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## BOOK REVIEWS

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### Tools for the TBI Clinician

*P.S. This Accident Has Changed Everyone and Everything: A Guide to Understanding Head Injury.* K. Griffiths. 1997. Carleton South Victoria, Australia: The Australian Psychological Society. 389 pp., \$19.50 (softcover).

*Coping With Mild Traumatic Brain Injury: A Guide to Living With the Problems Associated with Brain Trauma.* D.R. Stoler and B.A. Hill. 1998. Garden City Park, NY: Avery. 334 pp., \$14.95 (softcover).

Reviewed by PATRICIA S. CAMPLAIR, Ph.D., *Department of Neurology, Oregon Health Sciences University, Portland, OR 97201.*

In *P.S. This Accident Has Changed Everyone and Everything*, Kathleen Griffiths has provided a useful reference book for family members of head-injured persons. The title comes from a letter from one such family member; short segments from the experiences of relatives and friends dot the text, fleshing out the personal side in an otherwise “meat-and-potatoes” text. Dr. Griffiths is commended for her translation of the basics of brain injury (from neuropathology to medical assessment and rehabilitation) into *plain* English, so that fairly technical information is accessible to the layperson. This is perhaps the greatest strength of the book. Clinicians will find the book particularly helpful for family members of severely injured persons with a lengthy period of coma and/or posttraumatic amnesia, and for whom some degree of significant residual impairment is highly likely.

“Part A—Background” begins with statistical information (prevalence, risk factors), an overview of brain function/localization, and the mechanics of brain injury. “Part B—After the Head Injury: The Early Stages” first provides information about medical assessment and intervention. The author then describes coma and differing approaches to coma management (including a remarkably well balanced treatment of coma stimulation), defines posttraumatic amnesia and disorientation, and discusses outcome (and prognostic factors). The section ends with a review of common early-stage family reactions and processes. In “Part C—The Later Stages,” Dr. Griffiths reviews the types of problems relatives are likely to encounter in their injured family member (four chapters). She briefly describes rehabilitation and community reentry (two chapters, including a nicely wrought, gentle confrontation of the sometimes misdirected anger relatives express towards staff). The challenges and reactions

of the family during later stages are then presented, along with practical recommendations for coping with common emotional reactions. A final chapter on prevention is included, which leaves the reader with a degree of optimism, following the rather sobering section addressing the strain often presented to the family.

Overall, this book should be well received by the professional community and the family audience to whom it is directed. In the way of shortcomings, the emphasis is on providing information and describing the problems/strain to families, with relatively less discussion of what the family (or others) can do to help relatives cope with this potentially devastating situation. Personally, I would like to have seen more examples of solutions or strategies that family members have found to cope with or improve their situation. Second, and also related to the comprehensive aims of the book, is the clinician’s dilemma about *when* and *how* to recommend the book. Clearly, information about the early stages needs to reach the family while their injured relative is in the acute stage(s) to be maximally useful. Later sections could be frightening or seem pessimistic to the family at this stage, should they read ahead. Conversely, although Part C will be helpful to the family of persons with residual deficits, information in Part B will be of little relevance (though perhaps interesting in retrospect). I envisioned a companion workbook, or series of handouts, which would allow the clinician to dole out relevant information as the family member expresses interest or need in particular areas. Certainly, provision of some guidance to the relatives/friends by the recommending professional would be in order, and follow-up discussion of the readings would be helpful. The authors do provide ap-

appropriate cautions to the family member (e.g., about scope of deficits) at various points.

Family members (friends, acquaintances, etc.) are not the only ones who can benefit from this text. The background information provides a quick and easy overview for the non-specialist professional, or professionals just entering this field. The information presented is well grounded in the literature, particularly the foundational or classic works. It is not a substitute for a broader exploration of the literature, and does not summarize the most recent literature, but would provide a useful starting point. Of course, sections addressing family perspectives and needs are relevant to any staff working in brain injury rehabilitation.

As a lucidly written family handbook, presenting a poignant portrayal of what these families are likely to face, this book deserves a spot on the TBI professional's bookshelf, preferably in the books-to-be-loaned section, and with order sheets handy.

*Coping With Mild Traumatic Brain Injury* evoked mixed reactions, once my initial excitement to see such a book passed. Written by a psychologist who has survived a combined acquired and traumatic brain injury (cerebral bleed and associated car accident), and coauthored by a writer, the book does an admirable job of describing possible problems that occur following brain injury, along with numerous practical suggestions for coping with these. Excerpts from interviews with other BI survivors are included throughout the book to illustrate problems and solutions. Other strengths include the glossary and resource appendices at the end of the book.

