on classical relativity theory. The reviewer considers the book of extreme importance because of its content and originality.

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Food Science: A Symposium on Quality and Preservation of Foods. E. C. Bate-Smith and T. N. Morris, Eds. New York: Cambridge Univ. Press, 1952. 319 pp. Illus. $8.00.

This volume is the outcome of an extended summer course in food science given under the Board of Extra-Mural Studies of Cambridge University in cooperation with the Low Temperature Research Station during 1948. A brief introduction by Franklin Kidd defines food science as the vast field which, beginning with photosynthesis, includes all processes involved in production, composition, storage, and preservation of foods and their utilization, and having fundamental significance for the welfare of mankind.

The editors have skillfully utilized the contributions of 26 British cooperating scientists in this compact and highly informative volume. Seven chapters of varying length supply condensed factual and statistical material of much interest and value. Of these, the first, by N. C. Wright, chief scientific adviser of the Ministry of Foods, presents briefly a concise and valuable summarization of the economics, supply, and distribution of foods in the United Kingdom during the period from 1934 to 1944, and the nutritional status of the population as of 1948.

The second chapter gives an extended survey of the composition, variation, nutritional values, and factors affecting internal changes in the principal foods. Meats, fish, eggs, fresh fruits, and vegetables, and the great group of cereals and milled products are each considered in detail. The book deals primarily with British foods, but its interest is not lessened for the American reader, although certain varieties of fish are unused here, or because some of the procedures described differ in detail from corresponding processes in this country. Chapter 3 discusses competently the basic constituents of foods under the headings proteins, mucopolysaccharides and mucoproteins, carbohydrates, and fats. This valuable chapter is followed by another dealing with "Some Aspects of Quality in Foods," in which the physical and chemical basis of quality, and the significance of the fine structure of biological tissues, both plant and animal, in nature are carefully treated. Chapter 5 deals briefly with "The Microorganisms"—the molds, yeasts, and bacteria—chiefly concerned with the processes of spoilage in foods. The treatment is largely from the physiological standpoint, and the data on the effects of environmental factors on growth are well but possibly too briefly presented. The subject of "Principles of the Control of Microbial Spoilage" especially would seem to warrant more expanded treatment than is given in this section, although the matter is skillfully presented. Chapter 6 devotes 40 pages to an intimate discussion of "Chemical Mechanisms of Spoilage" and covers a wide range of reactions. Rancidity in edible fats and fat-containing foods is treated very fully, its effects on odor, flavor, and appearance being discussed with some detail. The Maillard, or browning, reaction on dehydrated foods is also given careful attention.

The final chapter devotes over 60 pages to the principles of food preservation. Herein are treated the traditional methods of canning, preserving by concentration, refrigeration, and use of chemical preservatives. Much attention is given to refrigeration and quick-freezing and also to dehydration by modern methods; the subject of sugar preserves is likewise given detailed treatment. The recent developments in sterilization by radiation have come since the course was given and therefore are not discussed in detail. This does not impair the value of the chapter as a whole, although the process may have much future interest. An appendix describing "Organization of Research and Information Services in the United Kingdom" completes the volume.

The book is excellently printed, has many illustrations and graphs, and extensive bibliographies at the end of each section. Altogether, it is a book that all food chemists and technologists would find most useful and it should be a valued accession to every library that aims to carry on its shelves the most useful and authoritative volumes dealing with the great subject of food supply and food technology.

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Geometry and the Imagination. D. Hilbert and S. Cohn-Vossen; trans. by P. Nemenyi. New York: Chelsea Pub., 1952. 357 pp. $5.00.

David Hilbert (1862–1943) was a very great mathematician whose research extended into almost every field of mathematics. Furthermore, he was a great teacher and expositor, with a genius for presenting basic ideas uncluttered by details. His insight penetrated far beyond the obvious and brought to light relations previously unobserved. With a self-confidence supported by his pre-eminent position as a mathematician, he did not hesitate to devote attention to mathematics of the most elementary sort, such as arithmetic and plane geometry, and he was able to endow these humble topics with a dignity and depth unsuspected by more superficial observers.

"Intuitive Geometry" would have been a more accurate translation of Hilbert's *Anschauliche Geometrie*. The book, based upon lectures given by Hilbert in Göttingen in 1921, was first published by Springer in Berlin in 1932, and has become a mathematical classic. This translation by Nemenyi is precise and in excellent English. The Chelsea Publishing Company acknowledges indebtedness only to the attorney general of the United States.

There are six self-contained chapters in the book, each devoted to a separate type of geometry. The first chapter mainly concerns the conic sections and quadric surfaces, and until the concluding paragraph coordinates are not used. The purpose is to make the reader