ing that: (i) insulin does not promote glycogen storage in liver through a direct effect on liver tissue, and (ii) in the liver, the extent of carbohydrate metabolism has no influence on the rate of ketone body formation.

J. P. Hoet describes how the diabetogenic effect of pregnancy taxed the pancreas of a potentially diabetic woman, producing overt diabetes in mother and child, albeit years later. Transient hyperglycemia of pregnancy is a forerunner of clinical diabetes and should be treated early if the disease is to be prevented in mother and offspring.

S. Gurin shows that the liver oxidizes fatty acids to acetyl-coenzyme A by a process essentially similar to that postulated in the beta-oxidation theory, except that all the intermediates are present in the activated state (attached to coenzyme A). He also suggests that the process is probably reversible. This points up the importance of glycosis in fatty acid synthesis since pyruvate can be synthesized to fat through the common intermediate, acetyl-coenzyme A.

H. W. Kosterlitz discusses the effects of dietary protein on the liver. Since kwashiorkor, a human disease associated with protein deficiency, has not yet been reproduced in animals, the basic metabolic faults remain unclarified.

Two short subjects of special interest to pathologists are "Cardiovascular lesions in choline-deficient rats," by W. S. Hartroft, and "Hepatic lesions produced in rats with ethionine," by H. Popper.

One regrets that this conference must be the last, especially when confronted by the impressive list of unsolved problems in human liver disease that were compiled at the end of the conference. The last sentence of the proceedings epitomized the situation: "Shall we agree that there are still many fascinating clinical and experimental problems?"

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Oral Pathology. A histological, roentgenological, and clinical study of the diseases of the teeth, jaws, and mouth. Kurt H. Thoma. Mosby, St. Louis, Mo., ed. 4, 1954. xviii + 1536 pp. Illus. + plates. $22.50.

The fourth edition of Thoma's *Oral Pathology* is another encyclopedic work. It has been revised and expanded since publication of the last edition 4 years ago. Most chapters have been thoroughly revised. The chapter on dental caries has been completely rewritten, and Goldman's chapter on periodontal disease has been revised and new illustrations added. Many excellent black-and-white illustrations and several new color illustrations have been added.

It is difficult to find a subject within the field of oral pathology that is not adequately discussed in this textbook. Not only are prevailing views presented but, in instances where the discussion type of references are available, these are included.

Although opinions on order of presentation may vary, I feel that the new arrangement has somewhat detracted from its usefulness as a textbook. Diseases of the teeth are discussed first, then diseases of the head and jaws, abnormalities of the temporo-mandibular joint, diseases of nerves and muscles, mouth diseases, diseases of salivary and mucous glands, and finally tumors. This arrangement leads to frequent repetition. For example, actinomycosis is rather completely discussed in three chapters, and gingivitis is presented in three chapters, in each case with frequent repetition. However, this arrangement and these repetitions detract only slightly from the total value of the book. The only severe criticism, that of the size of the book, is valid only in considering it as a textbook for undergraduates. Its 1536 pages are devoted to the special pathology of one region. The references occupy more than 116 pages. The work is exhaustive and up to date.

Thoma's *Oral Pathology* is the most complete and authoritative book on the subject. It should be considered as an essential reference book for all pathologists and practicing dentists. As a textbook, it presents the difficulty of great length, but no better one is available. The capable instructor may teach his students to use it for a reference book as well as for a textbook.

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The Foundations of Statistics. Leonard J. Savage. Wiley, New York; Chapman & Hall, London, 1954. xv + 294 pp. $6.

Any treatise on the foundations of statistics must of necessity be concerned in large measure with probability. Savage's book is essentially his exposition of probability as it relates to statistical problems. Since the postulates of probability are highly controversial, this book will also be highly controversial.

The first half is concerned with the development of the author's concept of personal (subjective) probability, especially with reference to the decision-making problem. He suggests that this problem can be more effectively dealt with through his concept of personal probability than through the concepts of mathematical probability. He bases this view on the contention that mathematical probability cannot cope with personalistic evaluations of risk since these are conditioned by the mental state of the individual.

This may appear to be a strange basis for the science of statistics. However, cast in the framework of the decision-making problem, it becomes more reasonable. The problem of the individual confronted with uncertainty is also shown to be related to the modern theory of utility as developed by von Neumann and Morgenstern.

The remainder of the book is devoted to a discussion of the major problems of statistics (such as minimax theory, estimation, and testing) in the light of personal probability. In the discussion of minimax

theory, personal probability appears to be most relevant and gives rise to some searching and fundamental questions. As the author states in his introduction,

> . . . the superficially incompatible systems of ideas associated on the one hand with a personalistic view of probability and on the other with the objectivistically inspired developments of the British-American School do in fact lend each other mutual support and clarification.

