

but, like the hero in Samuel Beckett's *Waiting for Godot*, Friedmann remains offstage, and the reader is left wondering what he has to say and what makes him so important.

Walker himself, unfortunately, falls victim of his own method, to the extent that his essential contribution to the field is misrepresented by this book. Walker is important above all because he is neither technocrat nor human relations faddist. He has emphasized from the first that human relations are not enough and that the job, the work, the tool, the economic performance, are as important as psychological or socio-cultural satisfactions and values. He never forgets that a shoe factory employs people to turn out decent shoes at low cost rather than to make the employees happy. He knows—in sharp contrast to a great many behavioral scientists—that technology is also a creation of man, which represents human values, human achievements, human aspirations—and that economic satisfactions are also human satisfactions. Few readers, unacquainted with Walker's writings, would guess this from the present book, which is heavily biased toward the kind of human relations writing that treats the work itself and the tools, technology, and economic performance as irrelevant to the interpersonal relations, cultural values, and human experiences of the worker. Walker lets a group of English scholars say in one of the excerpts: "So close is the relationship between the various aspects (of production) that the social and the psychological can be understood only in terms of the detailed engineering facts and of the way the technological system as a whole behaves in the environment . . ." [E. L. Trist and K. W. Banforth, *Human Relations* 4, 3 (1951)]. But this quotation, which should have been the key to Walker's book, does not occur until page 424; and even then there is nothing to tell the reader that it derives from Walker and sums up Walker's own basic position and contribution.

Still, this is a fascinating book, in the way a kaleidoscope fascinates. And it does succeed in conveying the importance of the subject as well as the amazing fact that work, that most familiar and most general activity of man, is also the least known, the least understood, and still the least studied area of life and society.

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Deutsche Ausführlichkeit

Ion Exchange. F. G. Helfferich. McGraw-Hill, New York, 1962. ix + 624 pp. Illus. \$16.

It is remarkable that the field of ion exchange is still so much alive. The phenomenon has been known for more than a century, its applications have been exploited for nearly as long, and the last 20 years have seen intensive and continued research into what seems to be at first sight so simple, the ion exchange process itself.

Ion Exchange is a book about fundamentals. It first appeared in the German language as *Ionen austauscher*, vol. 1. *Grundlagen* (Verlag Chemie, 1959). This was the bible of ion exchange, a model of "deutsche Ausführlichkeit" at its inspired best. And *Ion Exchange* is not just a translation; it is a new edition, rewritten by the author himself, in lucid and flawless English, and brought completely up-to-date. The publishers, to their great credit, wasted no time in getting the manuscript into print.

The first chapters are relatively brief and describe the structure of natural and synthetic ion-exchanging materials, including membranes. Then follows a long chapter on ion-exchange equilibrium, which takes up one-fourth of the book and which includes a list of 306 references. Chapters on kinetics, membranes, and ion-exchange columns follow, and then chapters on electrochemical properties, nonaqueous solvents, catalysis, and electron-exchange polymers. Detailed mathematical treatments are given, but the nonspecialist reader may skip these if he wishes; they are accompanied by well-written qualitative explanations and helpful comments on experimental techniques. There are many graphs and diagrams; these are not merely copied from the original papers but have been redrawn and are often much more lucid than the originals. Each chapter closes with a two- or three-page summary.

The book is authoritative, as it should be, for Helfferich has contributed to the field in several ways, including his work on kinetics, membrane theory, catalysis, and the new technique of "ligand exchange." Yet he does not overemphasize his own contributions; the presentation is well-balanced and even, and in many sections, such as that on the Nernst-Planck treatment of membranes, it is nothing short of masterly.

Specialists in ion exchange seeking background information for their research will find it quickly in this book. Workers in other fields who wish to use ion exchange as a tool will not find detailed prescriptions or procedures, but they will gain an unusually clear insight into the nature of the effects they plan to use, together with a wealth of practical information and leading references to speed them on their way.

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Encyclopedic Summary

Atoll Environment and Ecology. Herold J. Wiens. Yale University Press, New Haven, Conn., 1962. xxii + 532 pp. Illus. Plates. \$15.

As the author, Herold Wiens, states, his book is essentially a reference book or encyclopedia of atolls, an attempt to bring together between two covers information on all facets of atoll ecology. It is not particularly concerned with the history of exploration and of scientific study but mainly summarizes the results of recent studies made in the Central Pacific Ocean. A very large source of information is that provided by field studies made since 1950 under the auspices of the Pacific Science Board and the Office of Naval Research, the results of which have been distributed in the mimeographed *Atoll Research Bulletin*. Much other work has been done by the U.S. Geological Survey's Military Geology Branch, beginning during World War II and continuing afterward, in the Marshall Islands, the Marianas, and other areas of military interest. Results of these two decades of field work had not been assembled and compared prior to Wiens' book.

The scope is indicated by listing the number of pages devoted to each topic: geology, 135; weather and climate, 51; physical oceanography, 42; marine fauna, 67; birds, 21; ground water and soils, 35; land plants, 52; land animals, 52; and man, 13. When I noted this wide range of subject matter in the table of contents, I thought the treatment would have to be sketchy. However, the text itself proved to be a thorough and well-written treatment. In fact, my interest was such that, at times, it was hard to lay the book down. Di-