

hospital's nutrition clinic; where none exists, it would be the responsibility of the dietetic department. The Committee also suggested that a member of the dietetic department should accompany physicians and surgeons on their ward rounds.

Dr. Michael G. Wohl, Chairman of the

State Commission and the Coordinating Committee on Nutrition, while pleased with its past accomplishments and hopeful of its present undertakings, looks forward to the time when physicians will become more enthusiastic missionaries in the cause of nutrition, the public more intelligent converts.

## Reviews of Recent Books

**Carbohydrate Metabolism.** A symposium on the Clinical and Biochemical Aspects of Carbohydrate Utilization in Health and Disease edited by V. A. Najjar, Johns Hopkins Press, Baltimore, 1952, pp. 134, \$4.00.

This short book is a collection of presentations made at a symposium on carbohydrate metabolism. The authoritative nature of the material may be surmised from the list of discussers, i.e. such investigators as Cori, Hastings, McQuarrie, Butler, and Andersen, among others. Most presentations deal in a clear style with problems *in vitro*; however, certain important clinical observations are also noted. Familial hypoglycemia (associated with absent alpha cells of the islet tissue) and a laboratory differentiation of three types of glycogen storage disorders are described. Recent advances in enzyme and electrolyte metabolism are nicely summarized. There is a useful index.

This book offers a brief review of current research in medicine and physiology dealing with carbohydrate metabolism, and will prove useful to clinicians and research workers alike. S.O.W.

**Phosphorus Metabolism. A Symposium on the Role of Phosphorus in the Metabolism of Plants and Animals. Volume I,** edited by William D. McElroy and Bentley Glass, The Johns Hopkins Press, Baltimore, 1951, pp. 762, \$10.00.

The functions of phosphorus in nutrition are numerous and important. Investigations carried out during the past 25 years have provided new concepts of its role in metabolism. Great progress has been made in describing the intricate metabolic pathways by which phosphorus facilitates the degradation of metabolites and aids in the transfer of energy released thereby. The contributions of the last few years especially have added such an abundance of new information about the interactions of phosphorus that a comprehensive survey of recent work was badly needed. The more than 40 papers comprising the Symposium on Phosphorus Metabolism held at Johns Hopkins University in June 1951 help greatly to fulfill this want. This

volume gains authority because many of the participants actually discuss the outstanding contributions they have made in this field.

The topics discussed include the metabolism of polysaccharides, the metabolism of hexoses, pentoses, and trioses, the formation and utilization of active acetate, the structure and reactions of phosphorus-containing coenzymes, the biochemistry of inorganic pyro- and meta-phosphates, the influence of inorganic ions on phosphorylation reactions, the thermodynamics of phosphate bonds, coupling of oxidative phosphorylation and electron transport, and utilization of phosphate bond energy. There is an introduction to the Symposium by the late Professor Meyerhof and a comprehensive 83-page summary and review by Professor Bentley Glass.

This is an important book. Much of the information it contains is not available elsewhere, and if so could be collected only by considerable effort. These discussions of active acetate and of the manifold reactions of coenzyme A serve as an excellent introduction to this rapidly expanding subject. Numerous other examples could be cited. The ramifications of phosphorus metabolism are sufficient to warrant inclusion of sections on urea formation, synthesis of peptide bonds, transmethylation, bioelectricity and bioluminescence. An index is included. J.G.R.

**Copper Metabolism,** edited by William D. McElroy and Bentley Glass, The Johns Hopkins Press, Baltimore, 1950, pp. 443, \$6.00.

This is a monograph which covers a group of papers presented at a symposium held at the McCollum-Pratt Institute of Johns Hopkins University on June 14, 15, and 16, 1950, on Copper Metabolism. This is the most authoritative, comprehensive and up-to-date treatise in the field dealing with copper metabolism from the standpoint of animal, plant, and soil relationships. Such chapters as The Copper Protein, Ascorbic Acid Oxidase, The Nature of Copper Enzymes Involved in Tyrosine Oxidation, The Use of Radioisotopes of Copper and Molybdenum in Nutritional Studies, Problems Associated with Copper Deficiency in Ruminants, and Copper Metabolism in



Human Subjects, are written by specialists in micro-nutrients from the United States, Australia, and New Zealand. This book should prove a most valuable reference to all graduate students and investigators in nutritional biochemistry.

