

ters on attention, sensory-perceptual function and praxis are sketchy, in part reflecting the relative underdevelopment of these fields of enquiry, but they provide a reasonable starting point for anyone wanting a quick update in these areas.

In the final section on rehabilitation and management a brief survey of cognitive rehabilitation strategies for memory improvement including mnemonic techniques, external memory aids and environmental manipulation are described. There is a brief discussion of the prospects for neurotransplantation and a few paragraphs on molecular biology.

The main value of this book is that it brings together a great deal of information on the neuropsychology of the dementias and their neuropathological-neurochemical correlates. Such overviews are helpful since we are entering a new era in which the differential diagnosis of dementia is more than an academic exercise. Already, accessible functional imaging techniques such as SPECT are providing increased pre-mortem diagnostic accuracy and symptomatic treatment and interventions to retard the dementing process are becoming viable options.

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NEOCORTICAL DEVELOPMENT. 1991. First edition. Shirley A. Bayer and Joseph Altman. Published by Raven Press, New York. 255 pages.

This scholarly work by two authors who are well qualified to address the topic of cerebral cortical ontogenesis because of their own major experimental contributions is a meticulously detailed statement of our current understanding of the sequential developmental events in mammalian cortical ontogenesis. The authors rely heavily upon their own data and the techniques they employ, mainly autoradiographic tracing of the fate of primitive neuroepithelial cells labelled at the time of their mitotic generation, through migration and maturation. Less attention is focussed on other morphological evidence based on Golgi impregnations, histochemical and immunocytochemical staining and electron microscopy, and particularly no space is devoted to correlations with biochemical data of neurotransmitter concentrations or to the electrophysiological maturation of the cortex, so that the text cannot be considered comprehensive and balanced as a state-of-the-art overview, but does summarize the years of work and numerous respected publications of the authors themselves as well as citing the contributions of Sauer, Rakic, Sidman, Marin-Padilla, Stensaas, Derer, Wise, Zilles, and many other neuroembryologists.

The book is arranged into four sections and six appendices. Parts 1 and 2 are an overview of cortical morphogenesis and developmental processes. Part 3 consists of 5 chapters, each addressing regional specialization of visual, auditory, somatosensory, motor and limbic cortices. Comparison is made throughout between the organization and ontogenesis of 3-layered palaeocortex (hippocampus) and 6-layered neocortex. Part 4 contains discussions that for me were amongst the most exciting of the text; entitled "Theoretical issues, summary and conclusions", the authors discuss contemporary controversies and incompletely resolved issues such as the meaning of heterogeneity in the population of neuroepithelial cells and whether

cell fate is genetically programmed before migration or can be changed by altering certain environmental conditions such as afferent input or laminar position, i.e. the essence of the issue of cerebral plasticity. The orientation of the mitotic spindle within the neuroepithelium as an indicator of neuronogenesis or gliogenesis is presented in this section, with a strongly biased opinion expressed. Appendices conclude the book by providing technical details such as the methodology of autoradiography, determining cellular density in a particular region and statistical applications to the analysis of radioautographic data.

Most of the experimental evidence presented has been gathered from studies of the fetal and postnatal mouse because the normally smooth cerebrum of the rodent is easier to analyze than the convoluted cortex of more complex mammals, but the authors attempt to extrapolate to humans as much as possible and do cite studies of human cortical ontogenesis by others. Only brief references are made to pathological conditions of neocortical development such as lissencephaly/pachygyria and holoprosencephaly and, in my opinion, would have been better left out altogether because the superficial discussion contains overgeneralizations and unsubstantiated statements such as that corpus callosal fibres are not identified in holoprosencephaly because they are mixed within ipsilateral association fibre bundles.

The book is well illustrated and is attractively produced. I would certainly recommend this authoritative text to any serious student of neuroembryology including clinical paediatric neurologists and neurosurgeons interested in fetal brain development.

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PAIN AND CENTRAL NERVOUS SYSTEM DISEASE: THE CENTRAL PAIN SYNDROMES. 1991. Edited by Kenneth L. Casey. Published by Raven Press. 304 pages. \$101 Cdn. approx.

This monograph carefully takes the reader on a journey which brings him from research to patient bedside. Appreciation of the complexity of the basis of Central Pain Syndrome (CPS) is growing directly with major advances in the field of functional neurophysiology. The book is based on a symposium on CPS and has contributions from international authorities including basic scientists, physiologists, and clinicians. The reader will recognize the authors: Melzack, Bonica, Tasker, Yaksh, and many others. Although the book suffers from the redundancy of information and differences in style inherent within such a publication, it serves as a useful landmark of the state of the art in central pain.

The first chapter is a summary, and provides a useful overview of the prevalence, neurophysiology, and clinical characteristics of CPS. The next chapter reviews in detail the epidemiology of the syndrome, highlighting spinal cord injuries, multiple sclerosis, post-stroke neoplasm, and other clinical entities. An interesting and brilliant chapter by Dr. Tasker and others outlines the history of CPS, clinical observations concerning pathophysiology and treatment. The review is extensive, with more than 250 references. The authors also interject a large amount of data based on personal experience. The history of neurosurgical treatment is highlighted.