

development, and Section 2 examines the use of animal experiments to study the neurobiological basis for pain with special attention to the trigeminovascular system. Section 3 deals with *in vitro* models of migraine, and discusses the molecular pharmacology of the 5HT_{1D} receptor system and mechanisms related to neuropeptides and amines. Section 4 describes *in vivo* animal models of migraines, and discusses models based on neurogenic and vascular mechanisms, with articles dealing with cranial arteriovenous shunting, neurogenic inflammation, cortical spreading depression and other mechanisms. Section 5 deals with human models of vascular headache, such as nitroglycerin-induced headache, as well as others. Section 6 deals with models of non-migrainous headache, including tension-type and cluster headache. Some of these models are largely theoretical.

This book includes contributions by many well-known researchers in the field of headache, and is an up-to-date summary of the field. Despite the editing, the various contributions differ significantly in quality and importance. Although many neurologists would be interested in the cerebrovascular pain pathways of relevance to migraine, fewer might be interested in a new methodology to study muscle fatigue in normal and headache patients, or in the effects of peppermint and eucalyptus oral preparations on neurophysiological and experimental algometric headache parameters. Many of the contributions to this volume would also benefit from a short succinct summary.

In summary, this volume will be of interest to the headache specialist, and perhaps the neurologist with a major interest in headache. Most of it will be too specialized to be of interest to the average neurologist. However, it is a valuable reference, and selected articles will be of interest to all those wrestling with the major new developments in serotonin receptor research and the pharmacology of migraine treatment.

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FEVER AND ANTIPYRESIS. 1995. By K.E. Cooper. Published by Cambridge University Press. 182 pages. \$C65.00.

This small but thoughtful book is well organized. There is an introductory chapter on definitions and general considerations followed by an outline on thermoregulation and then an outline on the nature of pyrogens. This is succeeded by a description of the loci of action of the endogenous pyrogens and their further mediators and mechanisms extending to the actions of the cytokines and prostaglandins in the hypothalamus. The role of the nervous system outside the hypothalamus is covered next, followed by a review of antipyretics and their actions: there is then a commentary on febrile convulsions in the paediatric age range. The book concludes with an overview and speculation as to the future.

As a challenge to comfortable orthodoxy Professor Cooper quotes James Currie who wrote in 1798: "To the weak and ignorant, presumption is as natural as doubt is intolerable, and with such belief is almost always a creature of the imagination".

My own textbook of paediatrics explains fever as being "except under unusual circumstances, not beneficial to the host response to infection". I therefore felt challenged when I discovered that fever in mammals assists survival in the face of infection: *Pasteurella multocida* infected rabbits more often died if their ability to develop fever was inhibited by antipyretics. The ubiquitous nature of fever is surprising – from the Madagascar cockroach through tadpoles to the so called higher orders.

In a brief chapter on febrile convulsions a suggestion is made that arginine vasopressin, which can excite seizures in rats if injected intraventricularly and is preferentially released by febrile rats, may serve as a model for children. Professor Cooper is however careful to point out that there is no evidence to date that AVP is involved in febrile seizures in children.

This careful work encompasses over 30 years of work dedicated to the topic. It is a judicious account of a facet of medicine and neurology that interfaces with us all on both a personal and professional level.

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DISABLED CHILDREN & DEVELOPING COUNTRIES. 1995. Edited by Pam Zinkin and Helen McConachie. Published by Cambridge University Press. 238 pages. \$C78.00.

I have had an opportunity to visit several developing countries over the years as an Examiner and Lecturer. I am impressed by the ingenuity and creativity of those responsible for providing services to handicapped children. These individuals make do with limited resources and increasingly tend to conceive of programs based on cultural and environmental needs rather than relying on projects or expertise imported from the Western world.

Disabled Children & Developing Countries is a multi-authored book which serves to highlight programs for the developmentally disabled in many undeveloped countries. The book consists of 15 chapters ranging from an overview of child disability services and intervention programs in the United States and Great Britain to the development of highly successful programs for the habilitation of handicapped children in India and Bangladesh. Although the book would have little practical value in addressing the medical and preventative health care needs of children in developing countries, it will be a useful resource of those committed to establishing prevention and educational programs on behalf of the disabled child whether in a developed or developing country.

