

Books Received

AMYOTROPHIC LATERAL SCLEROSIS. A SYNTHESIS OF RESEARCH AND CLINICAL PRACTICE. 1998. By Andrew Eisen and Charles Krieger. Published by Cambridge University Press. 303 pages. \$C97.44 approx.

AN ATLAS OF MULTIPLE SCLEROSIS. 1998. Edited by Charles M. Poser. Published by Parthenon Publishing. 129 pages. \$C101.40 approx.

CELL DEATH AND DISEASES OF THE NERVOUS SYSTEM. 1999. Edited by Vasselis E. Koliatsos, Rajiv R. Ratan. Published by Humana Press. 683 pages. \$C188.50 approx.

CELL NEUROBIOLOGY TECHNIQUES. 1998. Edited by Alan A. Boulton, Glen B. Baker, Alan N. Bateson. Published by Humana Press. 320 pages. \$C129.35 approx.

IN VITRO NEUROCHEMICAL TECHNIQUES. 1998. Edited by Alan A. Boulton, Glen B. Baker, Alan N. Bateson. Published by Humana Press. 416 pages. \$C129.35 approx.

NEURODEGENERATION METHODS AND PROTOCOLS. 1998. Edited by Jean Harry, Hugh A. Tilson. Published by Humana Press. 328 pages. \$C120.83 approx.

PHARMACOLOGY OF CEREBRAL ISCHEMIA. 1996. Edited by Josef Kriegelstein. Published by Medpharm GmbH Scientific Publishers. 719 pages.

THE CLINICAL NEUROPSYCHIATRY OF STROKE. 1998. By Robert G. Robinson. Published by Cambridge University Press. 491 pages. \$C123.50 approx.

THE GENESIS OF NEUROSCIENCE. 1998. By A. Earl Walker. Published by The American Association of Neurological Surgeons. 371 pages.

VASCULATURE OF THE BRAIN AND CRANIAL BASE. VARIATIONS IN CLINICAL ANATOMY. 1998. By Walter Grand, L.N. Hopkins. Published by Thieme. 248 pages. \$C201.15 approx.

Book Reviews

A COMPENDIUM OF NEUROPSYCHOLOGICAL TESTS. 2ND EDITION. 1998. By Otfried Spreen and Esther Strauss. Published by Oxford University Press Canada. 736 pages. \$C92.95.

In its first edition, this Compendium quickly established itself as one of the most respected reference standards for the normative interpretation of tests used in neuropsychological clinical practice. The current revision continues in this tradition with the inclusion of not only more recent tests, batteries and their more recent releases, but also includes comment on computerized batteries and interpretive print-outs.

This edition has added over 300 pages permitting the expansion of the function/domain specific chapters to include separate treatment of executive functions, occupational interests and aptitude, and, a very important topic – malingering and symptom validity.

As the authors state in the preface, this is not intended to be an encyclopaedic listing of all available tests with commentary. Rather, the authors have focused on a selection of those tests most commonly used clinically and for which there are fairly respectable norms. Issues of validity, reliability and the normative base for each test are addressed with a fair but critical eye. Claims with regard to sensitivity, specificity and the ecological validity of tests and measures, such as impairment indices, are also objectively assessed in view of research findings. In brief, this is a scientifically-based approach to psychometrics in the context of neuropsychological assessment, setting well-argued standards against which all of the testing instruments are measured.

The introductory chapters dealing with clinical issues such as history taking/interviewing; test selection, administration and discussions with the client; and also report writing and the clinician's responsibilities towards the client are thoughtful, ethical and germane. Both the neophyte as well as the experienced clinician would do well to review these statements of principles to ensure the maintenance of high standards of clinical practice.

