

Academies.

Indian Academy of Sciences.

(Proceedings, 1935, No. 9, March.)

SECTION A.

C. V. RAMAN: *On Iridescent Shells, Part I.—Introductory.*—W. T. Schmidt's elaborate investigation on the chemical and physical nature of the nacreous substance is summarised. C. V. RAMAN: *On Iridescent Shells, Part II.—Colours of Laminar Diffraction.*—The characteristic iridescence of shells is a diffraction effect which appears as one of the orders of spectra produced by the periodic structure at the surface of the shell. S. CHOWLA: *On Sums of Powers (II).* S. CHOWLA: *Note on Hypothesis K of Hardy and Littlewood.* J. B. SETH: *A Regularity observed in the Second Spark Spectrum of Iodine.* AKSHAYANANDA BOSE: *The Weiss Constant of Paramagnetic Ions in the S-State, Part I.—Aqueous Solutions of Manganous Salts.*—Careful measurements on aqueous solutions of $MnCl_2$, $Mn(NO_3)_2$, and $MnSO_4$ show that there is no deviation from the theoretical simple Curie law of temperature dependence. A moment of 29.3 to 29.4 Weiss magnetons is found for Mn^{++} ion, in agreement with the theoretical value 29.4. G. V. JADHAV AND Y. I. RANGWALA: *Bromination of Substances containing two Aromatic Nuclei, Part II.—Bromination of Phenyl and Cresyl Esters of m- and p-Nitro Benzoic Acids.*—It is found that bromination proceeds readily without a carrier with phenyl m-nitro-benzoate and phenyl and o- and m- cresyl p- nitro-benzoates, while with other esters, the presence of nitric acid is necessary. HANSRAJ GUPTA: *On the p-Potency of G (n, r).* H. LESSHEIM AND R. SAMUEL: *On the Pair Bond Theory of Valency.*—Chemical union is regarded as mainly an effect of the degeneracy due to the electrons. This leads to an electron pair bond theory of valency. According to this view, which is supported by spectroscopic evidence, the various additional hypotheses such as the octet rule and its extensions are unnecessary.

SECTION B.

B. N. SINGH, R. B. SINGH AND K. SINGH: *Investigations into the Water Requirement of*

Crop Plants.—The paper deals with the water requirements of 57 different species and varieties of crop plants grown at the Experimental Station of the Institute of Agricultural Research, Benares Hindu University. B. N. SINGH AND R. K. TANDON: *Temperature-absorption characteristics during germination in seeds of different structure and biochemic constitution under varying concentrations of oxygen and water supply.*—The results of an experimental study of water absorption in thirteen varieties of seeds at different temperatures and three distinct environmental conditions—maximum water—no free oxygen; moisture and air conditions maintained at optimum level; and atmospheric moisture with free aeration. B. R. SESHACHAR: *The Golgi bodies in the Erythrocytes of Ichthyophis glutinosus.* T. EKAMBARAM AND RAMA RAO PANJE: *Contributions to our knowledge of Balanophora.*—Investigations of a South Indian form of *Balanophora dioica* R. Br., show that the life-history of the plant is a normal angiospermous sexual cycle with reduction-division (normal type) and a strong evidence of fertilisation. COL. I. FROLLANO DE MELLO: *On two spiral organisms living in the intestinal tract of Gallinula chloropus, L.*—One type, *trepone*, identified as an avian variety of *spirochaeta eurygirata* Werner emend Fantriasm; the other type, *spirella*, differing from the genotype *S. regandi* in having two anterior flagella and classified as *spirella gallinulae* sp.n. K. M. GUPTA: *Critical remarks on Dipterocarpoxyton Burmense Holden.*—Irrawadioxyton Gen. Nov. S. K. PANDE: *Notes on the Anatomy of a Xerophytic Fern, Nipholus adnascens from the Malay Peninsula.*—This epiphytic fern shows well-marked xerophytic adaptations. K. RAMIAH, N. PARTHASARATHY AND S. RAMANUJAM: *A Tetraploid plant in Wild Rice—Oryza Longistaminata.*—For the first time a tetraploid plant of *Oryza Longistaminata* is described.

Reviews.

THROUGH SPACE AND TIME. By Sir James Jeans. (Cambridge University Press, 1934.) Pp. vi+224. Price 8s. 6d. net.

Some one has described Sir James Jeans as a "man of science" who is also an artist. To this we may aptly add that he is a literary scientist. The lay reader eagerly welcomes any composition from the pen of Sir James Jeans, as he has the unique gift of making the story of science fascinating to the general reader.