Unfortunately, there are some real weaknesses as well. In the introductory pages, the authors list various profession-

als who reviewed the contents to ensure accuracy. However, there are no specific references offered in the text of the book to substantiate the information presented and treatment approaches that are recommended. Both "conventional" and "alternative" treatment approaches are discussed and offered as potentially or even "extremely" effective for various problems. While I can acknowledge that the literature supporting conventional approaches (e.g., rehabilitation) has limitations, I have to seriously question the basis (and therefore accuracy) of such statements as, "Polarity therapy may be helpful in resolving attention and concentration problems, particularly if the practitioner has experience treating your particular symptoms." At least the authors urge some caution and common sense for those readers choosing to pursue alternative therapies.

The comprehensiveness of problems covered (e.g., visual agnosia is noted as a possible, though admittedly rare consequence of mild TBI) is on one hand a strength, but on the other a concern. The naive or confused mild TBI survivor could erroneously conclude that all manner of difficulties are attributable to their brain injury. The authors again offer cautions in this regard (e.g., emphasizing the need to delineate emotional and neurological bases for symptoms).

Not wishing to throw the baby out with the bathwater, this book seems most useful for persons with mild brain injury who have documented residual problems, or those with more severe brain injuries. Such persons are likely to derive reassurance, and perhaps better self-awareness/acceptance from reading the similar experiences of others, and will welcome the many practical suggestions offered. Thus, this second useful tool can be recommended to one's patients or clients with some cautions and careful follow-up.

## Rehabilitation after TBI

*Traumatic Brain Injury: Rehabilitation for Everyday Adaptive Living*. Jennie Ponsford with Sue Sloan and Pamela Snow. 1995. Hove, U.K.: Lawrence Erlbaum. \$37.95.

Reviewed by JEFFREY S. KREUTZER, Ph.D., *Department of Physical Medicine and Rehabilitation, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23898-0542.*

Increasing survival rates after traumatic brain injury have spawned a proliferation of rehabilitation facilities and treatment programs during the past decade. The proliferation has created a diversity of challenging opportunities for neuropsychologists desiring to meet the full range of patients' needs. For many years, neuropsychology focused on diagnosis of neurological conditions, localization of impairment, and describing performance levels on tests measuring abilities. More recently neuropsychologists have been asked to participate as full members of rehabilitation teams and serve as consultants during the rehabilitation process. Now, on a more routine basis, psychologists are asked to provide

family support and education, individual psychotherapy, social skills training, cognitive rehabilitation therapy, and vocational rehabilitation services.

With publication of their book, Ponsford and her colleagues have provided a much needed and welcome reference book for the growing field of rehabilitation and neuropsychology. The text is unique in several ways. First, the book offers practical treatment information in the context of empirical information on pathophysiology of injury and outcomes. The number and range of references cited is impressive. Second, the book represents a relatively unique collaboration between authors representing the dis-

ciplines of neuropsychology and speech pathology. Collaboration helps to provide a holistic perspective on assessment and outcome. Finally, and perhaps most important, the text addresses the myriad of complex issues facing patients in their long-term efforts at adaptation after traumatic brain injury.

The chapters are logically organized beginning with background information on mechanisms of injury, sequelae, and recovery. Several chapters are devoted to assessment, providing information on low level patients, cognitive difficulties, behavior, communication, and interpersonal skills. The second portion of the book is devoted to psychosocial issues including community living, psychosocial adjustment,

relationships, and families. A final chapter is devoted entirely to children with sections relating to psychophysiology, recovery, cognition, school, and behavioral issues.

Readers are likely to view this book both as enjoyable reading and as an important reference. The tables and charts are tools helpful for summarizing complex information. The many case examples provide a relevant and helpful context for illustrating important points. In summary, many readers are likely to find that *Traumatic Brain Injury* is a useful, highly readable book that presents a much needed holistic perspective. Professionals concerned with treatment, working with families and adult patients, are likely to view the book as an especially important addition to their library.

## A Treatise on the Temporal Lobe

*The Temporal Lobe and Limbic System.* Pierre Gloor. 1997. New York: Oxford University Press. 865 pp., \$135.00.

Reviewed by MICHAEL M. SALING, Ph.D., *Department of Psychology, The University of Melbourne, Victoria 3052, Australia.*

This book is monumental in every sense of the word. Before he had the opportunity to complete and publish his project, the final stages of which had occupied him for the past decade, Pierre Gloor suffered a stroke in 1994 that rendered him aphasic. In what was undoubtedly a magnificent act of tribute, an editorial committee of his colleagues prepared the vast manuscript for publication.