Although not intended to be a comprehensive handbook, mention is made of the importance of systematic investigation of the client's premorbid ability profile and history, as well as behaviour during the clinical interview and testing. This cannot be emphasized too much, especially with the trend towards computerized testing and interpretation facilitated by the proliferation of personal computers and software packages. There is simply no substitute for the direct involvement of a skilled neuropsychologist in integrating all of the available sources of information in order to arrive at a justified and valid clinical formulation of a case. Those battery-based clinicians who argue for the 'blind' interpretation of test scores, which this reviewer has referred to as a "psychological CAT scan" or "painting by numbers", will find little endorsement in this volume. The majority of neuropsychologists now favour an evolving, hypothesis driven eclectic approach to assessment, with attention paid to the referral question, the presenting complaints and the need to cross-validate findings with convergent testing, as advocated by Spreen and Strauss.

At the normative/interpretative practical level, the tables and psychometric norms and formulae are clearly laid out with clear, concise guidelines for their use. Whenever norms are cited, mention is made of sample size, demographics and generalizability to other populations. Although those data are always available (or should be) in the test manuals, it is important for the astute clinician to be reminded of the limitations of interpretations. Particular care has been given in the use and interpretation of the determination of premorbid intellectual status. It is clear that current cognitive profiles can only be meaningfully understood in relation to a holistic picture of the client's premorbid state. The most common methods used for these estimates include reading tests, and regressions based on demographic and socio-economic variables are thoroughly dealt along with due consideration of the limitations of such approaches.

Scrutiny of the domain-specific chapters indicates a fairly good selection of tests. However, one can always argue that one's favourite test(s) was(were) not included and the affiliation of a test to one or another domain may differ (e.g., the Trail Making Test could be categorized as Executive, Attentional or Visuo-motor, depending on the inclination of the neuropsychologist).

Spreen and Strauss cover the established territory of standardized testing best in their treatment of general intellectual ability. Large test instruments such as the Wechsler series of tests are dealt with exhaustively and with a critical mind. Comparisons with norms from the Mayo's Older American Normative Studies are made as well with studies cited which extend the standard normative base into the over 75 age group. Issues of reliability, validity and factor analysis are thoroughly reviewed.

Children's and achievement tests are given their fair share of consideration with a good selection of tests being reviewed. To venture further in those fields would have unbalanced their mission in this book.

In the Executive chapter, key aspects of function such as forward planning and self-organization are dealt with only in the context of a single test package (Behavioural Assessment of the Dysexecutive System) which does not provide consideration of gender, education or intelligence in the norms. While this is an important limitation, this collection of tasks is promising and the authors cannot be held accountable for having failed to find a perfect set of tasks. Elsewhere, there are scattered references to the CANTAB battery (also in need of normative work), as well as other tasks such as the Tower group (Hanoi, London and Toronto) with the same caveats. Given the pervasive nature of so-called executive tasks and the difficulty in interpreting low scores on tasks said to assess such functions (almost any significant cortical lesion can lead to poor performance), more emphasis could have been placed on consideration of brain-behaviour relations and non-specific or non-localizing pathologies. This could have been addressed as a topic in an introductory chapter although reference is made to this concept throughout this volume. Other test types not covered here include delayed response and associative learning paradigms.

In the Memory chapter, I would have liked to see more of an exploration of prospective, implicit and procedural memory as topics. This exercise would be limited by the dearth of standardized tests available for these domains, but the research literature does provide a number of excellent studies, the results of which could be compiled in a normative fashion. It is gratifying to see a review of all of the standard complex figure drawing tasks since test, re-test paradigms will require alternate forms. In addition, the Wechsler Memory Scale (original and revised) is given a fairly thorough review. The weaker portions of the normative base published with the revised version have been bolstered by more recent specific studies aimed at those age groups which were under-represented. However, there is little commentary about the construct validity of all of the subsections of the scale. In particular, the visual paired associate learning component, which has not been found to be particularly enlightening clinically, is not singled out for commentary. This book was completed before the release of the newer version (WMS-III) which will have to await the third edition of this book. Complex or multiple measures generated by a test, such as the Buschke Selective Reminding Test, may be highly intercorrelated. This argues against the belief that each measure taps into an isolated

aspect of memory or retrieval, as the authors correctly point out. It is at this level of analysis that Spreen and Strauss excel in their attention to the construct validity of the tests reviewed. Indeed, a thorough reading of this book is bound to leave the clinician humbled by the limitations of our often-touted scientific objectivity and reliance on published and normed tests. Topics not covered include delayed matching-to-sample and non-match-to-sample paradigms which have proven to be sensitive to memory deficits in animal paradigms. Some of the conditional associative learning tasks devised by Petrides could also have merited mention.