The book under notice is the latest of Sir James' popular books on Astronomy and Astrophysics. It is based on the series of lectures delivered by him at the Royal

Institution during the Christmas of 1933. The book itself is divided into eight chapters under the following headings:—The Earth, the Air, the Sky, the Moon, the Planets, the Sun, the Stars and the Nebulae.

At the very outset the author proposes to take his readers on an imaginary journey through space and time and make them see for themselves the wonders of the universe. To begin with, in the first chapter, we are asked to delve into the bowels of the Earth. Here the author tells us the story of evolution in a simple and attractive manner. The prehistoric dinosaurs and other monsters are brought before us and we learn of them

as if at first hand. The picture of the *Diplodocus* as a monster weighing as much as a whole family of elephants—"Father, mother, children and perhaps several uncles and aunts as well"—is amusing if not entirely truthful.

The chapter on "the Air" is mainly meteorological—treated so as to make it interesting to people who have not had the advantage of being trained in that science.

In the first two chapters Sir James Jeans is not in his element—he is not a palaeontologist or a meteorologist though he has the rare faculty to make anything he handles interesting.

In the third chapter, the classical theories of cosmogony of Ptolemy, Hipparchus and others are lucidly expounded so that even children could peruse them with profit. A notable point in this connection is the way in which Sir J. Jeans explains away the difficulties raised by Tycho Brahe—who could not understand why the sky did not change in appearance from time to time if the earth were moving in space. Jeans compares the earth to a rose bud in a vast garden and man crawling like a green fly on the rose bud could not discover any re-arrangement in the remote reaches of the garden—and for the same reason we are unable to detect any change in the arrangement of the stars even though the earth is hurtling in space at the rate of about 18 miles per second. The problem of the expanding universe has been propounded in an admirable manner and the comparison of the nebulae to drifting straw bits on an ever-widening river is particularly striking as it effectively brings home to the mind of the reader such an abstruse thesis as this.

Certain very minor slips have crept in, probably during the passage of the book through the press, as for example, on page 142 where a reference is wrongly made to an illustration of Mercury.

The book, we have no doubt, will be a very useful addition to all public and private libraries—and must certainly be read by every one who wishes to be acquainted with the recent scientific developments. The attractiveness and simplicity of style and the homely exposition of abstruse scientific theories, must create a great demand for this book. We regret that we have no such Institution in India which could arrange similar lectures. Sir James Jeans is always read with avidity wherever English language is spoken and in this little book he excels

himself. We hope that many more equally entertaining and informative books will be forthcoming. This little book deals with great problems in an easy and charming manner which every great scientist and school boy can read with profit and pleasure.

C. N. R.

L'ELECTRON POSITIF (No. 182 of *Actualités Scientifiques et Industrielles*). By Irène Curie and F. Joliot, Paris: Hermann et Cie. 1934. Price 10 fr.

The contributions of Mme. Irène Curie and M. F. Joliot to the subject of the present volume have been of fundamental importance. After the discovery of the positron by Anderson had received confirmation by the work of Blackett and Occhialini, Curie and Joliot showed that the positrons must be due to the conversion of γ -rays into matter. The whole story of these discoveries is well told in the brochure before us which provides an authoritative and complete account of the experimental studies dealing with the positron. The theoretical aspects are only mentioned in passing. Four plates containing beautiful photographs of the tracks of positrons enhance the value of the work. We should like to mention in passing that calling the positive electron sometimes as positron but more often as positon leads to some confusion. Similarly the abbreviation for electron-volts is given variously as eV., ev., and e.V. Apart from these minor matters, and some three typographical errors on p. 3, l. 7, p. 8, l. 2 from bottom and p. 11 legend to Fig. 3, we have no hesitation in welcoming the appearance of the monograph as most opportune.

T. S. S.

THE POETRY OF MATHEMATICS AND OTHER ESSAYS. By David Eugene Smith. Published by Scripta Mathematica, Yeshiva College, Amsterdam Avenue and 186th Street, New York, N.Y.

This is a neat little book of four popular essays by the well-known author of the *History of Mathematics*. The object of the author seems to be to furnish material which will interest not only teachers of mathematics but all who recall their contact with the subject in their school or college days.

The first essay deals with features common to poetry and Mathematics, such as Imagination, Rhythm and Symmetry. The second gives a really novel view of looking

at Religion in a mathematical way, namely, drawing inferences from a definite set of postulates. The author has given a lead to the theologians by a model example.

