Two chapters deal with vitamin-hormone interrelationships. "The Effect of B Vitamins on the Endocrinologic Aspects of Reproduction" deals with experimental aspects of this complex and relatively undeveloped subject. The second of these chapters, "Nutritional Therapy of Endocrine Disturbances," attempts to apply certain laboratory observations to man. While there seems to be little doubt that there is a definite relationship between nutritional status and hormonal balance, it is difficult to evaluate the clinical claims. Some workers have been unable to confirm the widespread usefulness of this technic, as indicated in the review.

The chapter on "The Thyroid and Diabetes" presents a review of the available experimental data and discusses the practical aspects of the interactions of these glands.

Another section deals with "The Protein Anabolic Effects of Steroid Hormones." It seems well established that these substances do exert an effect on nitrogen retention and protein synthesis. Whether these interesting observations will have practical usefulness, except in certain endocrine states, seems to merit further investigation.

The final chapter describes "Methods of Bioassay of Animal Hormones" and deals especially with the anterior pituitary and adrenal cortical substances. For those attempting such determinations this chapter should prove most useful.

In general, the presentations are well chosen and carefully written, and most are critically evaluated. The defects are minor and more than compensated by the wealth of information presented.

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Medical biochemistry. (2nd ed.) Mark R. Everett. New York-London: Paul B. Hoeber, 1946. Pp. xii + 767. $7.00.

While the author's main objective in writing the first edition was to provide a readable text for medical students, the second edition "was undertaken to provide accurate modern information for students and others who regard the book as a convenient reference volume." This change in objective was effected without substantial change in the arrangement, scope, or nature of the contents.

The subject matter is arranged in an interesting, although somewhat unusual, manner. The first two chapters are devoted to acid-base relations, colloids, enzymes, and energy metabolism. Following the subject of digestion, the chemistry, metabolism, and pathology of the lipides, carbohydrates, proteins, inorganic substances, vitamins, and hormones are treated in order. The author has covered the material in these chapters in an adequate manner without making the volume encyclopedic. He has incorporated in the new edition most of the recent developments in biochemistry, such as the antibiotics, Rh factor, dicumarol, phosphorylation, etc., and has expanded such topics as anoxia, plasma proteins, vitamins, muscle diseases, hypertensive factors, and ketogenesis.

The usual historical approach characteristic of most writers in this field has intentionally been eliminated, and the author has "avoided unnecessary speculations and argumentative considerations." However, he has placed at the end of each chapter a well-arranged bibliography of selected modern reviews. Although the book contains many tables and some diagrams, it is lacking in illustrations and color plates. Generally, each topic is preceded by an interesting literary quotation. A comprehensive index and a separate index to the tables and diagrams are included.

Students and workers interested in the various aspects of biochemistry will find this book a helpful addition to their library.

EMIL G. SCHMIDT

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Penicillin in syphilis. Joseph Earle Moore. Springfield, Ill.: Charles C. Thomas, 1947. Pp. x + 319. (Illustrated.) $5.00.

This supplement to *The modern treatment of syphilis* which has appeared in monographic form deals with the use of penicillin, either alone or combined with other therapeutic agents, in the treatment of the various manifestations of syphilis. To those who possess or will possess the parent volume this small book will prove a welcome and valuable addition. Except for an interesting discussion of reinfection and superinfection, there is no new knowledge in this monograph concerning other forms of treatment or the fundamental biology of syphilis.

The first eight chapters are devoted to a discussion of the pharmacology, toxicity, and mechanism of the action of penicillin and to other basic considerations. The majority of these chapters, while containing much that is important and fundamental, have little worth in the practical management of the patient. To the specialist, and to the experimentalist, they are of great and long-lasting value.

The remaining chapters deal with the use of penicillin in the management of syphilis in the human being, and one small chapter is devoted to treatment with streptomycin. The material is taken largely from the reports of the many civilian clinics and laboratories and installations of the Army, Navy, and Public Health Service cooperating in the organized nationwide study of penicillin in the treatment of syphilis.

As Moore admits, much of the material presented may be outdated by the time of publication, particularly as this material applies to the treatment of the patient who has syphilis. The basic considerations remain the same, but dosage schedules are being revised constantly. It seems unfortunate, then, that only three pages are devoted to the present-day treatment of early syphilis while many more pages are used to discuss obsolete dosage schedules which, while of experimental and historical interest, are of little value in the practical management of the patient.

The knowledge to date indicates that penicillin is of value in the treatment of certain of the late forms of syphilis. Beyond that, little may be said. For this reason, the chapters on latent and cardiovascular syphilis are justifiably short. Those chapters on penicillin in neurosyphilis, prenatal syphilis, and syphilis in pregnancy are incomplete but contain many worth-while practical aspects of treatment and observation. The true status of treatment of syphilis with penicillin and concrete deductions from its use cannot be made for several or more years, as Moore has recognized in the introduction.

The bibliography is complete up to October 1946. Many important articles since that date have appeared in the more prominent medical journals, and to these the readers of this volume should have easy access.