With regard to language functions, there is an excellent review of standard assessment tools. In the Controlled Oral Word Association (COWA) group (which this reader is more used to referring to as Verbal Fluency), the only category reported in the tables is for "animals". This is known to be fairly easy, and some clinicians feel, that the use of three categories (e.g. animals, vegetables, furniture) may yield a more valid measure. In addition, the argument has also been made to test by alternating between phonemic and semantic constraints, although this procedure would no doubt alter the outcome and mitigate against the use of published norms. However, this family of tasks is proving to be one of the most sensitive and easiest to administer and score as well as being the basis for increasing numbers of functional imaging studies.

With regard to the visual, visuo-motor and auditory tasks, there is no mention of certain screening procedures such as tests for colour blindness, oculomotor control, depth perception and field defects which could interfere with straightforward interpretation. Although an embedded figures test is reported, there is no analysis of superimposed figures. Finally, there is no treatment of olfactory discrimination or judgment, although this is also a rather controversial area.

The next chapter deals with tactile, tactile-visual and tactile motor tests. Fortunately, no time is wasted on graphaesthesia, which is notoriously unreliable, but this could have been stated. While two-point discrimination is well documented, prefatory comments on testing the distinction between the major somatosensory systems would have been helpful. For example, the use of vibratory stimuli, the discrimination of movement direction across the skin surface, adjustment of grip strength to allow a pencil to just slip, temperature discrimination and the entire area of pain assessment are not dealt with. While it could be argued that this ventures into the domain of behavioural neurology (and rightly so), neuropsychologists are often called upon to deal with these issues. The lack of standardized instruments or tests for the examination of these functions is indeed deplorable, and again, Spreen and Strauss cannot be held accountable for that important lacune in our panoply of tests. Two major tasks, however, could have been presented, namely, the pursuit rotor and mirror tracing (reading mirror image text could also be mentioned). In addition, there is no formal coverage of apraxia (outside of the too-cursory treatment afforded by the Boston Diagnostic Aphasia Examination). Finally, in the Purdue Pegboard Test, there is no discussion of the relatively slower bimanual performance, compared to unimanual, seen on testing. The effect of finger size as an explanation for gender differences is well dealt with.

In the chapter dealing with personality variables, this reviewer favours use of the Personality Assessment Inventory over the

MMPI family but it is probably the case that much more work has been published with the latter. One would like to see more discussion of specific scales dealing with anxiety, sickness impact and quality of life as well as with activities of daily living (ADL) in a neuropsychological context. However, all of these variables are mentioned with appropriate references and it is again a question of the judgment of the authors as to what instruments are most often used in regular clinical practice that has guided their choices. They do admit that individual cases may merit the use of additional or alternate tests. One caveat with regard to the use of behavioural checklists could have been offered. That is that while checklists may suggest symptoms to certain patients (e.g., danger of over-endorsement either as a wish to be overly compliant with the clinician, or for factitious reasons), open-ended clinical interviews may fail to reveal symptoms (e.g., due to lack of insight, poor judgment, or poor memory). These factors are alluded to in the clinical interview section but should be more strongly emphasized.

The inclusion of two occupational and aptitude tests is probably adequate for this book since a foray into that specialty field would quickly become cumbersome.

The section dealing with malingering is generally well done but perhaps errs on the side of caution. A cogent discussion of factitious disorders, based on DSM-IV criteria, would have been helpful. Cross-validation between tasks within an assessment battery, combined with the use of specific tests, especially those relying on reaction time measures or implicit learning could have been elaborated further.

