Like any translated text, this one offers some interesting sidelights in its notation and wording—for example, the quotation in which F. Engels refers to Mendeleyev's work as an unconscious application of Hegel's law of transformation of quantity into quality. There are also a number of capsule biographies that are interesting for the information given and for the list of individuals chosen.

The basis for evaluating a book such as this one is not clear. The volume could be of interest to many as an example of Russian texts, but none of the background information about its purpose and usage, which are needed for comparison with American texts, is supplied. Much of the material on chemical theory seems out-of-date, but this is also true for most American texts of 1956 to 1959.

An individual studying this book would, it is true, receive some sound grounding in fundamental terminology, ideas, and practice in chemistry. However, the actual printing and reproduction are poor, and the cost of the volume is high. Anyone who wants to study chemistry on his own can get better books at lower cost elsewhere.

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Peptide Synthesis

In the rapidly developing field of peptide synthesis the need for a thoroughly up-to-date reference book has been evident. Volume 1 of **The Peptides, Methods of Peptide Synthesis** (Academic Press, New York, 1965. 511 pp., $18), by Eberhard Schröder and Klaus Lübke, meets the current requirement and will be welcomed by all who are actively engaged in the synthesis of peptides. It will also be valuable for those who wish to become acquainted with the field for the first time. The authors have presented in a small space a very complete survey of the methods of peptide synthesis. The emphasis is on the practical, but virtually every known method has been dealt with to some degree. In a systematic way each of the protecting groups for the α-amino and α-carboxyl groups is described. The basic principles are discussed, and extensive references to the development and application of the procedures are given. Similarly, the methods of forming the peptide bond are discussed, and this is followed by a consideration of the specific application of methods to the individual amino acids, with special emphasis on the polyfunctional amino acids. Presentation of the general techniques of peptide synthesis precedes treatment (in the last six chapters) of several of the more specialized areas. The latter chapters include good accounts of the cyclic peptides, the depsipeptides, the plasteins, and the group of peptides known as peptoids. Solid-phase peptide synthesis is discussed in a short section. Schröder and Lübke have made an effort to evaluate and compare the many alternate procedures and combinations of procedures which are now available for almost any particular purpose, although the decision about the best approach is necessarily left to the reader. The book contains valuable sections on nomenclature and on the crucial problem of racemization, as well as several useful tables on the stability of protecting groups and the preparation of amino acid derivatives. The excellent translation into English, by Erhard Gross, deserves special mention.

The few criticisms that can be made are largely related to the obvious space limitations. Thus, the fascinating historical development of the field is not stressed and predictions about its future are left to others. Experimental data are used sparingly and detailed procedures are not given, although ample references to the original work are always made. In fact, one of the striking features of the volume is that such a large proportion (approximately 30 percent) of it is devoted to a 2700-entry bibliography and author index. This valuable monograph is certain to be found on the desk of every peptide chemist.

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Collagen Diseases

Occasionally, during the pursuit of a busy career, a man takes time to sift through and consider a segment of his experience with a view to sharing what he has learned with others who may be interested. This is what radiologist Charles M. Nice, Jr., seems to have done in **Clinical Roentgenology of Collagen Diseases** (Thomas, Springfield, Ill., 1966. 205 pp., $10.75).

As a background for the presentation and discussion of his excellent collection of radiographic films, the author provided a brief record of the basic clinical and laboratory features of the collagen diseases, including systemic lupus erythematosus, polyarteritis and Wegner's granulomatosis, systemic scleroderma, dermatomyositis, and rheumatic pneumonitis. In most instances he has also briefly discussed pathology and treatment. The author has been generous with references (283 references for 183 pages of text), and the book has some aspects of a review.

The purpose of the book, and clearly its most valuable contribution, is the presentation of the superbly reproduced radiographic films. Both common and unusual pulmonary lesions of lupus are liberally illustrated. The bowel lesions of scleroderma and dermatomyositis, as they appear to the radiologist, have been lucidly discussed and illustrated. Many photographs showing subcutaneous calcification in collagen diseases have been included.

This book is of primary value to the medical student, general physician, internist, and perhaps the radiologist. Most rheumatologists are familiar with the material presented.

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Fermi's Molecole e Cristalli

Molecules, Crystals, and Quantum Statistics (Benjamin, New York, 1966. 314 pp., $12.50), by Enrico Fermi, is a translation (with several addenda by Lloyd Motz) of Fermi's 1934 textbook *Molecole e Cristalli*. The volume was translated by M. Ferro-Luzzi and edited by Lloyd Motz.

There is considerable presumption and also danger of heresy in attempting to give anything like an objective review of any of Fermi's work. It seems to me doubtful, however, that anyone would have undertaken the translation and publication of this work if it had not borne Fermi's name. It is not that it isn't well written and lucid. Again and again one finds passages where the famous Fermi ability to say things simply and directly is very much in evidence. This is especially true in parts relating to the structure of diatomic molecules. It is rather that for the

modern physics student much of the material is now very thoroughly treated in excellent elementary textbooks, and in advanced undergraduate or early graduate courses.

