D. H. Everett and P. T. Podoll (Chapter 2) extensively surveyed the "Adsorption at the Solid/Liquid Interface: Non-electrolyte Systems," exclusive of polymer adsorption. After the thermodynamic analysis of the problems is reviewed, the authors discuss the progress of the surface area determination and the relationship between the gas adsorption and adsorption from solution. Furthermore, adsorption from dilute and multicomponent solutions, respectively, is treated in some detail. Finally, a number of specific systems, involving a variety of adsorbents and adsorbates, is reviewed (190 references).

Chapter 3 by G. T. Barnes is devoted to "Insoluble Monolayers—Dynamic Aspects," which complements an earlier report on equilibrium aspects of surface films. Surface shear viscosity is discussed first and the theoretical and experimental progress, made in this field by F. C. Goodrich, is reviewed in particular. Different techniques for the study of time dependent processes in monolayers with time scales ranging from milliseconds to kiloseconds are summarized. Other topics in this chapter deal with mass transport through, penetration of, and reactions in monolayers with a special consideration of biological systems (320 references).

Emulsions (Chapter 4) are discussed by B. Vincent and S. S. Davis. Since a considerable number of review articles on the subject appeared in recent years, these publications are listed first. The rest of the chapter deals with the usual topics relevant to the subject, i.e., nonspontaneous and spontaneous emulsification and emulsion stability and properties (140 references).

In a short survey (Chapter 5) J. F. Goodmann and T. Walker consider factors responsible for "Micellization in Aqueous Solutions." They conclude that a proper understanding of various parameters as they affect micelle size and shape has not been developed as yet. The major obstacle to accomplishing this goal is our lack of knowledge of the problems related to water structure and hydration (37 references).

Finally, the important problems of "Structure and Reactivity in Micellar Aggregates" are reviewed by J. M. Brown in Chapter 6. Special attention is given to micellar catalysis and a large number of reactions accelerated by different types of micelles are discussed in some detail (191 references).

The readers interested in the listed topics will find the extensive literature citations most useful, although the price for the small volume ($48.50) is nothing less than exorbitant.

EGON MATIJEVIĆ

Institute of Colloid and Surface Science
Clarkson College of Technology
Potsdam, New York 13676

Received September 19, 1979

Zeolites and Clay Minerals. By R. M. BARRER. Academic Press, New York. 52.50 (£25.00).

This monograph, written by Professor R. M. Barrer who has been a leader in zeolite research for many years, concentrates on the structural, physicochemical, and theoretical bases of sorption and intercalation by zeolites and clay minerals. The monograph begins with the chapter on the nature of zeolites and some of their uses, with special attention given to sorption, catalytic, and ion exchange properties and applications. The following chapter gives an excellent review of the zeolite frameworks and complete structure of the zeolites if known to include the cation and water molecule positions. The following three chapters deal with the equilibrium between the host zeolite crystals and quest molecules, the energetics of sorption, and the change of entropy for sorbed molecules. Additional discussion is focused on the thermal entropy and heat capacities of intracrystalline fluids. Chapter 6 discusses diffusion in zeolites starting with the methods of studying mobility of sorbed molecules followed by the interpretation of sorption kinetics. Additional discussion centers on chemical, concentration, and molecular size effects influencing intracrystalline diffusion. The last two chapters give a comprehensive discussion on chemisorption, sorption complexes, and molecular sieving on zeolites with the last chapter concentrating on clays which brings the extra dimension of swelling behavior of clays as contrasted to the rigid frameworks of zeolites.

The monograph is well written, concise in style, and is in keeping with the Barrer tradition. Each chapter has an extensive reference section with substantial contribution from the author's past research in each area giving the treatment of the subject matter an extra personal dimension for both the student and the expert in the field. The book is a must for anyone seriously interested in zeolites and clays and their application as sorbents, catalysts, and molecular sieves.

A. J. PERROTTA

Gulf Science and Technology Co.
Pittsburgh, Pennsylvania 15230

Received October 11, 1979; revised October 24, 1979

Hydrocarbon Synthesis from Carbon Monoxide and Hydrogen, Edwin L. Kugler and F. W. Steffgen, Advances in Chemistry Series, American Chemical Society, Washington, D. C., 1979.

For many years it has been recognized that it is possible to convert catalytically carbon monoxide and hydrogen into methane or into higher hydrocarbons. With the advent of the current energy crisis and the continuous rise in our oil imports attention is again