methodology. This will certainly be a welcome improvement especially because former attempts in this direction like Dr. Irwin's *Recent Advances in Mathematical Statistics* and Wishart's *Bibliography of Agricultural Statistics* published in the Journal of the Royal Statistical Society were favourably received by statisticians and were highly useful to research workers. But the reviewer is afraid that such a publication will occupy a lot of space in view of the growing volume of literature in this subject, even if it is restricted to papers written in English.

Looking to the reviews on the 1938 Year-Book, published in this volume, the reviewer is satisfied to find that the author has incorporated almost all the useful suggestions given by the previous reviewers. There is, however, one which seems to have escaped the author's notice and that is the classification according to subject. Such an Appendix along with others given in the present volume will be very useful.

B. N. DATAR.

A Text-book of Intermediate Physics (in Tamil). Vol. I. By R. K. Viswanathan, M.A., and V. N. Ramaswamy, B.Sc. (HONS.), Annamalai University, 1941. Pp. lxxi + 686.

The problem of scientific terminology in Indian languages is a very live one, and has recently been ably discussed in a leading article in *Current Science* (October 1941, 10, No. 10, p. 425). The immediate objectives are two, first the dissemination of the trends in modern scientific ideas and achievements among the general public so as not only to make them appreciate the benefits but also to co-operate intelligently in the wide and beneficial application of the scientific principles in present-day life and civilization. The other important objective is to help in the teaching of the basic principles of science to the school boys, the majority of whom must inevitably take to various professions after their general school education. There is yet another possible objective, namely, provision for advanced study in undergraduate classes, and for independent research in science through the medium of the Indian languages. This is not necessarily a "logical extension" of the former objective, as claimed in the brief preface to the book under review. Those in the research field are feeling already the barriers to intercommunication of ideas—so necessary for rapid advance and avoiding of wasteful duplication of work—on account of the various attempts during the last decade at publishing Journals in other European and Asiatic languages than English, German and French. If still, there is to be any development towards this third objective, it should be nothing short of an all-India uniformity and approximation to international phraseology.

The book under review on "Intermediate Physics" is written in free Tamil, and may be regarded as an aid to the more advanced general science education in the pre-university classes. It is indeed a laudable achievement. The get-up of the book is good, and the planning and presentation of the subject are along the routine lines. Almost all of the scientific terms coined have the desirable qualities of simplicity, precision, euphony and above all intelligibility and are deserving of wide currency. The book is, however, defective in one important feature, *viz.*, lack of any good diagrams. As active teachers, the authors must no doubt be aware that diagrams are just as important as the language to convey the ideas across to the students and must be given the same careful consideration of simplicity, precision and intelligibility. Such diagrams as of the Bunsen ice calorimeter with the right-angled bends of the capillary tube, the "giant" test tube and "magic" retort stands of Fig. 204 on page 639, the "pestle" like thermometers on page 471, and the "floating" stopper in Fig. 197, are typical of the glaring defects in all the diagrams. There are but few typographical errors; incidentally the authors use throughout italic c instead of capital C for the Centigrade scale. These and similar defects must be remedied in future editions, if the value of this otherwise excellent book must be kept up.

M. A. G. RAU.

Diffusion in and Through Solids. By R. M. Barrer. (The Cambridge University Press, London), 1941. Pp. x + 464. Price 30 *sh.*

The study of diffusion touches upon numerous aspects of physico-chemical research, and is of fundamental importance for the large number of problems involving transfer of materials by diffusion from one phase to another that are repeatedly

encountered in Chemical Engineering operations. The book under review is, however, confined to the study of diffusion in and through solids, a subject which presents a whole set of new phenomena and is frequently composite in character on account of the possible interactions between the diffusing material and the diffusing medium. These studies should be also of great help in understanding the fundamental nature of the technically more frequent phenomena of diffusion across stationary fluid films, a topic which does not fall immediately within the scope of the title of the book.

The author deals with the several processes of permeation, solution and diffusion in solids, the theories concerning their interpretation being balanced by an adequate description of the experimental methods and results. The first chapter gives a number of solutions of the diffusion equation suitable for treating the various diffusional problems that may arise. Chapters 2, 3, 4, 5, 9 and 10 deal in detail with the diffusion of gases and vapours through a variety of inorganic and organic structures. This covers the technically important subject of uptake and evolution of gases by metals, and the numerous studies made of gas flow through rubbers, fruit and food wrappings, insulators, leathers and paint and varnish films. Chapters 6, 7 and 8 describe the phenomena of conductivity and diffusion of ions and atoms in ionic lattices, metals and surfaces. These involve a knowledge of equilibria between holes, interstitial ions, and normal lattice and other structure sensitive factors. Such fundamental studies are capable of yielding much information on phenomena such as annealing, age-hardening, plasticity, recrystallisation and alloy transformations.

Throughout the book, adequate numerical values of permeability and diffusion constants for various systems have been collected and listed in the relevant chapters to serve as reference material. On the whole this book is a valuable addition to the Cambridge Series of Physical Chemistry.

M. A. G. RAU.

Dipole Moments in Chemistry. By Dr. M. A. Govinda Rau. (The Registrar, The University of Madras), 1940. Pp. 64. Price As. 8.

This is a reprint from the *Journal of the Madras University*, Vol. XII, No. 2, 1940, and is the subject-matter of a series of three lectures delivered under The Sir Subramanya Ayyar Endowment scheme of the Madras University. The author has himself worked extensively on the subject, and has made some very definite contributions to the advancement of our knowledge on Dipole Moments, and their bearing on the structure of Chemical Molecules. This subject covers a field in which both physicists and chemists are deeply interested. The first lecture reviews in an effective and elegant manner the physical significance of dipole moment measurements, and the experimental technique. The second lecture is a lucid exposition of the relation between dipole moments and the structure of molecules and is developed on extremely interesting lines, while the third lecture deals with the complex subject of dipole moments and chemireactivity.

This publication makes available to all those interested in the subject a very stimulating and helpful account. There is a choice Bibliography covering the subject up to 1939.

Shells and Other Animal Remains Found on the Madras Beach. By F. H. Gravely. (*Bulletin of the Madras Government Museum*. Natural History Section: Vol. V, No. 1), 1941. Pp. 112. Price Rs. 3–2.

In writing this memoir the author has made a valuable contribution towards our knowledge of the coastal fauna of Madras. It has been written in such a way that it satisfies the needs of not only a student of Zoology but also a layman interested in the natural history of coastal animals. As the author himself points out, the object in writing this book has been to interest and help the casual collector rather than the specialist. As far as possible technical terms have been replaced by simpler ones. All the forms have been classified and arranged in a systematic manner from Protozoa to Chordata. Under each phylum, the common forms are described in simple terms illustrated with figures. Wherever necessary, key for the identification of the genera and the species has been given. At the end, a list of identified genera and species of the Madras Beach has been given together with references to the literature pertaining to these animals.

One who has been in charge of the