Since documentation—and particularly scientific documentation—is an amalgamation of many disciplines and activities, it is often difficult to find a suitable forum for publication of the deliberations of documentation experts.

The first volume of *Advances in Documentation and Library Science* is entitled, *Progress Report in Chemical Literature Retrieving.* It combines the proceedings of two American Chemical Society symposia on the indexing of scientific literature, and it does so in such a way that it provides the reader with a bird's-eye view of past, present, and future developments within the field. It is informative without being verbose, saying what it has to say directly and economically. Volume I constitutes, in my opinion, a well-balanced, extremely informative text on the principles of indexing which should satisfy both the neophytes and the sophisticates.

Unfortunately, the promise of volume I is not fulfilled in volume II, which is entitled *Information Systems in Documentation.* Volume II is the proceedings of a symposium on systems for information retrieval, which was held at Western Reserve University in 1957. To judge from its program, this symposium must have resembled a three-ring circus. Volume II also takes on many of the characteristics of a three-ring circus. It contains so much material that it is overpowering. In their attempt to give comprehensive coverage to current activities in the organization of information, the editors intersperse many second-rate papers among many first-rate papers. This is a waste; it merely makes the good papers hard to find, and it forces the reader to plough through a maze of inferior papers that should not have been published in the first place.

The contrast between the first and second volumes of *Advances in Documentation and Library Science* illustrates a problem which is a common one in the publication of proceedings. Are published proceedings truly proceedings if the editors exercise judgment and leave out papers which were presented but which are not worthy of publication? The editors of the second volume apparently decided in the negative. It is to be hoped that the editors of future volumes of *Advances in Documentation and Library Science* will take an opposite stand.

From the word *Advances* in its title, one is at first given the impression that *Advances in Documentation and Library Science* is a review publication in the classical, critical sense. *Advances in Documentation and Library Science* is not, at this stage of its development, a true review publication. It would be a good thing if it should become one.

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Biology and Medicine

A History of Nutrition. The sequence of ideas in nutrition investigations. Elmer Verner McCollum. Houghton Mifflin, Boston, 1957. x + 451 pp. $6.

It is given to few persons in each generation to make history and to be able to write history. With the publishing of his *History of Nutrition,* E. V. McCollum has joined the small but distinguished company of doers who are also historians. The scientific fame of McCollum is secure: It was he who clearly demonstrated the existence of fat-soluble vitamins and differentiated vitamin A from vitamin D, among other major achievements. He is thus particularly well qualified to deal with the development of our knowledge of dietary essentials.

In his historical venture McCollum traces the development of what Lusk called "the Science of Nutrition" from its empirical beginnings to the early 1940's. His chapter on ancient—Greek and Roman—concepts is particularly interesting. McCollum deals briefly with the 18th century; while his descriptions of the work of the great innovators of this era are interesting, he could, perhaps, have underscored more emphatically the profound revolution in thought brought about by Lavoisier's equating the oxidation of food with physical phenomena reproducible in a calorimeter. McCollum's treatment of the application of the new chemical techniques to problems of food composition during the 19th century is particularly well done; the influence of Liebig is justly emphasized. The birth of the concept of qualitative requirements with Magendie and the pioneer role of Boussingault in the development of agricultural chemistry, plant nutrition, and the nutrition of farm animals are given the place their merit earns.

The second part of the book, which deals with the evolution of knowledge of dietary essentials, is particularly useful: McCollum deals with the development of general concepts, with particular emphasis on vitamins (amino acids are perhaps somewhat slighted; minerals are adequately dealt with), then goes on to tell the story of each of the principal vitamins. I was especially interested in the relation of events and discoveries in which McCollum himself took part. His personal recollections and appraisals of contemporary reactions to various findings and new ideas are particularly fascinating. McCollum's very candid account of some of his initial errors and of how he progressively corrected them under the presence of accumulating evidence is a superb lesson on the experimental method.

McCollum ends his book with the year 1940, prior to the explosive development of international and national work in "applied" nutrition. Still, one may wonder why in his last chapter, "The end of an era: New horizons," he did not at least mention such milestones of the 1930's as the first set of nutritional requirements (proposed by the Physiological Committee of the League of Nations, in which McCollum himself took a leading part), the pioneer report of Aykroyd and Burnet on the feeding of populations, that of Bigwood on assessment of the nutritional status, the first large-scale surveys (by John Boyd Orr in Scotland and by Stiebeling and Phipard in the United States), and the recommendations of the Mixed Committee of the League of Nations, which gave the philosophical basis for the creation, later, of such institutions as the Food and Agriculture Organization of the United Nations. At a time when the influence of scientific research on the human community is not an unmixed blessing, it might be worth recording that, perhaps alone among the natural sciences, nutrition has been consistently on the side of the angels.

It is unfortunate that the publishers did not give this book better editorial attention. Foreign references ought to have been more carefully checked. Some proper names are misspelled in the text; there are a number of different abbreviations for the same journals in the bibliography, and many of them are incorrect. This is particularly evident for French references, but German and Italian references are not immune to errors. It is hoped that these mistakes will be corrected when this important and highly useful book is reprinted.

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Vitamin A. Thomas Moore. Elsevier, Amsterdam, 1957 (order from Van Nostrand, Princeton, N.J.). xx + 645 pp. Illus. $14.

This volume is remarkable for its comprehensiveness, combined with perspective. Critical judgment of the work of others is not avoided but is always kindly. Attention has been given especially to recognition of those who were first to publish each feature treated. The organization of the entire work will be most helpful for the various types of readers who will desire to use this volume as a reference source concerning the several forms of vitamin A and the carotenes.

