

**THE COLLECTORS OF LOST SOULS - TURNING KURU SCIENTISTS INTO WHITEMEN.** 2008. By Warwick Anderson. Published by The Johns Hopkins University Press. 318 pages. Price C\$30 approx.

*In 1965 while stuck in Port Moresby, a sweltering colonial outpost in the South Pacific, D. Carleton Gajdusek sat brooding on the drama of research into the disease called kuru. The American scientist recognized he was acting in a "vast human comedy of modern man's frailties...in the fantastic setting of a stone-age culture under a horrible plague...and the investigation plagued by sweeping personal involvements which girdle the earth!"*

So begins Warwick Anderson's fascinating book on the story of kuru, the Fore (pronounced for'-ay) people and the scientists—some larger than life—who lived with the Fore people, interacted with them, tended to them in their dying moments and finally tracked down the cause of this plague. It is fitting that this volume appears on the book scene at about the time one of the key players in the story—D. Carlton Gajdusek—died at the age of 85 on the 12th of December 2008.

While the book provides a cursory overview of the scientific underpinnings of the kuru story, it presents a fascinating insight into the process of anthropological and medical research that took place, beginning in the post-World War II period in this area of the South Pacific—a time considerably different from our own with respect to research ethics and personal scientific responsibility. The Fore people "knew" that their plague was caused by sorcery. Initially, kuru was thought to be a conversion disorder brought on in people who were convinced someone had cast a spell on them. Later on, it was recognized as a clearly neurological disorder but was felt to have a possible genetic cause. It was only when the research scientists became "medical cannibals" and began to harvest and use brain in their "scientific rituals" that the true story unfolded.

The book can be appreciated on a much deeper level if the reader has some familiarity with Herman Melville's American classic—Moby Dick—another story of "things remote", and Joseph's Conrad's famous books of "journeys of the soul" in exotic parts of the world—Lord Jim and Heart of Darkness. There are many parallels among those great stories and this one.

For a long time, I puzzled over the subtitle: Turning Kuru Scientists into Whitemen. What did it mean? Then I came across a book by Ira Bashow—The Meaning of Whitemen—Race and Modernity in the Orokaiva Cultural World. Bashow points out that "the whiteman" represents the "...legacy of colonialism, the face of Western modernity, and the force of globalization." In weaving his story, Anderson shows how the kuru scientists, as a group, played all of those roles in whole or in part, in the lives of the Fore people.

The book is a gripping tale, highly readable, that holds your interest throughout and allows both the Fore people and the kuru scientists to touch our hearts and our minds. I recommend this very worthwhile read. You will not be disappointed.

*Paul E. Cooper  
London, Ontario*

**THE INFINITE POSSIBILITIES OF A BALANCED BRAIN - LIMITLESS YOU.** 2008. By Lee Gerdes. Published by Namaste Publishing. 312 pages. Price C\$28 approx.

Lee Gerdes is a man with an interesting background including pastoral counseling, systems analysis and management consultant.

He uses a combination of these skills in his current position as CEO of Brain State Technologies, a company which has developed software algorithms to measure quantitative EEG and provide brain biofeedback. Gerdes' description (the most specific the book ever gets) is that his technology is "information fed back to the brain based on data collected by electrodes tactically on various areas of a person's head."

His hypothesis is that many diverse conditions of ill health: aggression, ADHD, addiction, chronic pain, depression, high blood pressure, cardiac arrhythmia, erectile dysfunction, cerebral palsy and coma are related to an imbalance of the sympathetic and parasympathetic branches of the autonomic nervous system. His program is able to measure these imbalances and then using sophisticated algorithms feed back auditory signals to assist the brain to become "more balanced". The balanced ideal has been painstakingly formulated over time from thousands of recordings especially those of trained meditators. Gerdes states that the person doing the program need not attend too closely or strain, as the program will assist the brain to move spontaneously towards balance – both physical and spiritual. It sounds too good to be true.

Balance and harmony are certainly of interest both to the lay public at whom the book appears to be directed and to clinicians or researchers. However the book falls short of satisfying the needs of either group. For the lay reader, the book lacks focus. The chapters jump from one problem area to another failing to build a cohesive argument. Significant claims are made without any data to back them up eg. "9 out of 10 methamphetamine addicts become clean within three days of brain training (pg. 179). For a scientific reader, the lack of clear description of the method and the lack of accurate, complete peer reviewed references supporting the method is problematic.

A quick google search turns up the website <http://www.brainstatetech.com/>. The site is similarly vague on detail and reliant on testimonials rather than data. The website lists scores of practitioners around the world, many in Canada. I note that people without any professional credentials can become trainers. Brain State Technologies may be a great idea but I would recommend waiting for evidence of effect before recommending either the book or the treatment.

*Eleanor Stein  
Calgary, Alberta*

**THIEME ATLAS OF ANATOMY (DVD) IMAGE COLLECTION: HEAD AND NEUROANATOMY.** 2007. By Michael Schuenke, Erik Schulte, Udo Schumacher. Published by Thieme. DVD and 1182 illustrations. Price C\$200 approx.

I was pleased to receive the Thieme Atlas DVD on Head and Neuroanatomy, as I had long sought a reliable computer-based source of neuroanatomy images. However, my impression of the first edition of this DVD accompaniment to the Thieme Atlas series (which I did not have available to me) was mostly disappointing.

I am happy to report that both Macintosh and Windows versions of the image manager are present; unfortunately, there is no easy way to transfer the data from the disc to the computer hard drive, so start up and searching are maddeningly slow using either operating system (even with a high-speed disc drive).

