Book Reviews

MOLECULAR GENETIC NEUROSCIENCE. Edited by Francis O. Schmitt, Stephanie J. Bird, and Floyd E. Bloom. Published by Raven Press, New York. 492 pages. $92.50 Cdn. approx.

This book is a collection of papers presented at a conference at Woods Hole, Massachusetts, under the auspices of the Neurosciences Research Program. The purpose of the meeting was to bring together the disciplines of molecular genetics and neurobiology. The list of participants as well as the scope and quality of the papers is impressive.

The book is divided into two basic parts. The first part deals with recent advances in molecular genetics, and the second with recent research in neurobiology. Each chapter is preceded by a brief introduction by the editors which comments on the content and relevance of the following pages.

In the first part, the topics covered include the organization of DNA, control of gene expression, and post-transcriptional processing. Some of the specific areas discussed are the method of antibody gene diversity, the structure and expression of the insulin gene, and processing of neurohypophyseal hormones. In addition, papers on the uses of monoclonal antibodies, somatic cell genetics, and recombinant DNA technology are presented.

The second part of the book deals with research areas in neurobiology such as the structure and regulation of opioids, the effects of steroid hormones on neural tissue, and the actions of neurotrophic factors. Genetic disorders of the human nervous system, in particular Huntington's disease are only briefly addressed. Of historical interest now, is the article by Housman and Gusella discussing the techniques they plan to employ to isolate the gene for Huntington's disease, although it is still relevant to other neurodegenerative disorders.

This book provides a useful, well-edited compilation of recent developments in the fields of molecular genetics and neurobiology. It is successful in its purpose of introducing neuroscientists to the rapidly advancing field of molecular genetics and showing the uses of recombinant DNA technology in neurobiological research. However, as the basics of recominant DNA technology are not covered, interested readers who are not well versed in this area are advised to read an introductory text before tackling this collection.

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PROGRESSIVE SPINAL MUSCULAR ATROPHIES. (International Review of Child Neurology Series). Edited by Ingrid Gamstorp and Harvey B. Sarnat. Published by Raven Press. $28.00 Cdn. approx.

Spinal muscular atrophy is the second most common disorder seen in pediatric neuromuscular clinics. For this reason, the editors have assembled a group of recognized authorities in the field, each of whom contributes a specified topic, and each chapter is followed by a commentary that creates interest by either supporting the previous author or emphasizing different aspects of the topic.

The subjects covered include a lucid historical review of progressive spinal muscular atrophies (S.M.A.'s) by Ingrid Gamstorp followed by a chapter on the genetics of S.M.A. by Pearn. He discusses the problems created by the hetergeneity of S.M.A. and also rare conditions such as distal S.M.A. that may be confused with Charcot-Marie-Tooth disease. In view of the apparently high rate of incorrect life span estimates given to survivors of S.M.A., which are discussed later in the book, the importance of correct diagnosis is obvious.

There is a very full description of pathology of S.M.A. by the group from Warsaw as well as of the clinical picture of the disease based on their large series and prolonged experience. Electrodiagnostic studies in this sad condition are covered in detail in a further chapter. Ultrasound and CT scanning of muscle are well discussed later. I particularly appreciated the sections on medical and orthopedic management and the role of parent support groups. The symposium closes with 2 thoughtful chapters, one by Peggy Hanson and the other by Harvey Sarnat on present and future research strategies.

The commentaries that follow most chapters are often as interesting as the chapters themselves and are a tribute to the Calgary group who supplied most of them. It would have been helpful to have had an overview of the extent to which investigation is needed for the clinical management of these children, since the proponents of biopsy, electrodiagnostic studies and ultrasound are all dedicated to their particular technique. This book is a stimulating review of a topic that all practising pediatric neurologists have to manage at times and provides us with the current state of the art.

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ELECTROENCEPHALOGRAPHY IN DRUG RESEARCH. Edited by Werner M. Herrmann. Published by Butterworths. 608 pages. $157 Cdn. approx.

This volume contains the proceedings of the symposium "EEG in Drug Research" held in Berlin, June 27 - 29, 1980. The symposium was held under the auspices of the Institute for Drugs of the German Federal Health Office and the International Pharmaco-EEG Group.

Neuroscientists have been aware of the qualitative effects of various drugs (cocaine, barbiturates, scopolamine, etc.) on the EEG since Hans Berger's first description in the 1930's. His descriptions were based on visual inspection of the analog signal. Interest in more quantitative approaches to analysis of EEG data developed but had to await the development of modern, economically feasible computerized reduction of EEG data. The multiple authors of this symposium refer to this attempt at quantitation as "pharmaco-EEG". The symposium attempted to outline basic standards for the use of EEG data in