This comprehensiveness and perspective have been made possible in large part by the fact that the author, the deputy director of the Dunn Nutritional Laboratory, Cambridge, England, has

participated in many different aspects of the study of vitamin A over a professional lifetime of nearly thirty years. He has obviously been as systematic in his reading and recording of bibliographic data as he has been in conduct of his own research.

The comprehensive character of the work is shown by the sectional organization of historical, assay, chemical, biochemical, physiological, pathological, clinical, dietetic, and animal-husbandry material. In many cases data of importance may be found in two or more of these sections, but with cross reference. This makes the volume useful for quick reference without the necessity for consecutive reading of the entire book. The author shows a gratifying perspective about the various facets of the highly complicated problems he treats.

As features of the excellent organization of this book, mention should be made of the adequate summaries which introduce chapters and sections of the volume. Liberal use of marginal topical headings facilitates rapid perusal of long chapters. The documentation is organized by chapters and is very extensive but is limited to items used in development of the themes.

The line drawings are well done. Some of the plates are reproductions of the classics in the field, suffering as usual from the technical faults inherent in such copying. Nevertheless, they are useful in this compendium of the progress in our knowledge of vitamin A, to date.

The appendix, with nine sections, provides much technical information, which has been well organized. The indexes are separate for authors and subjects. Both are very complete. It is notable that all the authors of each paper quoted are to be found separately listed.

This book will be found useful in the libraries of a wide variety of those interested in vitamin A. Among other matters it provides numerous suggestions of the gaps in the total picture, where investigators might well undertake further research.

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German-English Glossary of Neurophysiology. Roger Merritt Morrell, Ed. Consultants Bureau, New York. 181 pp. $7.50.

This German-English dictionary of the specialized language of physiology, anatomy, biochemistry, and electronics was assembled by an American neurophysiologist to help him in his work. Some 9000 words and phrases are entered, these being translated, mostly, into single English words or phrases. The book contains many misspelled German words and incorrect translations, there being at least 20 such, for example, between pages 58 and 61. The book is very cheaply—and in places very badly—reproduced from a typescript, and it is difficult to understand why it should be so expensive. On the positive side, elimination of low-priority information about the German words (for example, their gender, and umlauts) makes the list easy to use. This book may, despite its many faults, prove to be of some value to English-speaking specialists with a limited knowledge of German scientific terminology.

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Zoogeography: The Geographical Distribution of Animals. Philip J. Darlington, Jr. Wiley, New York, 1957. xi + 675 pp. Illus. $15.

The orderly geographic patterns of systematic groupings of animals have long challenged the interpretive mind. With modern progress in geology, systematic zoology, ecology, phylogeny, and evolutionary theory, the time is ripe for correlating the data from different fields of biology into a geographic synthesis. Darlington has written an admirable book with a critical evaluation of facts and principles of the distribution of land and fresh-water families of vertebrates. Geographic order and its interpretation are of value not only to biogeographers but also to taxonomists, ecologists, and evolutionists. Principles deduced from the distribution of the lower taxonomic categories are less adequately treated than are those for the families and higher categories, but *Systematics and the Origin of Species,* by E. Mayr (Columbia University Press, 1942), fills this gap. It is understandable why the invertebrates were left out. The systematics, ranges, fossil histories, and phylogenies of the vertebrates are much better known. However, a few excellent studies of the distribution of invertebrates have been published. *Evolution and Classification of the Mountain Caddisflies,* by H. H. Ross (University of Illinois Press, 1956), *The Faunal Connections between Europe and North America,* by C. H. Lindroth (Wiley, 1957), and Darlington's own studies of the Carabid beetles might have been used for corroborative evidence for some of the main concepts.

Many of the gaps in Darlington's book are not the fault of the author. The fault is rather in the complexity of the subject, the dependence upon an unattained taxonomic and phylogenetic precision, and the prevalence of errors in the literature that can only be corrected by specialists (of which there are far too few) using modern systematic techniques. Darlington has gathered much evidence for the contemporary and ancient causes of major geographic patterns, and even with the omissions, the book should be an important reference work for many years to come.

The style is rather individualistic and, in my opinion, makes for easy reading. Dogmatism is avoided, sometimes to the point of obscuring the evidence that has statistical significance. The illustrations are highly diagrammatic and simplified. More detailed figures of vegetation and climatic patterns would have clarified the correlated animal distributions. For example, Fig. 50 could have shown some of the main ecological features of the Nearctic region, but, as it stands, it is a waste of space. Phylogenetic trees, with inserted data on fossils, geologic time, and contemporary distribution in zoogeographical regions, would have clarified many of the discussions in the text.

I commend the author on his useful tables and lists, upon his use of fossils, and upon his discussions of controversial concepts such as Wegnerian continental drift, oceanic land bridges, and the origin of island faunas. The book is a first-class text for a course in zoogeography, particularly if *Ecological Animal Geography* by Hesse, Allee, and Schmidt (Wiley, 1951) is used as a companion volume.

Much useful zoogeographical information still remains to be discovered, but Darlington has provided a base for further exploration. There is no question but that the science of animal distribution is still in its infancy, but great promise for future maturity is already evident.

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The Friendly Fungi. A new approach to the eelworm problem. C. L. Duddington. Faber and Faber, London, 1957 (order from Macmillan, New York). 188 pp. Illus. $4.50.

The Friendly Fungi is concerned with the exciting possibility of using predacious fungi for the biological control of eelworms (nematodes) which beset cultivated plants and domesticated animals. These fungi are "friendly" only from our point of view, because the way in which they capture eelworms by means of garrotes, snares, adhesive pegs, and sticky nets and the efficiency with which they dispatch their prey make them distinctly unfriendly to nematodes.

The book begins with a description of nematodes, their habits, and their economic importance. It then goes on to a consideration of the methods by which the control of these pests has been attempted and the difficulties which have