

BOOK REVIEWS

INVESTIGATION OF RATES AND MECHANISMS OF REACTIONS. Second Edition. Editors : S. L. Friess, E. S. Lewis and A. Weissberger. (Series : Technique of Organic Chemistry, VIII, Part I). Pp. xii + 702 + Ill. (1961). *Interscience Publishers, Inc., New York*, \$23.50. *Interscience Publishers Ltd., London*, 177s.

There has been considerable revision of this book in the second edition and new chapters have been added on "Time measurement and recording of kinetic data", "Interpretation of rate data", "Use of computers", "Kinetic isotope effects" and "Heterogeneous reactions and catalysis". Other chapters include information on homogeneous gas phase reaction, homogeneous solutions, reactions and catalysis.

Chapter II on the general theory of rate processes and a comparison of the collision and transition state theories is particularly clearly and concisely written. Much practical advice is given throughout the book and many warnings are issued concerning the danger of jumping to conclusions in kinetic work without sufficient evidence or the elimination of all other possible reaction paths.

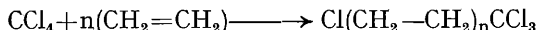
The formulation chemist would be interested in chemical kinetics from the point of view of deterioration and accelerated shelf life testing—the value of which is frequently hotly debated. The systems usually under examination are much more complex than the simple ones studied in this book; the simplest being dye fading and emulsion separation neither of which is discussed here.

I feel that undoubtedly this book would be of great value to the kinetic chemist since it is very well documented (1,400 references) but it would be a luxury rather than a necessity for the cosmetic chemist. N. J. VAN ABBÉ.

TELOMERIZATION AND NEW SYNTHETIC MATERIALS. R. Kh. Freidlina and Sh. A. Karapetyan. Translation edited by B. P. Mullins. Pp. x + 102. (1961) *Pergamon Press, Ltd., London*. 25s.

This book is a translation from a Russian edition published in 1959 and written by authors who have contributed to the considerable Russian research in this field.

The Telomerization Reaction will already be well-known to many, but it may be explained that basically it consists of a reaction between a saturated compound and a polymerisable material, e.g. carbon tetrachloride and ethylene. The product from such a reaction is a mixture of "telomers", which are in effect low molecular weight vinyl polymers—in this particular case tetrachloroalkanes.



The process is dependent upon the liberation of a free radical

from the saturated compound (CCl_2) in the presence of an initiator.

The value of the reaction lies in its potentialities for yielding a variety of synthetic materials of intermediate molecular weight, containing functional groups. Also in its use of cheap starting materials such as natural gas.

The contents of the book are based on the results of Russian research carried out over a number of years, but unfortunately the standard of treatment of the subject is truly indicated by the comment in the preface that it is written for the reader with an average school knowledge of the fundamentals of chemistry and physics. Bearing this in mind, the first half of the book is devoted to the chemistry and technology of telomerization, including the conversion of telomers to several classes of compounds, useful as intermediates for the plastics, detergent, plasticiser and perfumery industries. In the remainder of the volume, the use of the reaction to prepare the intermediates for a new polyamide fibre, enanth, is described. There follows a fairly lengthy account of the properties and uses of the fibre, which is claimed to be superior to nylon. A short final chapter on other materials briefly mentions the synthesis of macrocyclic perfumery compounds, including the musk, cyclopentadecanolid, by decomposition of the polymer obtained from Ω -hydroxypentadecanoic acid.

It is only too obvious that this book was written for the Russian reader, for references to non-Russian work are non-existent. Only from the translation editor's foreword in fact do we learn that the telomerization reaction was discovered by American chemists. The bare seven references that are given are lumped together at the back of the book, without connection with the text.

The reviewer has found it difficult to decide for what class of reader this book can be recommended. On the one hand it is not of value as a serious review of Russian work in this field, while for the more general reader the exclusion of non-Russian work gives an unbalanced treatment of the subject.

D. E. BUTTERFIELD.

PRAKTIKUM DES MODERNEN PARFÜMEURS. Second Edition. P. Jellinek. Pp. 248. Illustrated. (1960). *Dr. Alfred Hüthig Verlag, G.m.b.H., Heidelberg, DM 22.-*

The rate of progress in all spheres of human knowledge is matched by the pace at which new books appear on the shelf, often to become obsolete almost under our very eyes. It must be, therefore, of particular satisfaction to an author to see the need for a second edition of his work, more so if, in his opinion, there is little need for revision of the original text.

Dr. Jellinek's book, of which the second edition (in German) is to hand, has some of these lasting qualities and for more reasons than one :

1. It is an intensely personal work representing the author's experience of

a lifetime, and not the result of burning midnight oil compiling other people's publications under one set of covers (although this may be an invaluable function in its own right).

2. It is an intensely practical work containing a thousand and one hints of interest to the beginner and the experienced perfumer alike.
3. Whilst recognizing the need for the perfumer to be a combination of artist, scientist and technician, the author approaches the subject in a completely systematic, down-to-earth fashion, and never lets the reader forget that the main purpose of perfumery is not the creation of abstract works of art but of products that sell.

Very minor changes have been made in this new issue; two chapters have been added, both regrettably short: one on perfuming of aerosols, the other on the perfuming of technical products. Perhaps a chapter, instead of a few lines, on men's toiletries, to take account of the phenomenal growth of this field, might have been indicated.

However, these remarks in no way detract from the intrinsic value of the book (of which an English translation of the first edition appeared in 1954), and one feels that it ought to be in the library of all associated with perfumery, whether as producers or consumers. V. KLEIN.

AEROSOLS: SCIENCE AND TECHNOLOGY. Editor: H. R. Shepherd.

Pp. xiv + 548. Illustrated. (1961). *Interscience Publishers, Inc., New York.* \$22.50. *Interscience Publishers, Ltd., London.* 169s.

It is a sign that the industry is rapidly growing up, now that we have a second book devoted entirely to the subject of aerosols.

This book makes very interesting reading for anyone connected with the industry, and gives a wide picture of the development of the industry in the U.S.A. As a serious text book, however, the book falls down badly. The index is not detailed enough, and it is rather a pity that it should be so difficult to find one's way around the book.

It was also most surprising to see in a book of this nature such biased comment on the uncoated glass bottle controversy. On page 100 a reference is made to ". . . Pickthall after a series of experiments, concluded that even low-pressure uncoated glass aerosols cannot be regarded as safe . . ." This is then dismissed in a statement beginning "In a carefully documented reply, Wiener contended . . ." The imputations behind this paragraph are obvious, and no mention whatever is made of the replies to Wiener in 1957 and 1958, although the Preface of the book is dated October 1960.

The sections dealing with Laboratory technique and Propellant characteristics are interesting in the wide field covered, but more detail would have been welcome here.

In short, this book is an interesting and very readable survey, but needs considerable supplement from other sources. E. K. CLARKE.