The book is organized as follows: Part 1 (about half the book) deals with structure and properties of diatomic and polyatomic molecules. Part 2 treats elementary properties of crystals and is an introduction to quantum statistical mechanics. This is a rather heterogeneous selection of topics, in terms of the way the teaching of physics is organized today. In my opinion the second part has little to offer the contemporary reader. Those sections of part 1, on the other hand, that deal with molecular structure per se represent material which is rarely treated these days in the physics curriculum. For the student who wants to obtain a bird's-eye view of molecular theory, and who has an elementary knowledge of wave mechanics, they could prove quite useful. And, of course, those who find pleasure in seeing familiar things said simply will certainly enjoy this book.

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A Stimulus for Dialogue

The Ecological Theater and the Evolutionary Play (Yale University Press, New Haven, Conn., 1965. 152 pp., $5), by G. Evelyn Hutchinson, is a collection of six essays based on lectures. The first three of the essays are based on lectures given at Temple University in 1964. The fourth essay is a lecture delivered at the University of Wisconsin, also in 1964. Taken together, the four lectures expound the broad aspects of ecological thought and the influence of ecological mechanisms on the course of evolutionary change. The first part examines the nature of the biosphere, or the totality of the domain of life on the earth. There is speculation about possible biospheres on other planets, particularly Mars, in terms primarily of the transfer of energy and matter. The biosphere is defined fundamentally according to the conditions of liquid and energy sources. A dazzling display of facts from the literature is accompanied by detailed and lengthy footnotes that tend to divert the reader's attention. Additional distraction is introduced by Hutchinson's penchant for using specialized jargon—*eubiosphere, parabiosphere, allobiosphere, autobiosphere*, and *hyperallobiosphere*, for example. These terms are not really essential to the explanations, and their use is a contradiction in a literary type of exposition. The biosphere is viewed also from the standpoint of mineralogy and the molecular level. Finally, the stages in the history of the earth's biosphere are discussed.

In the second part, the nature of the "niche" is taken up in great detail in what the author calls the "merological" approach as distinguished from "hololological." Major attention is given to the so-called "competitive exclusion principle." Here again we find complexity of both adumbration and reference material. Much of this writing presumes a rather sophisticated reader who has a close acquaintance with basic sciences and biostatistics.

The author's literary style interferes somewhat with scientific clarity. What is an "equilibrium community?" And when do data suggest some "principle to be generally operative?" I think scientists would rather say that natural mechanisms are operative, the revelation of which may serve as a basis for a man-made principle. In the third part, human evolution is viewed in terms of both the limits and opportunities set by the interaction of organism and environment.

In the fifth essay, there is an account of the ecologic implications of limnological investigation, especially that done at the University of Wisconsin by Birge and Juday, pioneers in the field. The essay is based on Forbes's idea of the lake as a microcosm. The sixth essay is concerned with the early genetic researches of Doncaster and Onslow who contributed to the theories of chromosomal and blending inheritance, respectively. With some charm, the author indicates how these two men were aided by an English country clergyman who collected and bred varieties of the magpie (or gooseberry) moth.

The fourth essay touches on the "Naturalist as art critic," and I fail to understand why it was included in this volume on ecology. On the surface it seems to be an erudite exploration of beauty (art?) in nature, in primitive society, and in modern cultures, but I find it a rather shallow exposition, loaded with surprising stereotypes. The author laments the fact that people do not realize that many objects in a natural history museum are of "extraordinary natural beauty." The result is to equate "natural beauty" with art. In my view, the author fails to see that nature has no beauty—that beauty is a human conceptualization, that only man, representing evolution in its self-conscious stage, has given beauty to nature, has made nature an imitation of art.

This brief and inadequate review should at least demonstrate that Hutchinson's book is primarily a stimulus for dialogue. The attentive reader cannot help but react to the aggressive ideas set forth. I can recommend it only for those in advanced college or in professional careers. A few sophisticated college seniors may find it stimulating.

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New Books

General

About Sharks and Shark Attack. David H. Davies. Hobbs, Dorman, New York, 1966. 237 pp. Illus. $6.95.

The Addictive Drinker: A Manual for Rehabilitation. Joseph Thimann. Philosophical Library, New York, 1966. 179 pp. Illus. $6.

Admission Requirements of American Dental Schools: 1966–67. American Association of Dental Schools, Chicago, 1966. 143 pp. Paper, $2.

Aerospace and Defense Research Contracts Roster. Compiled by Frost and Sullivan, Inc. Bowker, Washington, D.C., 1966. 1295 pp. $35. A report of the research and development contract award actions announced by the U.S. Government to companies and institutions for the fiscal year 1965.

Arms and Influence. Thomas C. Schelling. Yale Univ. Press, New Haven, Conn., 1966. 303 pp. $7.50.

Boston: The Job Ahead. Martin Meyerson and Edward C. Banfield. Harvard Univ. Press, Cambridge, Mass., 1966. 127 pp. Illus. $3.95.

Catalog of Living Whales. Philip Hershkovitz. Smithsonian Institution, Washington, D.C., 1966 (order from Superintendent of Documents, Washington, D.C.). 267 pp. Paper, $1.

Chemical Study of Some Indian Archaeological Antiquities. Satya Prakash and N. S. Rawat. Asia Publishing House; Taplinger, New York, 1966. 91 pp. Illus. Paper, $3.75.

The Communist Controversy in Wash-

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