

Moyer's 1968 taxonomy of operational categories of aggressive behavior, as well as those of others who have long studied these behaviors, will be useful as a jumping off point for many readers. Much of the cited research has been done in animals, especially cats and rats, but the relationship to human aggression is explored to the extent possible, and where available, research in humans is discussed. Most of the book is attributed to Dr. Siegel alone, but two chapters, one on the endocrine system and the other on the immune system, were co-authored with Dr. Melissa K. Demetrikopoulos (at least the co-author is listed as "M. Demetrikopoulos" and she has collaborated previously in reviews and original research with Dr. Siegel).

Dr. Siegel devotes an entire chapter to each of the following areas of aggression and rage research: neuroanatomy, neurophysiology, the limbic components (these are actually reviewed in two chapters), neurochemistry, and genetics in addition to the two co-authored chapters mentioned previously. The discussion of neurochemistry devotes individual attention to each of the neurotransmitters from acetylcholine to substance P, and also explores the effects of substances of abuse on aggressive behavior. The chapter on hormonal state and aggression includes segments on each of the sex hormones, as well as products of the adrenal glands.

The text is imminently readable and reasonably easy to comprehend. In addition, there are numerous drawings, graphs, and tables scattered throughout the text that are extremely helpful in understanding the research results and anatomical pathways. The black and white photographs of aggressive behaviors in animals are not as clear or helpful. The final chapter concerns possible areas for future research as well as a discussion of how people might use the research findings to control aggressive impulses. There are references cited at the conclusion of each chapter and a thorough subject index.

The stated goal of the book is to provide an up-to-date discussion of all biological processes involved in the production and control of rage and aggression. Dr. Siegel has certainly done so. Any student of research into aggression will find this book of interest, particularly neurobiology graduate students and neuropsychologists. This book may provide more information than the clinician with a casual interest in anger and aggression will feel necessary, but the table of contents is so complete that the reader may easily pick and choose topics of greatest interest.

Alan D. Schmetzer, MD
Professor and Assistant Chair for Education
Superintendent, Larue D. Carter Memorial Hospital,
Department of Psychiatry
Indiana University School of Medicine
Indianapolis, Indiana

This book seeks to provide a ready reference for the recent physiological Magnetic Resonance (MR) techniques such as diffusion, perfusion and spectroscopy as they apply to clinical practice. This book targets medical professionals as well as those who are interested in MR research. After an introductory section reviewing technical aspects of these techniques, seven clinical areas are addressed: (1) cerebral vascular disease, (2) neoplasia, (3) infection, inflammation and demyelination, (4) seizure disorders, (5) psychiatric and neurodegenerative disorders, (6) trauma, and finally (7) pediatrics.

The choice of topics and the organization of the book is elegant. By their admission, they have avoided functional Magnetic Resonance Imaging, a domain of neuroimaging too important to be given a minimal role in a volume such as this. The coverage of the clinical topics is comprehensive. The book is expensive but at around 50¢ per page of text, its sheer volume does make it a good deal. The size of the book also makes it more a reference volume than a handbook. The technical section provides the fundamentals, quantification issues and common artifacts. The artifact chapters are especially valuable, as a reference such as this will allow clinicians and researchers to avoid common pitfalls. The novice reader would have benefited from an account in this volume addressing the basic physics of MR imaging.

The book maintains a smooth style despite multiple authors (80 in all) and a plethora of technical details that are typical of books such as this. Case studies (36 in all) are a very strong feature, and serve as useful guideposts for the wealth of information provided in the chapters. Tables and graphics including the realistic clinical MR images/data images provide a good reference point for clinicians and researchers. Each chapter begins with a summary of key points, which is very useful for the reader interested in getting the take home points quickly.

A relatively small amount of attention is given in this book to psychiatric diseases. This is understandable as there are no clinically relevant MR procedures currently. Hence, this is not a good primary reference for those interested strictly in psychiatric MR research. There are other books that offer broad coverage of the field as relating to psychiatric illness. However, this book is clearly worth recommending strongly to neuroimaging professionals generally. The book is very timely and its emphasis on the fundamentals will help it stand the test of time better than many similar volumes.

Matcheri S. Keshavan, MD
and Frank MacMaster, PhD
Wayne State University
Detroit, Michigan

Clinical MR Neuroimaging. Diffusion, Perfusion and Spectroscopy. Edited by Jonathan Gillard, Adam Waldman and Peter Barker; Cambridge University Press, New York, New York; 2005; ISBN 0521 824 575; \$330 (hardcover); 827 pp.

Molecular Neurobiology for the Clinician. Edited by Dennis S. Charney; Review of Psychiatry, Volume 22, No. 3; American Psychiatric Publishing, Washington DC; 2003; ISBN 1-58562-113-7; \$34.95 (softcover), 250 pp.

