

*Molecular Neurobiology*

by Gordon Guroff

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At a time when the multi-author book is commonplace, and when a single-author volume covering a wide range of different scientific disciplines is becoming a rarity, we are fortunate that Dr Guroff has found the time to write this splendid book. Perhaps the greatest virtue that one author can bring to a topic such as this is a constancy of breadth of view and of literary style. In these matters the author has been very successful and, if I find that the writing could be rather more compact at times, this feeling is counteracted by the immediate readability of the text, which a colleague who has read a few chapters (and who is keen to read more!) finds especially appealing.

The book is divided into three major parts entitled 'Biochemical cytology of nerve and brain', 'Metabolism and function' and 'Chemical physiology of nerve and brain'. A short appendix entitled 'Recent developments' attempts to keep up-to-date those parts of the text that may have become dated during the preparation of the main text, or where new developments have assumed importance. There is a good general index and a comprehensive author index. The section on cytology embraces a discussion of the different brain cell types and their organization in the tissue, with quite long chapters on the isolation and functions of subcellular particles, various aspects of the myelin sheath and tissue culture. There are also short chapters on axoplasmic flow, the bloodbrain barrier and cerebrospinal fluid. 'Metabolism and function' contains extensive reviews of amino acid transport and metabolism, the metabolism of amines and peptides, nucleotides and nucleic acids, proteins, carbohydrates and lipids. There are shorter chapters on electrolytes (including the sodium pump), vitamins, malnutrition and brain energy metabolism. The final

major section consists of chapters on the functions of glia and nerve growth factor, a comprehensive account of the biochemistry and physiology of acetylcholine, the effects of drugs on brain metabolism (this section includes natural analgesics) and a short chapter on memory. The text is illustrated throughout with clear tables, figures and photographs. A novel approach is the occasional paragraph, delineated from the main text, which encourages the reader to pause a while to read about some clinical aspects of Parkinsonism, the Lesch-Nyhan syndrome or a number of other medically relevant disorders. The book is as well printed as it is written, the structural formulae are clearly drawn and mainly accurately represented, though some phosphates are written in the ionized form and some in the non-ionized form. Amino acids are consistently well represented in their ionized forms, though the author is less systematic in dealing with secondary and tertiary amines. A generous list of references is appended to each chapter, which extends the usefulness of the book considerably.

One is constantly impressed by the remarkable amount of information that the author has marshalled into his book. With such a wide range of material to organize it is not surprising, perhaps, that the reader may find some areas that are less up-to-date than others. However, the strength of the book is the broad sweep of its contents and literary style and as such the book is heavensent to those who organize, or attend, undergraduate or graduate courses in neurochemistry or neuropharmacology. Moreover, anyone with a general interest in this subject cannot fail to find the book rewarding. I recommend it warmly.

P. B. Nunn