

A Scheme of Qualitative Organic Analysis

By Dr. Frederick J. Smith and Emyln Jones. Pp. vii+320. (London, Glasgow and Bombay: Blackie and Son, Ltd., 1948.) 17s. 6d. net.

THE student of organic chemistry will find in this book an excellent presentation of qualitative organic analysis along familiar lines. After application of the tests for elements and the usual preliminary examination, classification tests enable the experimenter to assign the substance under investigation to its class. Confirmatory tests are then made, and crystalline derivatives prepared by means of which the substance is finally identified. Many valuable tables are provided listing individual members of the various classes, with their physical constants, and suitable derivatives for their identification. The range of these tables is more comprehensive than is usual in a book of this standard. Numerous up-to-date tests have been included, and the reviewer has noticed very few errors apart from a confusion between m.p. and b.p. in the headings of several tables.

It is not to be expected that full details of micro-technique should be given, yet it would have been worth while to include a description of a micro-filter, which is so easy and cheap to assemble and so useful in dealing with the small amounts of material often isolated in preparing derivatives. The book is admirably produced and well indexed, and it will be found useful in many laboratories. G. M. B.

Fatty Acids and their Derivatives

By A. W. Ralston. Pp. ix+986. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1948.) 60s. net.

DR. A. W. RALSTON must be congratulated on the production of this excellent volume, for there are few features in the long and tangled history of the fatty acids which have escaped his notice or defied his logic.

In his first five chapters he has regimented the one-time *rauc* of fatty acids to orderly array and paraded them for our benefit. Group by group those acids containing more than six carbon atoms are described—saturated, ethylenic, acetylenic, hydroxylic, ketonic, cyclic and dicarboxylic, all are there, with occurrence, isolation, synthesis and physical properties carefully portrayed. The naturally occurring fats, oils and waxes are considered only incidentally as sources of the acids. In the second section of his book Dr. Ralston describes the preparation, physical and chemical properties, and certain uses of the fatty-acid derivatives. Successive chapters describe, first, those derivatives not involving modification of the carboxyl group, then the esters, the nitrogen-containing derivatives, the alcohols, ethers, mercaptans, sulphides and sulphonates, the anhydrides, acid chlorides, aldehydes and ketones, the hydrocarbons and the metallic soaps. Then, since the ordering of so much material cannot be instantaneous, Dr. Ralston has provided an appendix to bring his survey up to date.

In the face of so much excellent material it is ungracious to criticize, and if, occasionally, Dr. Ralston may be thought to over-simplify a little, he has provided a more than adequate bibliography through which one may pursue any chosen line. This carefully written and well-indexed volume will come to be a trusted friend to all workers in the field.

How Greek Science Passed to the Arabs

By the Rev. De Lacy O'Leary. Pp. vi+196. (London: Routledge and Kegan Paul Ltd., 1948.) 15s. net.

THE title of this book is perhaps somewhat misleading, for much the greater part of it is occupied by a clear and scholarly account of the general history of the Near East during the period between the conquests of Alexander and the tenth century A.D. The book thus presents valuable material for the student of the science of this period; but the emphasis is on the background rather than on the science. A work intended for the general reader should give some account of the nature and extent of the scientific knowledge that passed from the Hellenistic world to Islam; but, in fact, he does not find much beyond the names of works, with many of which he may be unfamiliar. The reviewer noted with some astonishment that the author does not so much as mention alchemy or chemistry, the transfer of which presents interesting and important problems, on which a good deal of work has been done. The proof-correction of the book is much at fault; such errors as Antonius for Antoninus, Ultianus for Ulpianus, may mislead the reader and must shake his confidence in the correctness of the many names he will meet for the first time in these pages. The author cites a few formulæ in illustration of Indian and Arab mathematics; these appear in forms so erroneous as to be scarcely recognizable. In spite of these defects, which might easily be removed in a second edition, the book satisfies a real need in giving a compact account of a period which, while it is little studied except by specialists, is of the first importance to the historian of science.

F. SHERWOOD TAYLOR

Look and Learn

The New Pictorial Encyclopædia. (*Daily Mail* School-Aid Publication.) Pp. 112. (London: Associated Newspapers, Ltd., n.d.) 7s. 6d. net.

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The New Pictorial Encyclopædia. Series 2. (*Daily Mail* School-Aid Publication.) Pp. 112. (London: Associated Newspapers, Ltd., 1948.) 7s. 6d.

INCREASING emphasis on visual methods of learning have prompted the School-Aid Publications Department of the *Daily Mail* to issue a series of books in which the role of the text and illustrations in the usual text-book are reversed. Here the 'story' is told by means of photographs and diagrams, the text being introduced incidentally to supplement the interest built up by the illustrations. This novel approach is undoubtedly one which has much to commend it and one which will be particularly well received by teachers of more backward pupils in primary, secondary modern and day continuation schools. But the publishers should beware lest the interest they create through their pictures leads quickly to a state of mental confusion in the readers. In one book alone they include thirty-one topics, each of which is packed with information which needs time to consider. The impression gained is that topic succeeds topic without any clear demarcation, so that some not-so-bright student might easily include the Tower of London as a brass instrument of the orchestra. The books would have greater effect if fewer topics were included and dealt with at greater length. The pattern for these might be based on the stories of America and Australia which are included in these books and which have been excellently devised and elaborated. T. H. H.