

in human relations, communications, and management practices, such as the setting of objectives, work evaluation, control, and appraisal.

The survey was made through a large number of personal interviews and correspondence. Questionnaires were also used to get wider coverage. The report is presented under 12 headings: organization, planning, hiring, stock-piling—hoarding, training, placement, leadership, supporting personnel, physical working conditions, personnel administration, compensation, and patents.

The summary on compensation is the least topical. It deals particularly with the narrowing range of engineers' salaries. The reduced spread for experience (telescoping) is considered serious. At the same time, the widening spread between salaries of engineers and of management seems to be condoned. For some time, even before the sputnik, leading companies have been concerned about the narrowing range of engineers' salaries for both experience and merit. Something has been done about it. A comparison of the Engineers Joint Council salary surveys for 1952 and 1956 shows that the tide has turned. The merit spread is being increased in some companies by providing two "ladders" for engineers to climb to the highest salaries—one the management ladder, the other the professional competence ladder.

This report presents a good case for more modern management practices in engineering. It is good reading for engineers and executives.

EDWARD B. PECK

*Department of Mechanical Engineering,
Rutgers University*

UNESCO. Purpose, progress, prospects. Walter H. C. Laves and Charles A. Thomson. Indiana University Press, Bloomington, 1957. 469 pp. \$7.50.

It may be that, in the years to come, somebody will write an "official" account of the birth and infancy of the United Nations Educational, Scientific and Cultural Organization (UNESCO), but, if so, it will not replace this book. Laves and Thomson have had access to more than the facts and documents. They have breathed the atmosphere of UNESCO's "founding fathers," and they know well the early hopes and plans. They themselves helped to shape the course of this *enfant terrible* of the U.N. family.

As a result, the book UNESCO minds its three *p's* very well. It rejects the sentimentalist who, had he prevailed, would have made of UNESCO a pink cloud floating over and beyond all problems of practical significance. The authors have produced a reference work for the stu-

dent, the teacher, or the government official. The 100 pages of notes at the end are invaluable source material.

The authors give a brief appraisal of UNESCO's achievements to date. The purpose of the organization is held to be sound in principle, even if somewhat diminished in practice. The unpredicted cold war inevitably relegated the United Nations' specialized branches to the business of reconstruction, technical assistance, and various forms of cultural interchange. Deprived of any leading role in keeping the peace, UNESCO, through various conferences and publications, has managed to study and report upon the great issues and to free the channels of communication. Increasingly it has recognized the political character of its basic decisions.

Progress in UNESCO has been twofold: (i) improvement in its educational, scientific, and cultural programs (through more concentration and better planning) and (ii) the slow realization that UNESCO could be effective if the member states would bring it into the center of the planning for peace. Perhaps a tie in the race for hydrogen-headed monsters will turn the nations toward the needs shared by all humanity. In this sense, UNESCO, an organization devoted to ideas, values, and humane services, is not so much a constructor of peace as it is a living example of whatever good will exists among the nations.

Laves and Thomson make no attempt to arouse support for UNESCO. Their style is quiet and judicial, although the final note is optimistic. The volume is useful and informative, but it does not dig deep, and it will stir no one to action. What UNESCO needs now is some penetrating writings that carry a sense of urgency.

GEORGE D. STODDARD

New York University

Conservation. An American story of conflict and accomplishment. David Cushman Coyle. Rutgers University Press, New Brunswick, N.J., 1957. xii + 284 pp. Plates. \$5.

David Coyle has given us what is probably the first short but adequate history of the conservation movement in the United States. It offers the reader a comprehensive understanding of the principles of conservation, the development of the various branches, and the conflicts that arose in the many public issues that were involved in the movement. The subject is presented in four parts, with 16 chapters.

Part I, entitled "The beginnings of conservation," presents an excellent historical account of conservation. It is concerned chiefly with conservation of our

forest resources. The meeting of prophet Gifford Pinchot with President Theodore Roosevelt marked the beginning of the conservation movement in the United States. The Forest Service grew up from the old Division of Forestry, which had a two-room office and a total staff of 11 people. Our present knowledge of forestry techniques has grown from Pinchot's *Primer of Forestry*, which told enough about the woods to guide the beginning forester or lumberman.

In part II, entitled "Reaction, war, and normalcy," the policies of conservation built up by Pinchot and Roosevelt are discussed; these came into direct conflict with the old-fashioned ideas of Taft and Ballinger. After this battle, the movement developed quietly for 25 years, until the next outburst in the expansion of 1933.

Part III deals with events of 1933 and after. Great strides were made in all branches of conservation under the leadership of President Franklin D. Roosevelt. Forestry marched forward under the impetus of the Civilian Conservation Corps program, the Norris-Doxey Law, the Taylor Grazing Act, and the shelter-belt program. This era saw the permanent establishment of a definite program of soil conservation. Progress was made on the problems of water, floods, navigation, irrigation, water power, rural electrification, and wildlife conservation. Such matters as Dixon-Yates and Hell's Canyon are discussed.

This well-organized and clearly written story of conservation could very possibly be used as a textbook for courses in forestry, conservation, wildlife, and agriculture.

L. W. R. JACKSON

*Department of Forestry,
University of Georgia*

Advances in Documentation and Library Science. vol. I, *Progress Report in Chemical Literature Retrieval*. Gilbert L. Peakes, Allen Kent, and James W. Perry, Eds. vol. II, *Information Systems in Documentation*. J. H. Shera, Allen Kent, and James W. Perry, Eds. Interscience, New York, 1957. 217 pp.; 639 pp. \$4.75; \$12.

The first two volumes of *Advances in Documentation and Library Science* mark the beginning of a new and potentially useful undertaking. Two of the avowed purposes of this undertaking are "To meet the need for a publication the pages of which will be available for the recording of conference proceedings," and "To provide an instrument for the publication of monographic materials which are either too long or excessively detailed or specialized for the existing journals." These are laudable purposes.

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.

SAUL HERNER

Herner and Company,
Washington, D.C.

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 Phippard 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.

JEAN MAYER

Department of Nutrition,
School of Public Health,
Harvard University

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