A quick perusal would suggest to most that this book is about neuroanatomy. It contains a highly detailed survey of the structure of the temporal lobe and limbic system, ordinarily not the kind of volume to which neuropsychologists, except those with a very specialized interest, would gravitate, let alone devour voraciously. In scope and depth, this work *is* for the specialist with a basic and clinical interest in temporal lobe and limbic system morphology and physiology, but there is a profound sense in which this is also a neuropsychological document. It has emerged from the mind of a man who was steeped in the great epileptological tradition of the Montreal Neurological Institute. He was there when the pioneering work of Brenda Milner brought to an end the stultifying perplexity that surrounded the role of the hippocampus. In Gloor's words, the 1950s saw the hippocampus as "an orphan, an organ in search of a function" (p. 528). This lacuna in neuropsychological knowledge was catastrophically unveiled by the bilateral mesial temporal resections that gave H.M. his amnesia. The event, and the many studies that emerged from it, defined the clinical role of neuropsychology in the preoperative evaluation of complex partial epilepsies, and located the hippocampus at the center of the memory system. The book recognizes, and indeed celebrates, the contribution of neuropsychology to our un-

derstanding of this complex region of the brain. But it goes much further than this. Gloor draws out a structural architecture that resonates clearly with the most recent developments in the neuropsychology of memory, and that will, nay must, inform the ongoing enterprise of neurocognitive modeling. Of particular interest to neuropsychologists is Gloor's emphasis on the great organizing trends that characterize this, the most heterogeneous part of the brain.

The book consists of six chapters. Chapter 1 defines the scope and culminates in a definition of the limbic system as an allocortical "core," surrounded by a mesocortical "belt." This way of thinking about the cortical constituents of the limbic system is profoundly important for neuropsychology. It brings to life a powerful and general groundplan of temporal lobe organization, one which has already been exploited to very good effect in the speculations of Eichenbaum's group (Eichenbaum et al., 1994). Chapter 2 looks at the comparative anatomy of the temporal lobe and limbic system, while chapter 3 deals exhaustively with the most advanced constituent of the cortical triad of the temporal lobe. Morphological principles are interwoven with a masterful treatment of the neuropsychology of the temporal neocortex. Arguably the most important section from a neuropsychological perspective is Gloor's reworking of the concept of association cortex. Chapter 4 deals with the temporal lobe components of the olfactory system.

Many neuropsychologists would see chapter 5 as the high point of the book. Spanning 264 pages, it is in essence a definitive reference work on hippocampal structure. As in other parts of the book, Gloor carefully emphasizes organizing principles, which are instantiated here as the systems that con-

nect the hippocampus with the rest of the brain. He is equally careful to point out that these are essential for the understanding of memory. The chapter runs deep with neuropsychological riches; some of the gems are “The Significance of the Detailed Human Anatomy of the Mesial Temporal Region for Some Clinical and Neuropsychological Issues,” an explication of neuropsychological principles of memory modestly entitled “Functions of the Hippocampal System,” and a brilliant section titled “Differential Contributions of the Various Components of the Hippocampal System to Memory Function.”

The sixth and final chapter deals with the amygdaloid system. In order to contextualize the role of the amygdaloid system in epilepsy, Gloor provides a fascinating account of Ammon’s horn sclerosis, including a comprehensive historical survey. There is also a section on the role of the amygdala in temporal lobe epilepsy, complete with case material, and an excellent section on pure amnesic seizures compared with other amnesic episodes.

## Brain Repair: Bridging the Lab-Brain Barrier?

*Brain Repair.* Donald G. Stein, Simon Brailowsky, and Bruno Will. 1995. New York: Oxford University Press. 140 pp., \$12.95.

Reviewed by DOROTHY GRONWALL, *Consultant Neuropsychologist, 3/2 Cotton Street, St Johns, Auckland 6, New Zealand.*

This optimistic book about recovery of function after brain injury or disease is written by three neuroscientists specifically to counter the belief that brain injury is permanent and that the brain cannot be repaired. They point out that this belief leads to often inappropriate or no treatment, which then makes it a self-fulfilling prophecy. However there is an increasingly extensive body of evidence from laboratories around the world that given the right conditions and specific chemicals, for example, normal function can be restored. This literature is highly specialized, highly technical, and often apparently unrelated to human recovery. It is also produced at a prodigious rate. According to a 1989 survey, fact-based knowledge doubled every 18 months at that time, and it was predicted that by the year 2010 it will double every 4 weeks. It is not surprising, therefore, that members of a health-professional team have difficulty keeping up with the clinical rehabilitation literature, and that they do not have the time or the energy to read studies on laboratory animals or tissue studies which are not seen as high priority or of relevance to their work.

