NEUROIMMUNOLOGY. Serono Symposia Publications from Raven Press. Volume 12. Edited by Peter O. Behan and Federico Spreafico. Published by Raven Press. 484 pages. $112 Cdn. approx.

The editors have brought together 86 investigators to review a number of areas of major interest in this rapidly developing field. Following the introductory chapter by Sir John Walton, this thirty-nine chapter text is divided into eight sections covering a broad mixture of basic science topics and subjects of more immediate clinical application. Many of the authors have chosen to use this opportunity to summarize their recent work. In general, this works well as a number of them have made significant contributions and it is helpful to have this body of work compiled in one place.

In the first section, entitled "Cell Markers and Receptors", nine chapters are devoted primarily to the use of monoclonal antibody techniques to identify such cell surface antigens as the sodium channel, glial and neuronal cell surface glycoproteins and the acetycholine receptor, and to demonstrate how these immunological probes can be used both to purify these structures and to follow development within the nervous system. The following two sections deal with cellular and humoral mechanisms of neurological damage. These chapters cover selected aspects of immunologically mediated central nervous system injury in experimental allergic encephalomyelitis, multiple sclerosis and systemic lupus erythematosus. In the section entitled "Immunological Aspects of Virus Infections of the CNS", four chapters address aspects of viral entry into the CNS, the immune response to CNS viral infections and mechanisms of viral persistence. The fifth section, "Immunological Investigation Directed Towards Pathogenesis and Diagnosis in Neurological Diseases", is comprised of four useful chapters reviewing the immunological abnormalities in multiple sclerosis, myasthenia gravis and the neuropathies associated with plasma cell dyscrasias. In the next two sections, nine chapters address the experimental and clinical experience with immunological approaches to therapy in experimental viral infections, glioma, chronic-relapsing autoimmune deymelination, muscle disease and the Guillian-Barré syndrome and two chapters review the use of immunosuppressive agents in neurological disease. Six chapters with such widely diversified topics as the immunopathology of the eye, immunological associations of cerebral dominance, genetic markers in neurological disease and the regulation of the immune response by neuroendocrine mechanisms and by astrocyte-derived interleukin 1 comprise the final section.

This volume is generally nicely written and well edited. Most of the authors have reviewed the material in a clear, concise fashion but have been careful to provide sufficient experimental detail to permit the reader to follow the experimental design. Each chapter provides the interested reader with an extensive and current list of important references. As is expected in any multi-authored work there is some overlap between chapters but this doesn't detract significantly from the usefulness of this volume.

I was surprised that two chapters were devoted to the neuroendocrine regulation of the immune response. In contrast to this, very little attention is directed to immunological research in neuro-oncology. The contributions of the work on experimental allergic neuritis (EAN) to the understanding of peripheral nervous system disease are not reviewed and EAN is not even cited in the index. The single, brief chapter on genetic markers in neurological disease is almost completely restricted to the genetic markers of multiple sclerosis. A chapter reviewing the exciting work in molecular neurogenetics would have strengthened this text significantly particularly considering the important recent work on Huntington's Disease and the other dominantly inherited diseases of the nervous system.

This work was not intended to be used as a comprehensive review of neuroimmunology. It does, however, provide a readable, current and useful reference for all who use immunological techniques for neurological research and for clinicians interested in the immunological diseases of the human nervous system.

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GENETICS IN NEUROLOGY. By Victor Ionasescu and Hans Zellweger. Published by Raven Press. 1983. 505 pages. $73.75 Cdn. approx.

Over the past few years, several books have appeared on the genetic aspects of neurological diseases, indicating both increasing interest and expanding knowledge in this area. This particular book is probably the most useful, being readable and well referenced, as well as having an adequate discussion on most of the neurogenetic disorders.

After a brief introductory chapter on basic genetic principles, a large number of neurological disorders shown to be genetically determined or thought to have a genetic predisposition are discussed. A large part of the book is devoted to metabolic disorders, although other important areas, including epilepsy, mental retardation, phakomatoses, degenerative diseases, myopathies and neuropathies, are covered. The chapters are inherited metabolic diseases and neuromuscular diseases are particularly well written, reflecting the authors expertise as pediatric neurogeneticists.

Individual chapters are organized into a historical perspective, a brief clinical description of the disorder, and a more detailed section on biochemistry and/or pathophysiology. The genetics of the disorder, prenatal diagnosis and carrier detection are then discussed. Within each chapter the disorders are grouped on the basis of genetic inheritance pattern (ie: autosomal dominant, autosomal recessive, X-linked) rather than by accepted clinical classification. Neurologists accustomed to more traditional classifications initially may find this confusing.

There is one major area not addressed in this book, that of recominant DNA technology. As this is the method used in much of genetic research at the present time, a chapter on the basics of recominant DNA technology would have been very useful. A second problem with this text is that as in any area where advances are being rapidly made, part of the text will soon become outdated. This is particularly obvious in the section on Huntington's disease, since the Huntington's gene was localized soon after the publication of the book. Thus this new information as well as the implications for carrier detection and prenatal diagnosis are not covered.