Space does not permit to comment on the contents of the individual chapters. However, the following are some of the vital points covered in the chapter on Copper Metabolism in Human Subjects which should be of interest to the clinical and practising physician. In the adult, whole blood contains about 94 micrograms of copper per 100 ml. which is distributed equally between cells and plasma. The copper in plasma increases in most infections, including pharyngitis, and the "common cold." The presence of hypercupremia has been suggested as a delicate test for the detection of infection. In chronic infections, such as tuberculosis, osteomyelitis, empyema, lung abscess, subacute bacterial endocarditis, and brucellosis either with or without anemia, the plasma copper is almost invariably elevated to levels of 160 to 250 microgram per cent. As soon as the acute phase of the infection subsides, the plasma copper decreases to normal.

Increases in whole blood and plasma copper have been observed in various types of malignancy and in acute leukemia. A favorable response to the administration of adrenocorticotrophic hormone in acute leukemia is accompanied by a decrease in the copper values, and relapse is accompanied by an increase in the copper values.

Pregnancy is one physiological condition in which the blood copper content is greatly altered. In the 40th week of pregnancy, the plasma copper averages about 261 microgram per cent. The plasma copper begins to increase in the first trimester and reaches maximum values during the last trimester. Normal values are then regained rapidly during the first two months post-partum.

The function of copper in mammals is not known. From the results of studies in copper-deficient animals, the indications are that it is concerned in erythropoiesis, in the process of myelination of the central nervous system, and in the maintenance of normal mammalian pigmentation. In what manner copper functions in these ways is not understood.

B. SURE

**Food and Nutrition** by E. W. H. Cruickshank, M.D., Ph.D., M.R.C.P., second edition, The Williams and Wilkins Company, Baltimore, 1951, pp. 443, cloth \$6.50.

This book consists of twenty chapters, dealing with the usual subjects generally considered in books on nutrition, in addition to a wealth of material on the practical application of nutrition findings on the individual, the family, the community, the nation, and the world. In the chapter on bread, Dr. Cruickshank traces the history of bread-making from pre-

historic man to the so-called "National" loaf which is mandatory today in Great Britain. He relates the many shortcomings of modern white bread, the reasons why current methods of milling have come about, and the whole story of flour bleaching and "enrichment."

Although quite conservative in his thinking on, for instance, natural versus processed food, vegetarianism versus meat-eating, wrong diet versus salivary bacteria as the cause of tooth decay, the author is always fair in pointing out that perhaps further research will reveal additional significant facts on one side or the other of these various controversies.

Perhaps the most striking aspect of the book is its international flavor. Although Dr. Cruickshank is mainly concerned with Great Britain and her food and nutrition problems, he is thoroughly acquainted with the food situation in other parts of the world as well. His comparative statistics on African nations with widely differing diets reveal the tremendous importance of food as a determining factor in a nation's physique, philosophy, and temperament. His very thorough review of how Great Britain faced and solved her nutrition problems during the last war contains much of value for American nutritionists and physicians.

In general, the author is fully aware that all is not well in regard to nutrition, even in countries where the standard of living is high. His recognition of this fact is apparent in the theme of the book—that technical development and scientific knowledge must be closely related if we are to solve our nutrition problems and bring about a healthy and stable peace. In short, this is a good, well-rounded treatment of all aspects of food and nutrition. J.R.

**Internal Medicine** (fifth edition), formerly edited by John H. Musser, B.S., M.D., F.A.C.P., now edited by Michael G. Wohl, M.D., F.A.C.P., Lea & Febiger, Philadelphia, 1951, pp. 1563, \$15.00.

Textbooks of general internal medicine must cover a vast amount of material, yet be concise, pertinent, current, and (most difficult of all) readable. Such a combination, happily, is found in the new (fifth) edition of Musser's textbook of Internal Medicine, now edited by M. G. Wohl, and with contributions from 81 authors.

