work in pure science. This does not prevent Klaw from making the plea that "if science is to be used more efficiently, ways must be found of preserving in large-scale applied research some of the autonomy and free cooperation that characterize basic research." There is some tendency to exaggerate the weaknesses and pitfalls of American industrial laboratories and to underestimate the successful performances of a goodly number of them. In this connection, interviews with European industrial scientists would be illuminating and would help to explain why western Europe is so agitated about the "technology gap" vis-à-vis the United States.

Finally, mention should be made of chapter 9 ("Movers and shakers"), in which the role of the natural scientist as government administrator, government adviser, and commentator on public issues is discussed. The treatment is exceedingly sketchy, and the reader learns too little about the contributions of American science to political decisions and the continuing international dialogue which is taking place (by means of the Pugwash conferences, for example) in the attempt to find solutions for some of our global problems. It is clear from Klaw's brief treatment that he would sympathize with these efforts, but he owes it to the readers of the next edition of an otherwise stimulating and level-headed book to reveal more completely the full measure of social responsibility which the bulk of American scientists are prepared to assume for the good of mankind.

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Glycerides

Fatty Acids and Their Industrial Applications. E. SCOTT PATTISON, Ed. Dekker, New York, 1968. xii + 390 pp., illus. $8.

Fatty acids or derivatives thereof are used in either the formulation or the manufacture of many, if not most, of today's products. They range in use from food emulsifiers to corrosion inhibitors. This book, which updates (to 1966) a volume published in 1957, consists of chapters pertaining to the manufacture and uses of fatty acids and other fatty chemicals. The chapters were written by experts. For the most part the presentations emphasize technology rather than science.

Many of the uses for fatty chemicals derive from the mixed polarity of this class of substances, and it is conceivable that applications which seem remote from each other are actually manifestations of the same property. Thus the present volume, which brings together discussions of widely varied uses, may provide the "ideas" which the application technologist is always seeking. And even the theoretical scientist with an interest in surface chemistry might profit from knowledge of practical applications. However, the reader must bear in mind the generalization made on page 248, in the chapter on the textile industry, that "much of the information on composition and uses is proprietary knowledge that has not been revealed in the scientific or patent literature, and . . . many of the compositions revealed in the patent literature are of doubtful utility or validity." This reservation is frequently applicable to discussions of industrial technology. Unfortunately, authors are not usually in a position to distinguish fact from fancy.

Specifically, *Fatty Acids and Their Industrial Applications* covers fatty acid sources, their production, and physical and chemical properties. Most major uses are discussed in chapters devoted to specific areas of application. Other important but perhaps not major uses, for example, mineral beneficiation and crude-petroleum production, are mentioned only in connection with specific chemicals. The last chapter presents a timely treatment of synthetic fatty acids, which may ultimately offer serious competition to those produced from natural sources.

As with any collection of the writing of more than one author, this book exhibits wide variation in writing skill and in style. Some chapters are well written, others are poorly written; little if any editing appears to have been done, and in some chapters proofreading was inadequate as judged by the number of typographical errors. Some chapters are excessively detailed, others are perhaps too general. There is some repetition, although it is probably not excessive. Most chapters include an adequate number of references; three, excluding the introductory chapter, have no references. The index is short; it may be unrealistic to suggest a more comprehensive index in a book of this sort.

In spite of the defects mentioned, and others, this book offers the only broad discussion available today of fatty chemical uses. It will certainly provide useful reading for those working in this or related fields. For the student planning a career in industrial technology, it offers a fairly extensive introduction to areas of opportunity.

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Calorimetry

Thermometric Titrimetry. H. J. V. TYRRELL and A. E. BEEZER. Chapman and Hall, London, 1968 (U.S. distributor, Barnes and Noble, New York). viii + 207 pp., illus. $7.75.

Tyrrell and Beezer have provided the first text devoted exclusively to thermometric titrimetry. The book, which lists and discusses 332 references dating from 1913 to 1966, is well written and organized. Adequate mathematical treatment is given, and thermodynamic principles involved in the two uses of calorimetry, for acquiring precise values of enthalpy and as a technique of analysis, are discussed. Thus the needs of the scientist, who is concerned with getting precise data, and the analyst, who demands speed with sufficient experimental accuracy, are taken into account.

A chapter with 43 references is devoted to construction of titration calorimeters and their uses. Applications in aqueous and nonaqueous systems and in special cases such as that of molten salts are discussed. Thermometric titrimetry and potentiometric methods are compared as necessary for technical clarity.

The text presents a challenge in suggesting that nonselectivity of thermometric titrimetry is grounds for the use of ingenuity rather than for rejection of the technique. An example of such a use of ingenuity is the development of a "thermometric indicator," a technique in which a component is added which begins to react with a large reaction enthalpy at the endpoint of the reaction. Further industrial applications can be forthcoming from scientists and analysts who will apply similar ingenuity to thermometric titrimetry.

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