The third and the fourth articles are merely biographical notes on Thomas Jefferson, President of the United States, who took a great deal of interest in Mathematics and especially Astronomy and M. Monge, the celebrated mathematician of differential-equations fame and his association with the French Republic as Minister of Marine and later with Napoleon Bonaparte. It is curious that in France of all countries mathematicians easily find a place in the government of their land, the late M. Painlevé being the most recent and outstanding example.

The essays are extremely readable and interesting to the professional as well as the amateur mathematician, and the book will easily be a useful addition to all our school and college libraries.

B. M. N. R.

ANALYSE DES MECANISMES CHIMIQUES CHEZ LES ETRES VIVANTS. By T. Cahn. (Hermann et Cie, Paris, 1934, Pp. 23.) 8 fr.

The composition of several biologically occurring substances is little known, the concentration in which they occur is too small in many cases, and the physico-chemical conditions in which they exist also play an important part. In spite of all these difficulties, chemical analysis of the organisms can give important information regarding the mechanism of the reactions in living bodies. After an interesting introduction to the subject, the author has given in this monograph an account of particularly the diastatic reactions occurring in the tissues, and the knowledge that can be gained about their mechanisms from a study of the concentrations and nature of the coferments occurring in them.

M. A. G.

HYDROSTATICS AND MECHANICS. By A. E. E. McKenzie, M.A. (Cambridge University Press, 1934. Pp. 272.) Price 3s. 6d.

The book is the first of three volumes covering the sections into which Physics is usually divided and deals with that portion which is usually regarded by students as the dullest part of the subject; but the author has eminently succeeded in presenting the subject in an interesting and practical, and therefore useful, manner. In dealing with

pressure in liquids, an account is given of utilisation of water power by harnessing water falls and building dams across rivers, and the practical aspect is stressed by calculations made without entering too much into technicalities—an aspect which deserves to be emphasised in high schools and intermediate colleges. Similarly, practical treatment is adopted in dealing with the principle of Archimedes, theory of machines, and the parallelogram law. The diagrams are very neat and the pictures lucid. Examples worked out are apt.

The book deserves a place in the libraries of high schools and junior colleges.

K. N. KINI.

SIMPLE SCIENCE. By E. N. da C. Andrade and Jullian Huxley. (Basil Blackwell, Oxford. Pp. 688.) Price 8s. 6d. net.

There is a feeling among educationists that all is not well with the science syllabus in the secondary school. The remedy suggested is not so much a curtailment of the scope of the subjects as a judicious redistribution and inclusion of the biological sciences as an integral part of the course of study in science. Here, it may not be out of place to put in a word for greater attention to be paid to Biology. Though many phases of life are affected by scientific advance, and biology can claim a fair share of the credit, still it will hardly be too much to say that to most people Biology is only of secondary importance—Physics and Chemistry coming in for the largest share of their sympathy. Besides, it is thought that the interest in Biology is purely academic. However, it is refreshing to note that in the series of popular books which Professors Andrade and Huxley have written, they have in a great measure, overcome this shortcoming.

The book under notice is divided into three parts. In the first of these the authors have endeavoured to place before the young reader for whom it is intended a general outline of the Natural and Physical Sciences. In doing this the authors have developed a method that is all their own. Among several instances we may cite,—one feels particularly impressed by the way they stress,—“that all things obey laws”. The law that governs Stellar motion can with equal facility be applied to the motion of every other moving system in the universe. Another admirable example of a similar

kind is the way they impress the imponderability of energy. Actually energy is not a material thing, but is an agency capable of different manifestations. To bring home this idea to the young reader the authors have by an array of ingenious examples striven their utmost. Needless to say they have succeeded completely. An abstruse concept such as Heredity is lucidly expounded and is treated in a laudable manner. Simply and clearly they have taught that like brings forth like.

In the second part—*Science and Life* (review *Curr. Sci.*, May 1933)—the elementary laws of Physics and Chemistry together with those of Biology are explained in a praiseworthy fashion and is a logical sequel to the first part.

In the third section—*Forces of Nature*—a more detailed and advanced treatment of the subject-matter of the two previous books is given. A notable feature of this book is that wherever possible the everyday aspect of scientific knowledge has been emphasised. Technical applications have been accurately described without the employment of jargon.

