

Books Received

A HISTORY OF NERVE FUNCTIONS: FROM ANIMAL SPIRITS TO MOLECULAR MECHANISMS. 2004. By Sidney Ochs. Published by Cambridge University Press. 438 pages. C\$140 approx.

AICARDI'S EPILEPSY IN CHILDREN. THIRD EDITION. 2004. By Alexis Arzimanoglou, Renzo Guerrini, Jean Aicardi. Published by Lippincott Williams & Wilkins. 487 pages.. C\$175 approx.

ATLAS OF THE HUMAN BRAIN. SECOND EDITION. 2004. By Jurgen K. Mai, Joseph Assheuer, George Paxinos. Published by Elsevier Academic Press. 246 pages. C\$205 approx.

FOREIGN SPERM. THE CAUSE OF SEXUALLY TRANSMITTED DISEASES, CANCERS, AUTOIMMUNE DISEASES. 2004. By Donald E. Tyler. Published by Discovery Books. 155 pages. C\$50 approx.

INFECTIONS OF THE CENTRAL NERVOUS SYSTEM. THIRD EDITION. 2004. Edited by W. Michael Scheld, Richard J. Whitley, Christina M. Marra. Published by Lippincott Williams & Wilkins. 1080 pages. C\$325 approx.

MECHANISMS OF MEMORY. 2003. By J. David Sweatt. Published by Elsevier Academic Press. 350 pages. C\$110 approx.

MOLECULAR BIOLOGY OF CIRCADIAN RHYTHMS. 2004. Edited by Anita Sehgal. Published by John Wiley & Sons Inc. 283 pages. C\$120 approx.

NEUROLOGY SURVIVAL GUIDE. 2003. Edited by Dave A. Rengachary. Published by Lippincott Williams & Wilkins. 366 pages. C\$40 approx.

TEXTBOOK OF DIABETIC NEUROPATHY. 2003. By F. Arnold Gries, Norman E. Cameron, Phillip A. Low, Dan Ziegler. Published by Thieme New York. 408 pages. C\$120 approx.

THE HUMAN NERVOUS SYSTEM. SECOND EDITION. 2004. Edited by George Paxinos, Juergen Mai. Published by Elsevier. 1366 pages. C\$315 approx.

THE NEUROBIOLOGY OF LEARNING. PERSPECTIVES FROM SECOND LANGUAGE ACQUISITION. 2004. By John H. Schumann, Sheila E. Crowell, Nancy E. Jones et al. Published by Lawrence Erlbaum Associates, Inc. 212 pages. C\$70 approx.

Book Reviews

DISORDERS OF NEURONAL MIGRATION. 2003. Edited by Peter G. Barth. Published by MacKeith Press. 205 pages. C\$85 approx.

With the advent of routinely available magnetic resonance imaging, there has been a profound change in our understanding of the role of disorders of neuronal migration in common neurological syndromes such as epilepsy and mental handicap. Once thought to be rare curiosities of interest only to neuropathologists, these disorders are now encountered by pediatric neurologists and, to a lesser extent, neurosurgeons on a regular basis. Focal cortical dysplasias constitute one of the most common pathological findings in brain specimens removed for the treatment of intractable localization-related epilepsy.

The past twenty years have seen a veritable explosion of published articles on the subject of neuronal migration disorders. Part of this profusion of new information is due to the fact that, as MRI has accurately revealed a large variety of familial structural malformations, molecular genetics has subsequently elucidated the molecular mechanisms of many of the malformations. The combination of radiological imaging and molecular genetics has gradually produced a detailed framework of intracellular mechanics and cell-cell signaling that helps to explain how neuroblasts leave the region where they are created, how they then migrate through the developing brain, and how they manage to arrive at precisely the correct area in an architectural framework that permits normal brain function.

In 1987, the Canadian Journal of Neurological Sciences published

one of the earliest review articles concerning disorders of neuronal migration, written by Professor Peter Barth of the University of Amsterdam. It seems fitting that, sixteen years later, Dr. Barth would be instrumental in editing and co-writing a text book on the same topic, a text which eloquently summarizes the huge advances made in the understanding of these disorders in the interim.

This book is one of the latest in a series published under the aegis of the International Child Neurology Association (ICNA). Over the years, we have come to expect a high level of scholarship and editorial excellence in this series, and this book is no exception. Its origin was a symposium held at the 8th ICNA Congress in Ljubljana, Slovenia in 1998.

In organizing this symposium, and producing the text which is the subject of this review, Dr. Barth drew upon the services of many of the leading experts in the field of neuronal migration disorders.

As might be expected, the book begins with an elegant review of the current understanding of the biological basis of cell production, cell migration and post-migration cortical organization. Once the "normal" process has been elucidated, there follows a series of chapters on the main types of neuronal migration disorders: lissencephaly, nonlissencephalic cortical dysplasias, periventricular grey matter heterotopia, associated callosal and cortical anomalies, hemimegalencephaly, schizencephaly, syndromic cortical dysplasias, polymicrogyria, and fetal disruptions.

While, in a multi-author work, there are necessarily differences in style and degree of detail, there is a remarkable degree of homogeneity in approach, and in the excellence of the result. While