This exciting book attempts to bridge the gap. Written in nonspecialist terms, there are chapters on the development and history of concepts of brain function, current (in 1995) knowledge on imaging and radiology, neuronal function, regeneration and repair, and factors in the brain that enhance recovery. The Kennard principle is examined, and there are

A crowning achievement of this work is the seamless integration between neuroanatomy (in all its forms), neurophysiology, clinical epileptology, and neuropsychology that cascades from its pages. While this book will no doubt be of enduring value, it has been published at an opportune moment in the development of neuropsychology. As the Decade of the Brain and the millennium draw to a close, it is worth reflecting on the fact that principles of neuropsychology were so closely and fundamentally woven into the fabric of what is surely one of this century’s most important neuroscientific works.

## REFERENCES

- Eichenbaum, H., Otto, T., & Cohen, N.J. (1994). Two functional components of the hippocampal memory system. *Behavioral and Brain Sciences*, 17, 449–518.

sections on brain transplants, pharmacology, and the effect of the environment, both internal and external, in influencing what happens after the brain is damaged. It is very readable, and well organized, though I would have preferred the notes to be at the end of each chapter, rather than in a section of their own at the back of the book. Nevertheless it provides an excellent introduction to, and summaries of, disciplines that I have tended to skim over in the past.

It was also pleasing to find a book published in the 1990s that does not ignore research that is more than 10 years old. With the massive increase in publications, there is a very real possibility of loss of “corporate professional memory” if research does not build on already available data. The work on environmental enrichment was exciting and important in the 1960s, and certainly has not lost relevance with age. Though the concepts have been applied to educational and developmental psychology, there has not been a corresponding move within head trauma management, especially at the acute stage. On the other hand, it is difficult, in a work that is only sparsely referenced, and in fields that are outside my area of expertise, to judge how up-to-date the information is. Given that the book was published in 1995, and that neuroscience is a rapidly growing field, no doubt there have been further developments, but the reader will at least now have a good background understanding on which to evaluate these as they are published.

The authors are all respected neuroscientists with impressive research backgrounds, but it is clear that they are not clinicians. This has led to some rather misleading information. For example the effects of hemispherectomy in infancy are used as an instance of the plasticity of the child's brain, and it is stated that "many of these children have gone on to develop quite normal cognitive and language skills (p. 74). The well-documented effects of left-hemispherectomy on visuo-spatial skills is not mentioned, nor the problems that these children and their families have over time. I also have some concern that families of head trauma cases may take the message of optimism about recovery without heeding the caveats freely given through the book that as yet there is no "magic bullet." While I am sure that no one in this day and age still tells families the old pessimistic story about the 2-year time limit on recovery, or that they will never get over the brain injury, it is sometimes neither therapeutic nor kind to overstate the extent of recovery that they can expect. We simply do not know at this stage because the literature on time courses and degree of recovery after brain injury in humans has not kept up with advances in other branches of the neurosciences.

This issue is addressed in the Epilogue "Where do we go from here?" which should be required reading for all rehabilitation clinicians. It is understandable that we "know much more about the chemistry and biology of brain tissue damage than we do about why a brain injured person experiences a total change in personality" (pp. 134–135) given the pressure on research funds, the pressure to publish, and the time needed to carry out a good behavioral follow-up study. In addition, there is the sheer pressure of clinical work in a rehabilitation setting, with research often not given high priority. The Epilogue ends with seven "critical lessons" about management of brain injury from the authors' review of the research. For these lessons to be incorporated within standard clinical practice there has to be systematic evaluation of their effects in a human population. Certainly it might be difficult to get the funds and the time and the extra personnel to carry out the studies, but this money and time will not appear until rehabilitation clinicians begin to demand it. It is up to us.

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## OTHER BOOKS OF INTEREST

Cartledge, B. (Ed.). (1988). *Mind, brain and the environment*. Oxford, U.K.: Oxford University Press. 188 pp., \$27.50.

Lyon, G.R. (Ed.). (1994). *Frames of reference for the assessment of learning disabilities*. Baltimore: Paul H. Brookes. 649 pp., \$55.00.

Robertson, M. & Baron-Cohen, S. (1998). *Tourette's syndrome: The facts*. Oxford, U.K.: Oxford University Press. 112 pp. £9.99.

Rugg, M.D. (Ed.). (1997). *Cognitive neuroscience*. Cambridge, MA: The MIT Press. 390 pp., \$25.00 (pb).

Smith, P.F. & Darlington, C.L. (1996). *Clinical psychopharmacology. A primer*. Mahwah, NJ: Lawrence Erlbaum Associates. 143 pp., \$16.50 (pb).

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