In conclusion, we have no hesitation in recommending this book as suitable for courses of study in the lower forms of secondary schools. We hope that the authorities will appreciate the efforts of the authors and lend them the support they so well merit. Again, we may congratulate Professors Andrade and Huxley on having produced this eminently readable work, deserving a place in all the libraries both public and private.

C. N. R.

YOUR MEALS AND YOUR MONEY. By Gove Hambidge, Whittlesey House. (McGraw-Hill Publishing Co., Ltd., Aldwych House, London, W.C. 2. Pp. xvi+179. 1934.) Price 6s. net.

This is an interesting book full of practical suggestions for securing a complete diet based on different levels of income. It seems to us that the book will be found useful not only to parents but to the statesmen who are both concerned in the health and efficiency of the people. To the general Medical practitioner, it is almost indispensable.

The author bases his book on the U. S. Department of Agriculture circular called "Diets at Four Levels of Nutritive Content and Cost", by Hazel K. Stiebling and Medora M. Ward. It is almost superfluous to point

out that a sound and detailed knowledge of food should have a direct bearing on agricultural policies. The cardinal principle of all such policies must be to encourage the production of the right kinds and the right quantities of foods, and it is obvious that the general public must have authoritative facts about diet in relation to their well-being, the standards of good nutrition and the factors in the selection of the right type of diet for the promotion of health and efficiency of people. In India the great majority of people have practically no knowledge of the nutritional requirements and standards and the nutritional values of common foods and especially in tropical countries where the climate is so inhospitable, every wage earner should have an adequate information about what to eat, how much to eat and how much to spend on himself and his family for food.

The book will, we expect, be received in India with enthusiasm. It gives in a simple and complete manner an account of the researches and conclusions of scientists, which result in fixing standards of nutrition for different classes of people; the practical bearing of these standards on their meals; the welfare of the nation which depends on how its members eat and the adjustment of agriculture from which the supply is obtained. A perusal of this extremely interesting book will convince the readers that the diet of the people affects their welfare and productive efficiency which in their turn determine the character of their agriculture. The chief problem with the Indian population is what foods they should buy out of a given amount of money each week so as to secure the greatest possible nutritive value out of them. India wants definite dietary patterns for the use of her poor and rich families such as Stiebling has prepared for the use of American families and which are presented in the book with illuminating commentaries.

The book is divided into seven chapters, and the first one deals with the proximate principles and general problems. The second chapter which deals with "costs" deals with the family budget in relation to standards for safeguarding the health of its members. Four different plans are given over expenditure, and every one of these is calculated to ensure the necessary elements in correct proportion suited to age, occupation and finance. Naturally these plans or patterns discuss groups of foods and their contribution to the diet and the third chapter

is devoted to a detailed examination of each class of food-stuff in order to bring out the significance of balanced diets. The next two chapters discuss quantities and nourishment which are clear statements of scientific facts of great importance. Chapters six and seven which deal with thrift and national well-being are the most important sections of the book, and we can hardly think of any one who can afford to be independent of a complete knowledge of both. In the supplement is given retail prices of food materials used in computing costs for the four plans.

The chief merit of the book is its simple and clear exposition of the scientific researches and conclusions of a large body of American scientists and economists, and the wealth of information contained within its compass is as rich as it is varied. Indeed this is a family dietary book and every householder who can read and write the English language must possess a copy of it.

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"ANALAR" STANDARDS FOR LABORATORY CHEMICALS. Formulated and issued jointly by the British Drug Houses, Ltd., and Hopkin and Williams Ltd., London. 1934.

There are perhaps very few publications in which the chemist will find such an indispensable wealth of material as the one before us; during the conduct of his scientific work, it is supremely important that he should be aware of the purity of the materials he handles and for this purpose, it is very desirable that he should avoid the tedious testing of the materials by being able to rely upon each substance conforming to a specific standard. This need is supplied to a generous extent by the book before us which has been published as a co-operative effort by Messrs. British Drug Houses Ltd., and Messrs. Hopkin and Williams, Ltd., the two well-known firms who have for several decades now principally concerned themselves with the manufacture of fine chemicals for Laboratory use. The term "laboratory chemicals" is used comprehensively to include "chemicals for analytical, research, teaching and all other laboratory purposes." The two Firms have hitherto had their individual books of standards and by pooling together their knowledge and experience their chemical staff have brought out a highly useful and up-to-date volume and thereby earned the gratitude of the Chemical world. The book deals with some 200 substances and in each case the physical and chemical properties

are listed and thus forms a valuable record of the chief properties of the chemicals with which it deals. Quantitative assays for the chemicals have been prescribed and the minimum percentages specified. The maximum limits of impurities are also listed.