Although the presentation of the disease entities is orthodox in that for each condition there is a section on etiology, pathology, diagnosis, treatment, etc., the book emphasizes patho-physiology and prevention. There are interesting integrating chapters at the beginning of each large section, as well as well-written chapters on geriatrics, rehabilitation, genetics, the alarm reaction, and psychosomatic medicine.

The chapters on nutrition were contributed by several members of the Board of the JOURNAL OF CLINICAL NUTRITION. Throughout the book the discussions

are clinical, well illustrated, and surprisingly up-to-date, with references from 1951.

The book is attractively printed, with a useful index. It can be unhesitatingly recommended as one of the best in its class available today. A.E.S.

**Alcohol Education: A Guide-book for Teachers** by Joseph Hirsh, Henry Schuman, Inc., New York, 1952, pp. 107, \$2.50.

Our laws require the teaching of the "facts" about alcohol in the schools of all 48 states. But what is taught and how the instruction is slanted depend to a great extent on local attitudes and on the preparation and prejudices of the teacher. This guide to alcohol education is designed to help teachers acquire the facts about alcohol, answer the most common questions asked about its nature and action, understand the special problems associated with the disease of alcoholism, and plan a rational and realistic program of alcohol instruction. As the author points out, eager advocates of abstinence may insinuate into the teaching program a distorted "scare" picture of the evils of alcohol, which the pupil finds difficult to reconcile with what he sees about him in our predominantly drinking society. Rejecting the distortions, he may ignore the real dangers which accompany the use of alcohol—such as combining even moderate drinking with driving, or overlooking the early signs of alcoholism.

The real and fancied properties of alcohol are discussed. Is alcohol a food? A stimulant? A narcotic? In what sense is it habit-forming? Can it cause specific diseases? Has it any medicinal value? The differing response to alcohol in the youthful and older drinker is stressed, and a careful distinction is made between the ordinary "social" and the potential "problem" drinker. The author is frank about the residue of unknowns in our accumulated knowledge about alcohol; he points out, for example, that the relation of alcohol to nutrition needs to be explored more thoroughly.

A list of agencies interested in alcohol education is included; and evaluations of available films and filmstrips on various aspects of alcohol and related problems, together with a selected bibliography, should

prove helpful to teachers and administrators in search of source material and visual aids.

In making this guide available, the author has made a practical contribution toward the establishment of a program for alcohol education more firmly based on medical, psychological, and sociological knowledge. C.-J.H.

**The Complete American-Jewish Cook Book**, edited by Anne London and Bertha Kahn Bishov, The World Publishing Company, Cleveland and New York, 1952, pp. 752, \$4.95.

This cook book offers over 3500 recipes of kosher dishes, plus a large amount of interesting folklore. Profusely illustrated and covering the gamut of Jewish cooking, this book should prove popular with gourmets and housewives of all faiths. S.S.

Books received for review by the *Journal of Clinical Nutrition* are acknowledged in this column. As far as practicable, those of special interest are selected, as space permits, for a more extensive review.

*Biochemistry and Human Metabolism* by B. S. Walker, W. C. Boyd, and I. Azimov, Williams & Wilkins Co., Baltimore, 1952, pp. 812, \$9.00.

*Freezing and Drying*, edited by R. J. C. Harris, Hafner Pub. Co., Inc., New York, 1952, pp. 205, \$3.00.

*The Inspection of Food: A Handbook for Students of Public Health, Agriculture and Meat Technology* by Horace Thornton, Williams & Wilkins Co., Baltimore, 1952, pp. 223, \$3.00.

*The Newer Knowledge of Hygiene in Diet* by J. Sim Wallace, Dental Items of Interest Pub. Co., Inc., Brooklyn, 1952, pp. 264, \$4.75.

*Essentials of Infant Feeding for Physicians* by Herman Frederic Meyer, Charles C Thomas, Springfield, 1952, pp. 252, \$6.75.

*Manual of Applied Nutrition*, edited by J. C. Carlsen, Johns Hopkins Press, Baltimore, 1952, pp. 96, \$2.50.

*Kitchen Strategy* by L. M. Bayer and E. Green, Charles C Thomas, Springfield, 1952, pp. 112, \$3.75.

*B-Vitamins for Blood Formation* by Thomas H. Jukes, Charles C Thomas, Springfield, 1952, pp. 113, \$4.00.

