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.

Dr. Elman must be congratulated on rendering the clinical fields a threefold service: first, in bringing clarity, order, and organization into a confused field; second, in giving a demonstration, to use the words given in the preface of the book, on "how advances in surgery frequently have emerged in fields entirely outside surgery itself," and third, in exemplifying in his own professional life how this can be effectively brought about.

Co Tui

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The human ear in anatomical transparencies. Stephen L. Polyak, Gladys McHugh, and Delbert K. Judd. Elmsford, N. Y.: Sonotone Corporation, 1946. (New York: T. H. McKenna, distributors.) Pp. 136. (Illustrated.) $10.50.

This work is unique in that it is a joint product of an anatomist, a medical artist, and an otolaryngologist; it is novel in its technique of transparent illustrations which, for the most part, are excellently performed; and it is ambitious in the attempt to analyze the ear from the standpoints of ontogenesis, phylogenesis, morphology, and function and to present the material in a form useful to interested laymen, scholars of speech, scientists, and medical specialists.

The book is in two parts. The first, which is general in scope, consists of five chapters. Chapter 1 deals very briefly with the chief functions of the ear, hearing and equilibrium, and their phylogenesis. Chapter 2 outlines very simply the constituent parts of the ear. Between Chapters 2 and 3 is a set of transparencies consisting of 12 beautifully colored drawings of serial dissections of the right side of the head which, when superimposed on each other, give a composite picture of the dissected head showing considerable depth. Chapter 3, is essentially an anatomical atlas of the head, designed to show the topographical relationship of the ear to the rest of the structures. It is fortified with 14 colored plates of dissections at various levels. The text, besides presenting anatomical description, stresses functional and topographical relationships. Chapter 4 presents a careful anatomical and functional description of the larynx and is well illustrated in color with views of 11 dissections, 4 laryngoscopic views, and other diagrammatic aspects. The text is partly descriptive but is written largely from the standpoint of the student of speech. Chapter 5 is a lengthy account of the anatomy and function of the external ear, and the abundant illustrations depict both the ontogenetic and phylogenetic development.

Part II consists of Chapters 6, 7, and 8, which present a more detailed anatomical and functional description of the middle and internal ear. Chapter 6, like Chapter 3, is a topographical descriptive atlas, but includes only the more limited area of the ear. Whereas the illustrations in Chapter 3 are life sized, those in Chapter 6 are magnified 3 ×. Just preceding this chapter there is a group of 8 transparencies depicting serial dissections of the region of the internal and middle ear at a magnification of 3 ×.

The colored drawings, both in the transparencies and in Chapter 6, are very well done and the views well chosen. The text is a conventional account showing nothing new.

Chapter 7 deals with the microscopic anatomy of the internal ear. The test here is also a conventional account. The illustrations taken, for the most part, largely from classical textbook figures, are augmented by drawings from sections of the ear of *Macaca rhesus* and from Golgi preparations showing nerves and nerve terminations from various animals.

The final chapter is concerned with the functions of the middle ear and internal ear. Although various theories regarding the function of the middle ear are cited, the question is left open. However, in the case of the cochlea the authors lean very strongly to Helmholtz's theory.

The book is very readable and, with the numerous unique but splendid drawings, should be of interest to the layman as well as to the scientist.

T. H. Bast

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Ophthalmology in the war years. (Vol. 1.) Meyer Wiener. (Ed.) Chicago: Year Book Publishers, 1946. Pp. x + 1166. $13.50.

Meyer Wiener, together with an imposing number of associate editors, has produced a volume which reviews all obtainable literature in ophthalmology from 1940 to 1943. Such a book was requested by the Subcommittee on Ophthalmology of the National Research Council. It was intended to make available to physicians, who were in the service as well as at home, the great wealth of ophthalmic literature which appeared in the first few years of the war. Over 8,000 articles have been abstracted, and an exhaustive bibliography has been compiled.

The text is printed in large type and on good paper. The basic sciences, clinical and scientific investigations, therapeutics, and surgery have been included. The book has greatest value as a reference volume. Although few sections can be read as a whole with full grasp of the tremendous amount of information digested in the numerous paragraphs, specific knowledge, when sought by topic, may be found concisely and accurately reported. The many pages that have been condensed to a single book enable one to conserve energy and time when searching for information of that three-year period. Those engaged in research will find this volume of tremendous help.

The editor has attempted to assign subjects and sections to appropriately qualified authorities for review and, since the associate editors are also deep students of ophthalmology and men of well-known reputation, one is assured that topics have received expert attention. Some sections have been reviewed in a more interesting fashion than others. Whereas some chapters are simply a succession of paragraphs representing well-reported articles, they do not contain good commentary and evaluation, which the average reader seeks. Other are masterpieces, and one feels that the subject matter has been weighed, sifted, organized, and presented so that nothing is left to be desired.

Noticeably lacking are illustrations and photographs. These would have greatly enhanced the value of the book, not alone to the ophthalmologist interested in writing and research but also to the busy clinical eye physician.

Dr. Wiener and his co-editors deserve an expression of gratitude for the great task which they have undertaken and and completed during such a trying period.

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