The typography and format of the volume are superior. The figures and tables admirably illustrate the statements of the author.

All in all, the purposes of this monograph seem to have been accomplished. Undoubtedly, it will be replaced in a few years by its combination with a new edition of *The treatment of syphilis* with greater and more lasting conclusions. For the future it will have historical interest and value. New chemotherapeutic agents undoubtedly will be developed, and reference to this volume will be of great aid in determining the approach necessary for their proper appraisal.

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Biochemistry of cancer. Jesse P. Greenstein. New York: Academic Press, 1947. Pp. viii + 389. (Illustrated.) $7.80.

Research on cancer has been relatively slow in development and, as an experimental science, began only at the beginning of the present century. The long tradition of pure morphologic study had meantime fastened itself with throttling grip on the investigation of neoplastic disease, and cancer research itself in effect was, until recently, suffering from an intellectual cancer. It is one of the strange vagaries of science that chemistry, instead of being introduced early, has been the latest of the disciplines to enter cancer research.

There have been several previous treatises on the chemistry of cancer, but all have consisted of undigested collections of facts and errors, assembled magpie fashion, containing some good data but with so much trivial dross as to make them valueless. Also, as the author aptly states: "More chemists than one have blundered in oncology, not so often on the basis of poor oncology as of bad chemistry. For some odd reason, cancer research has been the graveyard of many a scientific reputation."

The present volume, then, is unique in that it assembles for the first time quantitative chemical data which are discussed in a critical manner. It is more than the biochemistry of cancer; it includes a great deal of information on the ancillary sciences—the physiology, genetics, and even taxonomy of the neoplastic state.

After an orienting introduction the volume is divided roughly into three parts which deal, respectively, with chemical aspects of the induction, control, and properties of tumors. Since the author is one of the leading enzymologists, the catalytic factors naturally receive greatest emphasis, but this is felicitous in that the enzymes of cancers are, in the thoughts of many workers, agents of very high importance. Dr. Greenstein's forte has been the study of the spectrum of the protein catalysts in normal, neoplastic, and germane states. As a generalization, he has arrived at the conclusion that tumors tend to converge, enzymatically, to a common type of tissue and to resemble one another rather more than the tissues of origin.

This volume represents a vast amount of scholarship and will be indispensable reading for all workers in cancer research, whether savant or tyro. It is destined, no doubt, to become dog eared in scores of laboratories.

The style of the author is characterized by elegance and simplicity, and his writing is occasionally enlivened by nice touches of pointed humor and stimulating speculation. The only criticism of this work deals with the modesty of the author, which is so great that he has not included himself in the author index.

Dr. Greenstein is well qualified to write this volume, being head biochemist at the National Cancer Institute. His important contributions to the quantitative chemistry of proteins are well known. His studies and this book are in the best tradition of the U. S. Public Health Service, of which he is a distinguished member.

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Parenteral alimentation in surgery with special reference to proteins and amino acids. Robert Elman. New York-London: Paul B. Hoeber, 1947. Pp. xx + 284. (Illustrated.) $4.50.

Dr. Elman has brought forth a timely and distinguished book. Although written primarily for the surgeon, it should be read by all workers, clinical as well as laboratory, whose work touches the healing art, human or animal. The book deals with the administration, to patients unable to assimilate food by the gastroenteric route, of the basic units of the six substances which are concerned with the maintenance of corporal integrity, namely, water, minerals, vitamins, carbohydrates, fats, and proteins. For the surgeon, preoccupied with the exacting demands of his strenuous professional life, this volume is both a bringer of gifts from the basic disciplines of biochemistry, nutrition, and physiology and a manual at once comprehensive and practical. Dr. Elman has delved into at least six different fields, going over the knowledge which had been built up by research workers over decades, and distilled from them this compact volume. Typifying the ideal modern surgeon, he had had a wide research training and experience prior to entering the specialty of surgery and has been a prodigious worker in one of the sectors of this field, the new and important sector of intravenous amino acid alimentation. He has made important and basic contributions in this sector and, indeed, should be credited with bringing it into practical clinical use. He is, therefore, eminently qualified to write such a book, and it is doubtful whether, in the hands of any other author, it could have been so lucidly and effectively written.

The book is well organized, skillfully integrated, written in a highly readable style, and presented in a well-balanced manner. It is brief without sacrificing scientific exactitude and scholarship. As is to be expected, the best chapters are those in the field of the author's major research competence—the protein field; but the chapter on water and electrolyte needs is also excellent. That on the history of intravenous therapy is interesting and illuminating, and the extensive field of vitamin therapy, which would appall others, has been skillfully packed into 11 pithy pages. The chapter on the practical program of intravenous alimentation, which climaxes the book, is practicable and highly instructive. The cases used as illustrations are well chosen, as are also the charts and figures, which are clear, easy to grasp, and well reproduced. Furthermore, the book is well documented, covering some 450 papers by over 500 authors. The extensive bibliography, culled with such painstaking care from a field which must number publications by the thousands, should prove exceedingly valuable to the more serious student.