On first moving to Charleston, South Carolina we were invited to an Independence Day party at a country house on a tidal creek. After a blazing hot day, a dip into the salt water seemed a perfect ending. The setting was dark water and deep green marsh grass, and I thought I knew what I was getting into. On jumping in, however, I found myself in water that was too warm, and I was covered in fine muddy silt that didn't slide off when I climbed back on the dock. And, there were also the annoying sand gnats and mosquitoes swarming at my ankles. The initial scene fooled me; it was more complicated and less idyllic than I thought.

Similarly, when I read this book, I found that my expectations as a practicing clinician were unmet, though there was considerable interesting complexity and a glimmer that there were molecular findings that may someday be relevant for clinical practice. The book title suggested that the book was meant for the clinician, that this volume would somehow affect clinical practice. Although the book is clearly a primer on molecular neurobiology related to mental disorders, it offers little for the practicing clinician to advance his current treatment.

For the clinician uninitiated to neuroscience, however, this small paperback in the larger series of *Review of Psychiatry*, published by the publishing company of the American Psychiatric Association, provides a foretaste of how molecular biologists are attempting to understand the mechanisms of disease, genetic abnormalities, and neuropharmacology of psychiatric disorders. The book moves past nosology and shows the reader the state of molecular biology knowledge in mental disorders. The research is stymied by the complexity of the brain. The biology of mental disorders remains elusive. There are also, unfortunately, many limitations to gain this knowledge, including 1) rodent model approximations of mental illness 2) the limits of diagnostic certainty 3) the heterogeneity of mental illnesses and 4) the range of cellular or transmission defects that may lead to the common expression of any particular illness. That is, although researchers would like to unravel the genetics or intracellular second messenger changes in common mental illness such as depression, there are undoubtedly several forms of the illness, several genes related to the development of the illness, and the responsible genes may be widely found in the population. For the clinician looking for a summary biological understanding, there are many equations to solve at once.

The book is divided into five chapters, each written by research experts in their specialty, addressing the molecular biology related to clinical disorders: 1) Childhood disorders; 2) Genetics and diagnosis; 3) Schizophrenia; 4) Drug addiction; 5) Mood and anxiety disorders. None of the chapters suggest that the underpinnings of these mental illnesses are simple and make note that Mendelian, one-gene, one-illness solutions are unlikely. More likely, the authors suggest, it will be that a number of genetic variants interacting with a number of environmental events will lead to the expression of mental illnesses.

The chapters on drug addiction and schizophrenia are more focused than the other chapters and perhaps more digestible,

though still take some focused effort. The chapter on drug addiction informs the reader about how two intracellular proteins, CREB (cAMP responsive element binding protein) and DeltaFosB, may affect gene function and potentiate addiction. These two proteins are transcription factors which attach to and alter gene function. It has been found that both proteins are found in increased concentration in the nucleus accumbens, a sub-cortical nucleus associated with pleasurable activities, and these proteins may in turn affect behavior and lead to further drug seeking. These findings and hypotheses are supported by findings in normal and genetically altered mice. The rodent findings sustain the theory that increased concentration of CREB or DeltaFosB in the nucleus may represent molecular changes that may increase the likelihood of using drugs that stimulate pleasure. This understanding, however, lends no current benefit for addiction treatment. The hope remains that these findings may eventually translate into focused pharmacological treatments.

The chapter on schizophrenia presents an overview of the biological findings in schizophrenia and reports on topics more familiar to most psychiatrists, namely the range of neurotransmitters and receptors thought important in the pathophysiology of schizophrenia. The authors elaborate on the findings that certain genes affecting neurotransmission that may be implicated in schizophrenia. There are brief discussions on how variations in genes responsible for catechol-O-methyltransferase, G-proteins, nicotinic receptors or dysbindin may help explain the pathology in schizophrenia. There are also several dense pages discussing how variations in glutamate or GABA neurotransmission may underlie the abnormalities of schizophrenia.

The book is well referenced, but is often slow going. The authors honestly point out the directions and the limits of the current findings, but the current findings are hampered by how little is currently known about the molecular or even cellular abnormalities in the brains of patients with mental illness. The book is not light reading, and while it may inform the clinician about where the field is going, it does not aid current practice. For those interested in just getting their feet wet in biological psychiatry, a dip in a clinical psychopharmacology pool might be better than forging into the tidal creek of molecular neurobiology.

Lawrence A. Labbate, MD
University of Arkansas for Medical Sciences
and VA Medical Center
Little Rock, Arkansas

Blindsided Lifting a Life Above Illness: A Reluctant Memoir.
By Richard M. Cohen; Harper Collins Publishers; 2004; ISBN 0060014105; \$23.95, pp 236.

This is a wonderful brief memoir. The television journalist turned autobiographer writes about living through intergenerational multiple sclerosis. His account is inspiring; not because