The most puzzling aspect of the viewer is that the window size is fixed, and too small for the entire image, regardless of the size of the computer screen. Scrolling around images is cumbersome, and it is frustrating to try to find the label for a particular structure.

Some of the anatomical labeling is misleading: the subthalamic nucleus is mis-identified as the zona incerta [sic]; Papez circuit fails to register connections in the parahippocampal gyrus; there is no connection from the dentate fasciculus to Ammon's horn is revealed. Many connections are depicted in only a single plane, making it difficult to determine the actual trajectory of the pathway in question.

Searches are far too slow to be useful, and some search terms (for example, nucleus accumbens) yield no 'hits' after close to a minute of grinding and whirring. Nucleus gracilis yields only one 'hit, showing only a crude cartoon of ascending connections from the spinal cord; no depiction of a cross section of the lower medulla can be found; 'zygomatic arch' results in two 'hits', neither of which actually label the requested structure. On the other hand, some searches yield several useful illustrations, and the circuitry for some.

The image quality is modest, as they are principally cartoon-style with minimal detail. I was interested to assess the sprinkling of histologic images which flavour the anatomical line diagrams; sadly, most are unrecognizable, such as the pixellated view of the pineal gland which is reminiscent of a psammomatous meningioma.

One function which works reasonably well is the ability to transfer images to a Powerpoint presentation; however, I prefer to simply scroll through the raw data and find the jpeg from the finder and slide that directly into my presentations, something I can't do with the Thieme Collection. Obviously the problem locating desired images would be obviated by purchasing the paper version of the Atlas.

With respect to usability, the overall sluggishness of the DVD has already been mentioned. This pertains to start-up and shut down; on my PC I was unable to see the desktop disc icon and had to waste time ejecting the disc through the 'My Computer' link. The program hung several times, requiring relaunch, and perseverated on a selected image despite choosing an alternative from the search results.

In summary, this DVD represents a laudable first attempt at filling an important niche, but falls short in several key areas. Hopefully the next edition will see improvements to the above noted deficiencies.

*Rob Macaulay  
Halifax, Nova Scotia*

**SURGICAL MANAGEMENT OF LOW BACK PAIN. SECOND EDITION.** 2009. By Daniel K. Resnick, Regis W. Haid Jr., Jeffrey C. Wang. Published by Thieme Medical Publishers. 232 pages. Price C\$159 approx.

Lower back pain is one of the most common reasons for patients to seek out the advice of a physician. Dr. V. Sonntag, in the foreword to this Second Edition, is quick to point out that surgical management is a last resort. Most Canadian spine surgeons perform few (if any) surgeries for low back pain that is not related to some clearly identifiable cause (e.g., spondylolisthesis, tumour, trauma). However, there is a growing body of evidence that clearly shows lumbar fusion to be an

effective treatment for properly selected patients with chronic low back pain whose symptoms have not responded to non-operative measures.

The text is divided into 23 chapters, and is organized using a "basic principles to advanced concepts" approach. The language and tone is straightforward, and each chapter is presented in nicely subdivided sections. The black-and-white illustrations are clear for the most part, but colour might have been helpful, especially for some of the pathology and intraoperative photos.

The first eight chapters deal with anatomy, imaging, pathophysiology, biomechanics (including the importance of sagittal balance), principles of patient selection and evidence-based medicine. The next four chapters describe common surgical techniques, including instrumented and non-instrumented posterolateral fusion and various interbody fusion techniques. Minimally invasive fusion (Chapter 13) and some controversial percutaneous techniques (Chapters 20 and 21) for lower back pain are also discussed.

Five chapters are devoted to biologic aspects of spine surgery including bone healing and the rapidly evolving fields of gene therapy and tissue engineering for spinal fusion and disc regeneration. A tremendous expansion of knowledge in this area has occurred in the last few years and the clinical application of bone morphogenic protein has become a popular method to enhance spinal fusion.

The text ends with two chapters on lumbar disc arthroplasty, and emphasize patient selection, technical pearls and complication avoidance. In both of these chapters, the authors correctly emphasize that early clinical success with arthroplasty has been shown to be equivalent to spinal fusion, but good-quality long-term outcome data are lacking.

This text will likely appeal most to the practicing spine surgeon as well as to the resident or fellow who is training to become a spine surgeon. The problem with textbooks in general, and especially those that attempt to summarize such a rapidly developing field, is that they age quickly. For example, there is a nice review of the Investigative Device Exemption (IDE) study of the Charité (DePuy Spine, Raynham, MA) disc arthroplasty from 2005 (Chapter 23), but the more recent ProDisc-L (Synthes Inc., Paoli, PA) IDE study<sup>1</sup> is not reviewed.

Although a text can at best only provide a snapshot of current technology, the strength of this book is its illustration basic principles that underlie the techniques used by leading practicing surgeons. Moreover, it captures surgeons' thought processes that are key to understanding the correct choice of procedure for the correct patient.

*Daryl R. Fourney  
Saskatoon, Saskatchewan*

#### REFERENCE

1. Zigler J, Delamarter R, Spivak JM, Linovitz RJ, Danielson GO 3rd, Haider TT, et al. Results of the prospective, randomized, multicenter Food and Drug Administration investigational device exemption study of the ProDisc-L total disc replacement versus circumferential fusion for the treatment of 1-level degenerative disc disease. *Spine*. 2007 May 15;32(11):1155-62.