

cine. He had a sincere appreciation for the ideas of others and frequently spent hours stimulating and encouraging those with whom he worked. His qualities of persuasion and leadership were unique. He was able to introduce harmony through his skill in debate, and he brought efficiency through his exceptional talent of organization. His persuasive power is exemplified by a vignette: at one time during the war in the Pacific

he negotiated the transfer of an entire portable Army Field Hospital at the cost of five bottles of Navy rye whiskey. It has already been written that George Hamwi was one of the few who maintained a full interest in both laboratory and clinical medicine (*Yearbook of Endocrinology*. T. Schwartz, Editor. Chicago, Yearbook Medical Publishers, 1967, p. 71). Certainly, his passing takes from us a vigorous, colorful and wise friend.

BOOK REVIEWS

ADVANCES IN CARBOHYDRATE CHEMISTRY. Vol. 21, M. L. Wolfrom, Editor. \$19.50. New York, Academic Press, 1966.

This volume represents the latest of a series dedicated to comprehensive reviews of subjects in carbohydrate chemistry. It begins with a brief biography of the great German chemist, Emil Fischer, and an assessment of his contributions to carbohydrate chemistry by K. Freudenberg which is of interest. Subsequent chapters deal with Mass Spectrometry of Carbohydrate Derivatives, The Glycofuranosides, Deoxy Sugars, Complexes of Alkali Metals and Alkaline-earth Metals with Carbohydrates, Synthetic Cardenolides, The Techoic Acids, Effects of Plant-growth Substances on Carbohydrate Systems, and Chemical Synthesis of Polysaccharides. Inspection of the chapter titles makes clear that the volume primarily involves problems in the organic chemistry of carbohydrates with emphasis on synthesis and analysis. While a number of the compounds reviewed have major importance in biological systems, physiological and biochemical aspects of their chemistry are not covered. As a consequence the volume will not be of major interest to clinicians or investigators concerned mainly with carbohydrate metabolism. It is clearly a valuable reference volume for the pure carbohydrate chemist. Organization of the book and readability are excellent and the index is very satisfactory.

FRUIT AND VEGETABLES. R. B. Duckworth, B. Sc., Ph. D. \$7.00. London, Pergamon Press, 1966, pp. 306.

As the title of this book suggests, the information found in it is strictly limited to fruit and vegetables. It is intended as a text on the subject and should be useful to students of food science and food technology. Dietitians and nutritionists will find it useful as a reference. It may also be placed in the food factory laboratory and in science libraries.

A splendid history of background information is found in the introduction. Record of man's efforts to control his en-

vironment are traced back as far as 5,000 and 7,000 B.C.

The book is divided into two parts. The first part includes four chapters on the subject of chemical constitution, structure, physiology, and microbiology. There are tables of inestimable value. Drawings showing the structure of stems, leaves, and fruits are clear and of value in teaching. The physiological processes after harvesting are most interesting. Attention is drawn to the individual characteristic pattern of change in each fruit and vegetable. The description of the part respiration plays in the metabolism of all harvested plant tissue is clear and concise. The physiological disorders resulting from the removal of the fruit from the parent plant are described as senescence.

Attention is paid to the activity of micro-organisms which cause spoilage. Attempts are described which endeavor to keep infection of material with potential spoilage at as low a level as possible. Drawings of the characteristic appearance of the spore-bearing structures of some of the important mould genera are shown.

The second part of the book deals with the utilization of these foods. Maps showing the main areas of the world where our major fruits and vegetables are cultivated should prove of value to all. Trade difficulties are discussed. A chapter of special interest to the dietitian and nutritionist includes food values. Transportation, storage, and marketing are covered. The chapter on processing of foods is of value and of great interest. The use of ionizing radiation is discussed.

Tables of food composition of fruit and vegetables and an interesting chart on statistics of world products and trade are to be found in the appendix. For practical reasons the reader should find the commodity index as well as the subject index of great value.

After reading this small book, one wonders how so much research material as well as pictures and diagrams could possibly be found in one volume. When using it as a reference, the student should find that much time may be saved.