "insufficient evidence by which to convict them". This statement gives a fair indication of the meticulous care with which Mr. Ackermann weighs the arguments before he demolishes any one of our cherished illusions.

The field covered by the book is very wide, and the reader will indeed be well informed if he cannot associate himself with Sir Richard Gregory's remark in the introduction that he has "derived both pleasure and profit from excursions into all its parts". He will need, too, to be made of sterner stuff than the reviewer if, after reading with some self-satisfaction an exposure of a fallacy to which he has long since ceased to subscribe, his eye is not caught by another, less familiar, and then another and so on until, before he realizes what has happened, the hours have flown and he has become a wiser man than when he started his perusal. A good book is furnished with a good index.

**Modern Methods for the Analysis of Aluminium Alloys**

By a Committee of Chemists convened by ALAR (the Association of Light Alloy Refiners). Editors: G. H. Osborn and W. Stross. Pp. vii+144. (London: Chapman and Hall, Ltd., 1949.) 13s. 6d. net.

THIS book is the outcome of the work of a committee of chemists of a group of firms specializing in the refining of secondary aluminium, and, in the belief that the results would be of wider interest, these have here been published. In addition to volumetric and gravimetric methods, photometric, electrolytic and polarographic processes, now firmly established, are well described. Spectroscopic methods, though widely employed, have been excluded on the ground that this field would require a book to itself. The important, but sometimes neglected, subject of the sampling of the material is given special attention. To all concerned with the analysis of aluminium alloys this book can be strongly recommended.

**Proceedings of the Second Rubber Technology Conference held under the Auspices of the Institution of the Rubber Industry on June 23-25, 1948, at the Central Hall, Westminster, London, S.W.1**

Edited by T. R. Dawson with the assistance of C. M. Blow and G. Gee. Pp. xxxii+523. (Cambridge: W. Heffer and Sons, Ltd., 1949.) 63s. net.

THE issue of the collected papers contributed to the 1948 Conference on Rubber Technology (reported in *Nature*, 162, 204; 1948) provides a convenient reference book covering a wide range of topics connected with the science and technology of rubber. The papers are arranged under the following sectional headings: synthetic rubbers,

chemistry of rubber, physics of rubber, testing and analysis, latices, compounding ingredients, factory processes and products. The intrinsic value of the papers is enhanced by the high quality of the printing and binding, and of the editorial work and general arrangement. Papers are followed by summaries of the discussions which took place at the meeting, and a report of the discussion on tensile strength, hardness, abrasion and tear testing is included.

L. R. G. TRELOAR

**Modern Science and its Philosophy**

By Philipp Frank. Pp. ix+324. (Cambridge, Mass.: Harvard University Press; London: Oxford University Press, 1949.) 36s. net.

THE author of this collection of essays is one of the original members of the group of thinkers afterwards known as the Vienna Circle, and he is here expounding its logical positivism or logical empiricism. The introductory chapter contains an interesting account of the development of the group and the derivation of its ideas from the work of Ernst Mach, Henri Poincaré, and a less-known French writer, Abel Rey. The exposition of Mach's philosophy in the early chapters is also worth having. Several chapters are controversial. Prof. P. Frank's way of dealing with points of view other than his own is to attach derogatory labels, such as 'Kantian' or 'idealist', and then dismiss them. This follows from his belief that there is only 'scientific truth' which is genuine (though purely phenomenal), and that all philosophies except his own consist of claims to some other kind of sham truth. In consequence, he is considerably embarrassed by the Marxists, who make the same claim for their own philosophy, and dismiss his by his own method as 'idealist'. The author's positive exposition of his own views is far from clear. He appears to think that pragmatists and Bridgman in his 'operational theory' are saying just about the same thing as phenomenologists.

A. D. R.

**Introduction to Atomic Physics**

By Prof. S. Tolansky. Third edition. Pp. xi+371+5 plates. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1949.) 15s. net.

THIS new edition of Prof. Tolansky's book can be recommended with confidence. It contains a well-balanced account, suitable for second- and third-year students, of the fundamental aspects of atomic and nuclear physics and of many interesting applications of these subjects.

There are some minor criticisms one may offer. Occasionally too much detail is given, which tends to obscure the more basic aspects of an account. Sometimes, to go to the other extreme, oversimplification leads to some ambiguous statements and even errors. For example, the idea of stopping-power, discussed very briefly on pp. 242-243, gives the impression that the stopping-power of any sheet of material is proportional to the square root of the atomic weight; Prof. Tolansky means, of course, the atomic stopping-power. One section which might be re-written and brought up to date is that on pp. 235-237, on the detection of single  $\alpha$ -particles. (It might also be extended to include the detection of other particles.)

However, despite these blemishes, this is much the best book published in Great Britain for introducing atomic and nuclear physics to science students.

J. D.