

Book Reviews

THE PRELUDE TO THE MIGRAINE ATTACK. Edited by Willem K. Amery and Albert Wauquier. Published by Holt-Saunders Ltd. Publishers. 213 pages.

Traditionally migraine is considered as an episodic condition the major feature of which is severe headache. It may well be that we have been too restricted by this viewpoint and that there is much more to migraine than just headache. Hitherto, the vast majority of studies on migraine have been on the mechanisms of pain but these studies have given little insight into the pathogenesis of migraine. It may be more productive to shift our focus to the beginning of the migraine attack. But when does the attack really begin? Does it begin with the aura or is there an even earlier phase, a prelude to the major opus which follows?

The Prelude to the Migraine Attack is the report of the proceedings of an international symposium held in September 1985 sponsored by the Belgian Migraine Society and the Janssen Research Foundation. The twenty chapters cover various events which occur in the period before the actual onset of headache, including trigger factors, premonitory phenomena and the migraine aura. Professor Blau from London who has been responsible for refocusing our attention on the preliminary events, gives a catalogue of these events from his vast experience on the subject, which is followed by a detailed review from an historic and modern perspective by Dr. Isler from Zurich. These early phenomena were of interest to our predecessors and most have been well described by the Ancients and by those in the last century such as Liveing and Gowers.

Trigger factors are discussed by Drs. Dalessio, Debney and Oleson. It is clear that there is a great deal of idiosyncrasy in trigger factors and many substances reputed to be noxious may produce headache but do not precipitate true migraine. While the significance of trigger factors may be debated there may well be something that can be done to avert a migraine attack if instituted early enough. Amery and Waelkens from the host country discuss at least one method that may have clinical application. Domperidone, a peripheral dopamine blocker, if given during the prelude phase may prevent two thirds of migraine attacks. It seems ineffective if given at the time of the aura and hence recognizing even earlier symptoms may be worthwhile. Lord from Australia, Diamond from the U.S.A., and Rose from Britain describe the various auras which present a fascinating panorama of neurological, psychic and visceral experience. They confine the aura to anything which occurs within 30 minutes of the headache onset. Currently medications are advised at the time of the aura but this may already be too late.

No current headache symposium would be complete without discussions on "spreading depression" and the controversy over neurogenic vs. vasogenic aspects of migraine. These are well covered in this volume. Antiserotonin drugs, the mainstay of prophylactic therapy have been used for their vascular effect. New antiserotonin drugs which act on nociceptive nerve terminals may prove equally effective. Whatever the mechanism may be the main message carried in this book is that early events are of paramount importance both as the subject for

research and as the signal for the institution of therapy if it is to be effective.

The report of this symposium is a refreshing new look at migraine which provides horizons toward which we should direct our efforts in combatting migraine. The Prelude to the Migraine Attack is well written and, although suffering from the repetition and redundancies seemingly impossible to avoid in reports of symposia, is eminently readable. The epilogue by Dr. Edmeads from Canada in his delightful prose is not only a resume of the proceedings of the conference, but summarizes our current state of knowledge of migraine and raises questions which suggest new areas for research. Overall, this small volume should titlate the palate of physicians interested in migraine and having read *The Prelude to the Migraine Attack*, I for one, resolve not to miss the next symposium on this exciting new area of headache research.

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SPEECH AND LANGUAGE EVALUATION IN NEUROLOGY: ADULT DISORDERS. Edited by John K. Darby. Published by Grune & Stratton Inc., 462 pages. \$101 Cdn.

This edited volume has sections that deal with asphasia, dysarthria and another one with "diffuse and hemispheric disorders", and a single chapter in the computer applications of treatment. There is also an introductory section that contains a chapter on the epidemiology of neurological diseases producing communication disorders. The introduction is reasonably comprehensive with definitions of some of the terms, except curiously the definition of aphasia is lacking. There are some interesting bits of information in the epidemiology section but some inaccuracies, such as "M.S. is a leading cause of disability in middle aged adults" without defining what middle age is. There is some overlap between the chapters, especially in the aphasia section which is not a disadvantage because several of these topics are looked at from various perspectives. A microgenetic approach to language is intriguing and somewhat different from the usually connectionistic concepts of language organization. There are comprehensive chapters on the vascular aphasias with emphasis on recovery, brain imaging, especially PET studies and neuropsychological assessment of aphasia attempting to match lesions to deficits mathematically. The "diffuse section" has one chapter summarizing such widely divergent topics, such as pragmatics, structure-function correlations, hemispheric differences, subcortical lesions, animal communication, psycholinguistic paradigms, and functional laterality tests in normals. Another chapter is on nonverbal communication after brain damage. The only chapter that deals with "diffuse" damage is the one on head injury. There is an excellent classification of the dysarthrias and a description of the examination of motor deficits of speech. Another chapter describes the treatment in a general fashion. The third chapter on the assessment of dysarthric speech again summarizes the standard dysarthria examinations. Measurement procedures are described in detail using spectrograms. Computerized treatment programs for reading comprehension, spelling, and auditory comprehension are described in

some detail. Unfortunately this field has expanded more rapidly than objective evaluation can occur.