The book deserves to find a place in the hands of every chemist. It may also be mentioned here that the Firms have now placed on the market all the laboratory chemicals listed in the volume, under the trade name "Analar" which carry a guarantee of "purity".

VIRUS DISEASES OF PLANTS. By John-Grainger (Oxford University Press, London. Pp. 102.) Price 6s. net.

The subject of virus diseases of plants is one of great interest not only to those who are interested in the fundamental aspects of the problem but also to practical agriculturists who are deeply concerned with the welfare of their crops which are affected by a number of virus diseases. Dr. Grainger's contribution to this subject in the form of a text-book provides introductory information on this important aspect of plant pathology.

The author has incorporated a good deal of his own experience in this field and the experimental technique described on some aspects of the subject provide sufficient detail for enthusiasts to conduct experiments on the field with crops which may be affected with disease. The numerous references cited at the end, constitute a useful feature of the volume.

M. S.

BIOLOGY FOR EVERYMAN. By Sir Arthur Thomson. 2 Vols. Edited by E. J. Holmyard. (J. M. Dent & Sons, Ltd., London. Pp. 1600, 1934.) Complete Price 15s. net.

We have taken some time in reading these two volumes, and as we were not obsessed by any apprehensions of an Examination, we must say at once that we have derived great pleasure and instruction from their perusal. Thomson was always a skilful writer, possessed a clear and delightful style, besides a complete knowledge of all the branches of Biology. The present volumes which are full and authoritative are a great achievement, surpassing any of his previous publications in scope and treatment. Singularly enough they do not produce the nausea usually associated with Text-Books and the intention of the author as well as that of the publishers, viz., that they should

be read by "everyman" without being bothered by technicalities and professional detail, is admirably fulfilled.

The two volumes are divided into four books. The first volume is taken up with Book I which is devoted to the treatment of the anatomical characteristics, taxonomy, bionomics, ecology and ancestral history of the members of the different phyla of the animal kingdom. The second volume comprises the next three books. The second book deals with the general principles and philosophy of Zoology. The plant world is considered in Book III, and in sixteen chapters, we have a clear and adequate account of the flowering and non-flowering plants. The fourth Book is exclusively occupied with the story of man. Every chapter is attractive and instructive, and the entire exposition is simple and eminently readable. Even the lay reader is able to follow the argument of the fundamental scientific principles, while the students of biology are offered a constructive and synthetic exposition of the different aspects of biological knowledge. The book may be used therefore by the general reader for appreciating the biological phenomena and by the systematic students of science for purposes of examination. To combine the interests of these two classes of readers, which are not entirely identical, is a task worthy of a great scientist, and the two volumes represent a landmark in the history of scientific books. They constitute a great and indispensable publication useful alike for study and reference.

Towards the close of the second volume the author strikes a high ethical note, and we cannot conclude this brief review better than quote the following impassioned passage:

"Thus the cup of joy or sorrow may be too full to hold without some expression of religious feeling; or man may find himself balked practically when he has done all that mortal man can think of; or he may bow over-awed in face of the mysteriousness of Nature and his place in it. The expressions of the religious mood may be primitive hardly rising above an appeal to magic or relapsing to that ancient system of belief, but they are sometimes so noble that they must be ranked among man's highest achievements. On the intellectual side, they often join hands with philosophy, on the emotional side with art, on the practical side with the endeavour after goodness; but the word 'religion' is misused if it does not imply a recognition of the mystical or spiritual. In some way and in some degree the religious man is always sending out tendrils towards the Supreme Reality; which he usually names to himself as God."

ELEMENTARY MICROTECHNIQUE. By H. A. Peacock. (Edward Arnold & Co., London, 1935). Pp. vi+200.

