Book Reviews

NEUROPEPTIDES IN PSYCHIATRIC AND NEUROLOGICAL DISORDERS. First Edition. Edited by C.B. Nemeroff (Durham, North Carolina). Published by The John Hopkins University Press, Baltimore. 310 pages. $60Cdn approx.

This multi-authored book provides a review of the "state of the art" in certain areas of the field of neuropsychiatry. The volume begins with a brief overview of the peptidergic neuron by Lee Eiden of the National Institute of Mental Health and concludes with a chapter in which Eric Widerlov of the University of Lund really deals more with the present rather than speculating on "the Future of Neuropeptides in Psychiatry and Neurology" as the title of the chapter would suggest. In between, there are chapters on schizophrenia, manic-depressive psychosis, dementia, Huntington's disease, Parkinson's disease and tardive dyskinesia, sleep and pain. In each, the present knowledge on the state of peptide function in the nervous system is reviewed by people working in this area. The emphasis tends to be on basic science and pathological observations but the few clinical studies available are reviewed in a critical fashion.

I enjoyed reading this book. At first, I was somewhat taken aback by the dearth of Figures and Tables; however, on reflection, this really does not detract from the material presented.

This volume will be of interest to clinicians and clinician scientists in the fields of Neurology, Neurosurgery, and Psychiatry and to basic neuroscientists who wish to have a succinct review of this field. I should think it would be especially appealing to residents and fellows who wish to expand their basic science knowledge in this area and at US$45.00 it is feasible to purchase for one's personal library.

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NEUROPEPTIDES AND THEIR PEPTIDASES. First Edition. Edited by A.J. Turner (Leeds, UK). Published by VCH Publishers, New York. 295 pages. $100Cdn approx.

This multi-authored book is edited by Dr. A.J. Turner of the MRC Membrane Peptidase Research Group, Department of Biochemistry, University of Leeds. Dr. Turner has done an admirable job of recruiting chapters from researchers in Great Britain, Canada, The United States, Japan, and the Federal Republic of Germany.

The volume is generally narrow in scope. It is divided into three sections: Molecular Biology of Neuropeptides, Selected Neuropeptides, and Peptidases and Neuropeptide Metabolism.

In the past few years, the field of neuropeptide research has expanded dramatically and it is no longer possible to keep up with all facets of the research on even a single peptide let alone the more than 40 that have been found within the mammalian nervous system. While initial publications tended to concentrate on the regional distribution of peptides and their putative physiological functions, the application of molecular biological techniques to the study of peptide synthesis has dramatically expanded our appreciation of the complexity of this fascinating group of putative neurotransmitters. Similarly, careful study of the mechanisms by which peptides are metabolized in nervous tissue has also given us a better understanding of their possible physiology.

The authors, in the main, write in a lucid and succinct fashion. A certain familiarity with neuropeptide biochemistry and molecular biology is assumed. Most chapters cover the state of the art up to and including 1986. The tables and diagrams are generally clear. A minor criticism is the reference style chosen by the editor. The bibliographies do not include the titles of the papers cited. Often it is not clear from the context, the type of animal or the situation in which the data were gathered. Without titles, one must go to the original journal article or to the Index Medicus, often only to find that the paper is not what one was looking for. This minor criticism, notwithstanding, this volume would be of most interest to individuals working in the field of neuropeptide research – basic or clinical, who wish to update themselves on research being done in fields parallel to their own or who wish to obtain an overview of the topics discussed.

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DEVELOPMENTAL NEUROBIOLOGY OF THE FROG. Edited by Emanuel D. Pollack and Harold D. Bibb. Published by Alan R. Liss, Inc., New York. 1988. 286 pages. $66Cdn approx.

The three animals most extensively studied for early ontogeny of the vertebrate nervous system and especially of the spinal cord are the frog tadpole, the chick embryo, and the rat fetus. This multiauthored monograph represents the proceedings of a symposium held in New Orleans, USA, December 27-30, 1987. It is both a good review of classical studies of the embryonic development of the amphibian nervous system and an update of contemporary research in mechanisms of ontogenesis under physiological and pathological conditions.

Most of the book focusses on the spinal cord and its lateral motor column, dorsal root ganglia, and posterior horn sensory neurons. The cerebellum is discussed in a single chapter and two other chapters deal with the optic tectum and the retinotectal projection system, but the diencephalon and telencephalon are ignored. There are fewer comparisons with avian and mammalian development than might have been made.

The growth of nerve fibres *in vivo* was first observed and recorded by Cajal in the transparent tail fin of the tadpole. Other classical studies have addressed the factors that alter the rate of programmed cell death of motor neurons by manipulating peripheral fields of innervation: grafting supernumerary limbs or amputating limb buds. The effects of thyroid deficiency and of excess thyroxine on morphogenesis of the nervous system and on physiological cell death also have been thoroughly investigated. These traditional studies are discussed, as well as more recent data regarding neurotransmitter development, the meritocratic selection hypothesis in the control of programmed motor neuron death during ontogenesis, synaptogenesis, specificity of regeneration, and early neuronal differentiation.

As a volume in the series "Neurology and Neurobiology" (volume 44), this monograph is produced on low budget and was published as rapidly as possible using photoreproduction methods rather than formal typesetting. As a result, the right margins are not aligned and the print is that of a good quality electric typewriter rather than a professional printing process. It is quite legible, however. Illustrations and photomicrographs are