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SUPPLEMENTARY SENSORIMOTOR AREA. ADVANCES IN NEUROLOGY, VOLUME 70. 1995. Edited by Hans O. Luders. Published by Lippincott-Raven Publishers. 536 pages. \$C163.00.

"The student looking over the political map of a continent may little realize the complexity of the populations and states so simply represented" (Sherrington, 1906). Sherrington's analogy in his discussion of the map of the motor cortex in his classical text on the nervous system remains quite appropriate as demonstrated by the various viewpoints expressed about the supplementary motor area (SMA) in this text. This area of posterior mesial frontal cortex is implicated in the preparation, initiation and sequencing of movement. However, the same can be said of any part of the cortex, basal ganglia, brainstem or cerebellum associated with motor control. That the SMA is a distinct and clinically interesting part of the brain is clear from the evidence presented but what is not well delineated is its functional significance and even its anatomical distribution in relation to other parts of the motor system. The first half of the book

covers aspects of anatomy and physiology while the second half explores the topic from the clinicians point of view, particularly in relation to the investigation and surgical treatment of mesial frontal originating seizures. The pitfalls in documenting seizures from this area clinically and electrographically are pointed out and the potential misdiagnosis of SMA seizures as pseudoseizures or paroxysmal nocturnal dystonia is addressed. Although the effect of surgical ablation of the SMA for epilepsy is discussed, there is little comment in regard to the effect of other lesions such as stroke and tumor on motor control. As might be expected in any book with 91 authors, there is a considerable variation in quality and style from chapter to chapter as well as a lot of repetition. Although patchy in areas and not entirely comprehensive, the text does generally serve its purpose as a review of "the most recent basic and clinical research on the supplementary sensorimotor area of the cortex". This would be a suitable starting point for anyone seeking details of the role of this area in motor control or epilepsy.

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FETAL DEVELOPMENT. A PSYCHOBIOLOGICAL PERSPECTIVE. 1995. Edited by Jean-Pierre Lecanuet, William P. Fifer, Norman A. Krasnegor and William P. Smotherman. Published by Lawrence Erlbaum Associates, Hillsdale, New Jersey, USA and Hove, UK. 512 pages. \$C130.00.

When I first received this monograph and read its title, I prejudicially decided that this book would find its home on my "fiction" bookshelf. After actually reading a couple of chapters, my scientific snobbery about all behavioral research soon dissolved into self-embarrassment for my impulsive lack of scientific objectivity; I realized that in my hands was the finest contemporary statement of knowledge on fetal behaviour using criteria no less rigid than the standards of experimental physiology laboratories.

The book was inspired by a conference jointly sponsored by the Human Learning and Behavior Branch of the National Institute of

Child Health and Human Development of the NIH (USA) and the Laboratoire de Psycho-Biologie du Développement du Centre Nationale de la Recherche Scientifique (CNRS), Unité de Recherche Associée (URA) et l'École Pratique des Hautes Études (EPHE), held in Paris, France in September, 1992. The contents, however, were written and submitted independently after the meeting.

The volume consists of 24 chapters that focus on prenatal behavioural development. Data are collected from both human and animal fetal behaviour and emphasize the normal psychobiological repertoire, attempting to relate them to postnatal adaptations. Many of the chapters are physiological monitoring data of heart rate patterns, circadian rhythms, breathing patterns and hiccups. Others describe and analyze motor patterns and responses to exogenous stimuli, such as sound, maternal movement and maternal emotional states which may cause adrenalin release that crosses the placenta. Data on animals range from chick embryos to rodents to primates such as the baboon. The transition from prenatal to postnatal life is addressed in terms of differences in perception of sensory modalities. The value of habituation in postnatal life also is discussed in the context of gestational age.

Though most of the book focuses on normal adaptations, some pathological situations also are discussed, in particular the effects of alcohol, nicotine and other potential neurotoxins on the fetus. Methodologies with their inherent strengths and weaknesses in terms of collecting data that are both statistically significant and scientifically meaningful are mentioned, but authors do not become too distracted with the technical aspects of data collection and focus more on the interpretations and implications of those data.

In sum, I was favourably impressed with this volume as a useful contribution to an understanding of neural function in the immature state of the fetus and transitional newborn, and would recommend this book to neurologists and paediatricians interested in neonatal neurology. Coming from a skeptical paediatric neurologist/developmental neuropathologist, this is a strong endorsement.

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