Mr. Peacock deserves to be congratulated on his extremely useful book on Microtechnique for beginners. The new book by Mr. Peacock, under review, gives us in the first few pages an exact and current idea of the structure of the cell including the emulsoid nature of protoplasm and also a brief account of the protoplasmic and metaplasmic bodies. After describing the objects of fixation (*viz.*, to obviate postmortem changes, to raise the refractive index, to increase the resistance of cells to solutions of varying osmotic pressures and to become amenable to stains), staining (where the physical and chemical theories are touched upon), differentiation, etc., the author gives a tabular statement (which is a ready reckoner) of the more important fixatives and their actions on cells and tissues. In the chapters on methods for specific purposes and uses of stains, he deals with the various fixatives and stains which can be used for the demonstration of the various organs of the different groups of animals and plants. The next chapter—Formulæ and Hints—is not only useful to the student working in a histological laboratory but also to a research worker. As the book aims at broadcasting only elementary microtechnique, the important subjects like fixation and differential staining for the protoplasmic and deutoplasmic bodies in the cells and also the various methods for the nerves and their peculiar endings are omitted. We would certainly welcome a book which gives us a comprehensive and authentic data for the clear exposition of the mitochondria and golgi bodies and various kinds of fats by select and differential staining.

The get-up of the book is excellent and we recommend it to every beginner in the field of microscopic anatomy.

The book contains three appendices in which valuable information is given on the sources and culture of material, the preservation of material and finally a complete bibliography.

L. S. R.

CONFESSIONS OF A SCIENTIST. By Raymond L. Ditmars. (The MacMillan Co., New York, 1934.) Pp. xii+241. Price 10s. net.

Readers of Dr. R. L. Ditmars' *Reptiles of the World* will welcome this book which is, however, full of interest not only to the

scientist, but also to the general readers. It is true that there are not very many thrilling experiences recorded in this book, but the account of his scientific expeditions and his descriptions of the habits of some of the animals kept in the Zoological Park, New York, furnish extremely interesting and profitable reading. Dr. Ditmars has loving sympathy for the animals in his charge, is an intrepid explorer forgetting dangers in the midst of excitement, a remarkable power of observation and has a quaint manner of telling his experiences, and a combination of qualities which impart to his books the interest and wide circulation which they deserve.

The first chapter gives an account of the fruitless adventure in Panama in quest of bushmaster, a deadly viper with a head about the size of a man's fist, and the snake itself attaining nine feet. Instead of the dangerous prize he was seeking after, Dr. Ditmars obtained a baby boa constrictor in the cabin of the ship's captain. He accepts his failure in the spirit of a sportsman. The second chapter opens with an account of the author's talk on the "dragon" lizard, iguanas and a large tarantula. This is followed by the story of a hunt for crickets and cockroaches. The chapter is full of humour. Two chapters (III and XIII) are devoted to the treatment of the habits of vampire, a blood-licking bat of the tropical America and some new observations on their mode of locomotion on the ground, their feeding and their appearance after a full meal are recorded. Every chapter is fascinating. The author is also a film producer. To produce moving pictures of animals even in cages, especially of such dangerous ones as the mamba, is always attended by perilous excitement. Chapters VII, VIII and IX deal with this phase of activities of Dr. Ditmars. Chapters X and XI inform us about the use of cobra venom in the treatment of malignant tumours and of the poison of Tarantula in that of leprous growth. There is incidentally an account of the motion picture taken through the microscopes by Dr. Heinz Rosenberger, of the "good" and

"bad" cells and the rôle they play in the production of abnormal tissues. The most amusing episode in the book is the successful theft of ten of the most beautifully coloured snakes in the collection and the offenders proved to be school boys whose zeal for science had temporarily obscured their sense of misdemeanour.

We scarcely remember reading a more interesting book in natural history. This one is packed with information over a wide range of subjects, and is told in a crisp style relieved by delicate touches of humour. It is an excellent companion to the author's bigger book *The Reptiles of the World*. We have read a most enjoyable book.

A GERMAN-ENGLISH DICTIONARY FOR CHEMISTS. By Dr. Austin M. Patterson. Second Edition. 1935 (John Wiley and Sons, Inc.; London, Chapman & Hall Ltd.) Price 15s.

Since its first publication in 1917, this book (so also its companion volume—the French-English Dictionary by the same author) has won the reputation of being invaluable to all English-knowing chemists. This cannot be otherwise, as there are few books which are equally handy, and yet provide such a useful assemblage of word-meanings.

The present edition comprises about 42,000 entries and as the author has mentioned in the preface, reflects the growth of the science. The author has been assisted in his task, among others by the staff of the *Chemical Abstracts* who, more than anybody else, are in a position to point out new German words and their meanings that have come into common usage in chemical literature. The blue additional sheets which were so conspicuous in the later impressions of the previous edition have now disappeared and the present vocabulary with its familiar flexible binding will be welcomed by all. A book so well-known to the Chemists, the world over, needs no elaborate notice; we have only to commend to their attention the new edition with a large number of new entries and numerous additional meanings of old words.