This is an interesting and well written compendium of various topics in communication disorders. The chapters vary in aim and style but a great deal of up-to-date information and excellent summaries can be found. It is recommended to everyone interested in neurogenic communication disorders and I think it is a useful addition to the neurologist's library.

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TOPOGRAPHIC MAPPING OF BRAIN ELECTRICAL ACTIVITY. Edited by Frank H. Duffy, Published by Butterworth's, 1986. 428 pages. Cdn. \$70 approx.

The neurological literature of the last two decades has been full of descriptions of new techniques for analysis of EEG including evoked potentials of short and long latencies, spectral analysis of single or averaged EEG samples and finally topographic mapping of the multichannel data. While some or all of these techniques have been available in specialized laboratories for many years, it is only with the advent of faster smaller computers that all of the above can be combined in a single user friendly and commercially available machine. These recording and analysis systems for topographic mapping of this complex data are now being actively marketed in North America by several companies as clinically useful and necessary tools in neurological investigation.

This book "Topographic Mapping of Brain Electrical Activity" edited by Frank Duffy, is a collection of 25 chapters prepared by the participants in an international conference which was held in October 1984 in Boston. There is good worldwide representation amongst these authors with approximately half coming from each side of the Atlantic. The participants present a wide range of techniques for analysis of the EEG often with a few examples of clinical application and as in any book prepared from a conference, there is a variable level of quality and clarity in these written chapters. In many the mathematical issues are far beyond the grasp of most clinicians or electroencephalographers and must include caveats re clinical applications. There seems to be a lack of development of any consensus regarding empirical application of the techniques. Only Frank Duffy writing the final chapter suggests strongly that the techniques are ready to be widely applied. Harner in another chapter succinctly summarizes the theoretical applications of this technique and explains clearly and concisely how it appears in pilot studies that this technique is going to be a valuable one for monitoring some types of cognitive function. In most of the other chapters the clinical cases provided tend to have such major abnormalities in their neurological exam or CT scans that demonstrate that this technique can pick up any thing that the other more readily available and easier to interpret tests do.

This book is to be recommended for the clinical neurophysiologist contemplating acquisition of a mapping package as the study of these chapters provides an understanding of the limitations and variations of the different techniques utilized for analysis, including statistical expectations, techniques of interpolation, placement and numbers of electrodes, etc. However, since most of the chapters are written as a focus for

discussions amongst experts in the field, I cannot recommend this as a useful book for a student in clinical EEG or neurology as the material is far too highly specialized and lacking in perspective. The book, however, would also be useful reading for students of engineering or physiological psychology contemplating a study of data from this area, as long as they first study the three chapters in the commentary section (by Chiappa, Tyler and Duffy) to gain some general knowledge of these techniques before getting deeply into the other individual very specialized chapters.

I would finally commend the book for its good index, detailed bibliographies and the generous use of pictures and some colour plates.

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DREAMING AND NEUROLOGICAL DISORDERS. 1986. By Giuseppe A. Buscaino and V. Covelli. Supplement no. 52 to Acta Neurologica, Naples (in Italian, conclusive remarks in English).

This is a comprehensive review on the neurophysiology of dreaming and its abnormalities occurring during different neurological disorders. It brings together many of the most recent data pertaining to dreaming. One of the authors (GAB) is well known for his previous studies on this topic. A common scientific hypothesis holds that dreaming is the result of selective cortical activity involving mechanisms which also underlie the normal waking state. During sleep, this cortical activity is conditioned and regulated by brainstem activity. Informations, feelings and sensations which are elaborated during a dream come from the recent past — the events of the day —, the remote past — memory —, and from peripheral proprioceptive and other sensorial input during sleep.

The authors examine dreaming abnormalities occurring during blindness, deafness, commissurectomy, syndromes with impairment of ocular and skeletal muscles, focal hemispheric lesions, memory disorders, epileptic syndromes, narcolepsy, and other disorders. An *actual* loss of mainly visual dreaming occurs when the following conditions are present: an inability to evoke visual representations, the disappearance of REM-sleep and/or the impairment of rapid eye movements, the impossibility to acquire EEG desynchronization patterns, and when a dissociation occurs between cortical and subcortical processes underlying dreaming. An *apparent* loss of dreaming occurs in the following cases: memory disorders, severe mental disorders with loss of interest — e.g. depression —, impairment of dreaming recall, language disorders and treatment with drugs which interfere with REM-sleep.

To-day, dreaming has lost much of its mystery which existed at the turn of the century when Freud started to study its psychopathology. Although in some cases a dream may carry a particular meaning for the psychological life of the individual, neurophysiology and psychophysiology studies define dreaming in most cases simply as a current physiological event which is essential to maintain optimal brain function during wakefulness.

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