In summary, this is a highly recommended and very competent volume which should be considered as a "gold standard" for the practicing neuropsychologist. Principles of sound test construction and validation are applied to all of the instruments reviewed with excellent critical commentary. Spreen and Strauss should be commended for their contribution to the field, which represents a herculean effort. Although not intended to be a comprehensive handbook, clinical wisdom as well as scientific rigor are well balanced with the emerging opinions and advice being very sound. Diligent reading of this volume is virtually guaranteed to improve the quality of both clinical and experimental practice for even experienced neuropsychologists.

Jean A. Saint-Cyr,
Toronto, Ontario

DIAGNOSTIC NEUROPATHOLOGY. 1998. By Harry V. Vinters, Michael A. Farrell, Paul S. Mischel and Karl H. Anders. Published by Marcell Dekker, Inc. 669 pages. \$C292.50.

Books covering broad aspects of neuropathology tend to be of two sorts; comprehensive, encyclopedic tomes used by medical specialists as reference texts and brief, introductory manuals designed to familiarize students with this highly specialized and complex field. There remains a definite need for something in the middle ground. Residents rotating through the neuropathology service and neurology, neurosurgery and pathology residents preparing for their exams need a text which covers all the major aspects of neuropathology in sufficient depth without it being intimidating. *Diagnostic Neuropathology* fulfills this role admirably. The ten chapters cover all major categories of neuropathological disease including tumor and disorders of nerve and

muscle. With more than 600 pages of text there is ample room to provide a meaningful depth of discussion. The four authors are at various stages of their careers in pathology and each provides a different perspective and different areas of strength. As with any book written by a small number of authors, there are biases which reflect the authors' personal interests. Although topics such as neurodegeneration and HIV infection are covered in particular detail, all chapters are competently written and incorporate important recent advances in genetic, molecular and biochemical aspects of disease pathogenesis. In addition to more than 400 black and white photographs, simple diagrams are well used to illustrate and summarize key concepts. However, the major strength of this work is the very practical approach taken and the writing style which is simple and easy to read (almost intimate). This allows one to read through entire chapters without losing interest and results in a more unified view of the topic.

Despite the overall positive impression of this book, there are a few areas where minor improvements could be made. The quality of some of the photographs is suboptimal; while most of the gross photos are clear, a significant proportion of the photomicrographs lack contrast, are too dark or are at too low a magnification to adequately illustrate their subject matter. This impression is probably heightened by the frequent use of good quality color photos which is now commonplace in so many medical texts and journals. Intentionally avoiding the use of numerous subheadings allows the text to flow easily but it is sometimes difficult to find specific pieces of information. Finally, the short, concise list of recent references provided at the end of each chapter is appropriate and useful but these may be overlooked as they are rarely referred to in the body of the text.

In summary, this is a very useful text which is most appropriate for residents encountering neuropathology for the first time. While the cost may prohibit the number of personal copies purchased, this book will make a valuable addition to departmental libraries.

Ian R.A. Mackenzie,
Vancouver, British Columbia

EARLY DIAGNOSIS OF SPINAL TUMORS. 1997. By Aldo Fortuna, Luigi Ferrante, Pierpaolo Lunardo and Michele Acqui. Published by Masson. 83 pages. Price not available.

This brief monograph attempts to summarize the clinical presentation, radiological features, pathology and surgical therapy of spinal tumors. This includes a discussion of primary and secondary spinal column tumors as well as intradural/extramedullary and intramedullary lesions. The authors are all neurosurgeons in the Department of Neurological Sciences of the University of Rome "La Sapienza". The text has been translated from Italian and could have benefitted from more careful editing. Unfortunately, there are numerous typographic errors and awkwardly phrased sentences which detract from this otherwise nicely presented text.

The target audience has not been specified. Clearly however, the information is not sufficiently detailed or current to be of interest or value to practicing neurosurgeons. On the other hand, this slim volume could be quickly read with some profit by medical students, nursing staff or junior housestaff on a neurology or neurosurgery service. The sections on clinical presentation