As the title suggests, the book is highly theoretical and abstract. The formal discussion is presented symbolically and is frequently introduced by oversimplified problems of the world around us. A study such as this is intended for a very limited audience—specifically, those interested in the abstract theory of statistics.

The author is not prepared, nor am I, to say how far reaching this unique approach to statistics will be, but it does give rise to a number of important and unanswered questions.

SAMUEL WEISS

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Colorimetric Methods of Analysis. Including some turbidimetric and nephelometric methods. vol. IV. Foster Dee Snell and Cornelia T. Snell. Van Nostrand, New York, and Macmillan, London, ed. 3, 1954. vii + 676 pp. Illus. $12.50.

Volume IV of this comprehensive treatise presents methods for the colorimetric chemical analysis of organic materials that were not covered in volume III. The present volume contains chapters dealing with the following classes of compounds: nitrites, nitrates and nitro compounds; aliphatic amines and amides; amino acids; proteins; aromatic primary, secondary, and tertiary amines; azo compounds, nitrogen-containing cycles, and so forth; urea and related compounds; compounds with inorganic radicals; sterols; hormones; alkaloids; enzymes; antibiotics; hemoglobin and related compounds; and natural pigments. In addition, there is a brief chapter on the determination of the color of liquids.

Each of the foregoing chapters is divided into sections that cover the analysis of either a specific compound or a closely related group of compounds. A typical section contains a paragraph or two covering the methods available for the analysis, the interfering substances and methods for eliminating the interference, and the types of sample to which the various methods are applicable. A section that deals with the preparation of samples of various types for the analysis follows. Finally, the actual procedure for the development of the color and its estimation is described.

The preface states that the aim has been completeness, and it appears that this is very nearly what the authors have achieved. With the wealth of colorimetric methods available for the analysis of these compounds, it is amazing that the Snells have been able to incorporate in the space available not only the actual directions for the analyses but also the discussions on applicability of the methods and interfering substances. This feat was accomplished through the use of a terse, economical style of writing so that one has to search through the book to find a single wasted word. This will be no hardship to the skilled analytic chemist, who knows that the bare instruction "dilute to 100 ml." may mean the use of a volumetric flask in one case or a graduated cylinder in another, depending on the precision desired. Complete references to the literature are provided, and there are extensive author and subject indexes. I noticed a few instances of misspelling in the bibliography; in some cases the author is listed both under his correct name and under a misspelled version.

This book should prove of great value, both as a reference work and as a guide to the literature, to all analytic chemists who use colorimetric methods.

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Wasserbestimmung mit Karl-Fischer-Losung. Ernst Eberius. Verlag Chemie, Weinheim/Bergstr., Germany, 1954. 138 pp. Illus. Paper, DM. 12.80.

This monograph is, in large part, a condensation and a literal translation of *Aquametry,* by John Mitchell, Jr., and Donald M. Smith (Interscience, 1948).

Miscellaneous Publications

(Inquiries concerning these publications should be addressed, not to *Science,* but to the publisher or agency sponsoring the publication.)

The Occurrence of Oily Pilchards in New South Wales Waters. Div. of Fisheries Tech. Paper No. 3. M. Blackburn and R. Downie. Commonwealth Scientific and Industrial Research Organization, Melbourne, Australia, 1955. 11 pp.

Latitudinal and Seasonal Variations of the Absorption of Solar Radiation by Ozone. Geophysical Research Papers, No. 33. Jerome Pressman. U.S. Air Force Cambridge Research Center, Cambridge, 1954 (Order from U.S. Dept. of Commerce, Office of Tech. Services, Washington 25). 34 pp.

Statistical Information on Component Parts of Chemical Compounds. Estaleta Dale and Karl F. Heumann. Chemical-Biological Coordination Center, Natl. Acad. of Sciences–Natl. Research Council, Washington 25, 1955. 11 pp.

The Orbits of Two F-Type Spectroscopic Binary Stars. Dominion Astrophysical Observatory Publ., vol. IX, No. 14. K. O. Wright and R. E. Pugh. Canada Dept. of Mines and Tech. Surveys, Dominion Observatories, Victoria, B.C., 1954. 7 pp. 25¢.

Laboratory Analysis of Soils, Grain Size and Liquid Limit. Highway Research Bd., Bull. 95. Natl. Acad. of Sciences–Natl. Research Council, Washington 25, 1955. 37 pp. 60¢.

Die Papierchromatographie der Kondensierten Phosphate. Herbert Grunze and Erich Thilo. Akademie–Verlag, Berlin, 1954. 25 pp. DM. 2.