IMMUNOGENETICS OF TISSUE TRANSPLANTATION. By Alena Lengerova. New York, John Wiley & Sons, 1969. 270 pp. $17.50.

This is the sixteenth volume of the series, “Frontiers of Biology,” edited by Neuberger and Tatum, which has included monographs on genetics, molecular biology and immunology.

The subject of immunogenetics is not a simple one even (or especially) for workers in the field, and this book is not one that can be scanned quickly. Yet Dr. Lengerova writes clearly and advances her discussion logically from basic conceptual and historical aspects, through the topography and immunochemistry of mouse H-2 antigens into the complexities of tumor antigens and parent-hybrid incompatibilities. There are informative chapters on Y chromosome-determined antigens, the “Eichwald-Silmser effect,” and on hybrid resistance as an ostensible exception to the one-gene, one-antigen concept. The monograph is not merely a compendium of references, although the bibliography is extensive and up to date, but is a critical review of existing information. In this regard, the chapters on the thymus-leukemia (TL) antigenic system in mice and on allogeneic inhibition are particularly strong critical appraisals of current knowledge. These chapters indicate the possible relation of the limited phenomena to the general field of alloantigenicity and bone marrow transplantation. It is in fact this continually transmitted sense of where individual elements fit into the field of transplantation genetics that makes the book so valuable.

The monograph is designed for advanced graduate students or research workers in the field and is not recommended for strictly clinically-oriented individuals. The format is exceptionally uncluttered and clear, with Figures that are simple and direct. It should be of considerable utility to investigators in immunogenetics, transplantation biology, and tumor immunology to help fill in gaps of knowledge in these fields with a broad multi-disciplinary scope.

MALCOLM S. MITCHELL

GAS CHROMATOGRAPHY IN BIOLOGY AND MEDICINE. A Ciba Foundation Symposium. Edited by Ruth Porter. London, J. & A. Churchill, Ltd., 1969. 213 pp. 60s.

The papers presented in this transcription of a two-day Ciba Foundation Symposium held in February 1969, in London, deal with three main areas: detection of anesthetic agents and gases in both tissues and expired air, detection of toxins, and design of instruments. Details of methodology are generally lacking so that the main yield in reading this book is the acquisition of a feel for the potential applications of gas chromatography to medical problems. The discussions following each paper are stimulating, albeit highly speculative, and in large part debate the virtues of gas chromatography compared with mass spectrometry and nuclear magnetic resonance.

Two chapters are clearly outstanding and should be read by anyone interested in analytical biochemistry. A. J. P. Martin succinctly presents an
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historical background of chromatography which, appropriately, is essentially an autobiographical statement. S. R. Lipsky places in perspective the present status and the limitations of the art. Incidentally, this book also contains a method anyone can use to fool the breath analyzer after imbibing ethanol.

Although the participants of the symposium were both clinicians and basic scientists, there was little interchange of ideas between the two disciplines. All in all, except for the two chapters cited, this is a book for the browser and not for the novice or specialist.

ROBERT L. SCHEIG

THE INTERNEURON. Edited by M. A. B. Brazier. U.C.L.A. Forum in Medical Sciences, Number 11. Berkeley and Los Angeles, University of California Press, 1969. xviii, 552 pp. $20.00.

The subject of this volume, a symposium held in 1967, deals with the atomistic aspects of neuronal integration. The text consists of 18 papers and provocative discussions covering the electrophysiological and anatomical features of the connectivity of interneurons. According to some of the participants, an interneuron could be any neuron that serves to connect the actions of one nerve cell with another. This definition would probably exclude primary afferent and effector neurons while including all of the remainder of the central nervous system.

The burden of the book is the integrative action of groups of interneurons from a variety of preparations that afford good conditions for observing interactions among relatively few nerve cells. Correlation between fine structure and electrical connection is emphasized constantly. The illustrative material, recent bibliography, and discussions are very good. Approximately 100 pages are devoted to recent investigations of small groups of interneurons in invertebrates. An important observation was that sequential discharge of effector neurons was triggered by specialized "command" fibers and was not modified by afferent input. There is discussion of the possible behavioral significance of afferent activities in effector mechanisms. Examples of "pacemaker" neuronal aggregates are described. A 160-page portion, concerned with integration in the vertebrate spinal cord, delineates a number of inhibitory mechanisms that regulate the massive sensory input to the cord. The remainder of the text is concerned with the behavior of certain interneuronal aggregates in the cerebellum, hippocampus, thalamus, and cerebral cortex.

This reader is left with the impression that there may be an insurmountable difficulty in using current technology to separate behaviorally relevant interneuronal actions from the vast possibilities of combination and permutation. As this text suggests, there is a large amount of description still to be obtained with the present tools, but the ultimate findings will have to be in line with this statement by Horridge in the first paper: "The part of the description that will persist as relevant will be only a small part of the possible detail, just as the description of a tree or lawn ignores the detail of leaves and blades of grass."

DON C. HIGGINS