



## HEALTH & MEDICINE

**GRACE FOR THE AFFLICTED: A Clinical and Biblical Perspective on Mental Illness** by Matthew S. Stanford. Colorado Springs, CO: Paternoster, 2008. 261 pages. Paperback; \$19.99. ISBN: 9781934068441.

This volume relates a biblical view of personhood to a survey of the most prevalent forms of mental disorders. The intended audience is the average Christian who may have experienced or known mental disturbance personally. The goal of the book is to better equip Christians to utilize their faith in understanding, supporting, and resolving these disruptions of human functioning.

The author is well suited for this task. Stanford, an ASA member, is a clinical neuropsychologist who directs Baylor University's PhD program in psychology—one of several doctoral programs that attempt to integrate professional psychology and the Christian faith. His background includes numerous research studies of mentally ill persons who suffered from a number of the maladies he discusses in the book. His writing style reveals an acquaintance with the questions asked by the average church member.

Stanford spends the first three chapters reviewing the Christian understanding of personhood. The reader will be reminded at every turn of the biblical foundation of every assertion. This presentation is followed by a discussion of seven of the most common types of mental disorder. These include mood, anxiety, dissociative, eating, attention deficit, substance abuse, and borderline personality disorders as well as schizophrenia. In each chapter devoted to one of the maladies, Stanford describes the disorder as detailed in the *Diagnostic Manual of Mental Disorders* published by the American Psychiatric Association. He details the circumstantial (environmental) and genetic (biological) determinants as well as the spiritual (biblical) dimensions of each malady. Each chapter ends with suggestions on how the Christian faith might be utilized in understanding and dealing with that illness.

The final two chapters of the book are concerned with "How can we help those who struggle?" The first of these is based on Matt. 11:28, Jesus' invitation to "Come unto me all you who are weary and heavy laden, and I will give you rest." This chapter is replete with personal incidents out of Stanford's experience and is focused on how Christians can support one another during these emotional trials. The final chapter, entitled "Little Things Matter," includes very practical suggestions of how church people can take a holistic approach in dealing with individuals and families as they go through these difficulties. Although he deals with the spiritual dimensions of these disorders, Stanford avoids relying too heavily on using the strength of one's faith as a cure-all for these disorders.

As an excellent introduction to mental illness, this volume will expose many of *PSCF's* readers to an aspect of life-experience they may not have studied as physical scientists. The book is a careful description of these issues; it will be appreciated both for its being grounded in the latest social/behavioral science and also for its very prag-

matic insights as to how the biblical understanding of persons and of sin relate to the topic. The final indices of the book list a number of resources for those who want to explore these issues more fully or want to learn of groups that can be of help.

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## SOCIAL SCIENCE

**NEUROSCIENCE, PSYCHOLOGY, AND RELIGION: Illusions, Delusions, and Realities about Human Nature** by Malcolm Jeeves and Warren S. Brown. West Conshohocken, PA: Templeton Foundation Press, 2009. 168 pages, index. Paperback, \$17.95. ISBN: 1599471477.

Malcolm Jeeves and Warren Brown are no strangers to those who are interested in psychology and human nature. These two psychologists are internationally known for their research expertise as well as for their grasp of the knotty theoretical issues that have proven to be points of contention between those in the scientific and religious communities. This particular text is part of a science and religion series. It addresses the current state of the conversation (although some might refer to it as a conflict) between those in the sciences (i.e., psychology, neuroscience, and anthropology) and theologians, about the mind and human nature.

There are several areas that will be familiar to those who have read previous offerings from either author. The recurring themes of partnership rather than warfare between science and religion, the tightening of the mind/brain link, cognitive emergence, top-down causation, and the importance of the relational *imago dei* are found again throughout the book. This book, however, is different in scope and in length when compared to earlier offerings.

As the title of the book indicates, the text covers an incredible amount of intellectual geography, which may seem to be more than a tad ambitious. Jeeves and Brown are up to the task, though. Classic thinkers such as Galen, Augustine, René Descartes, and William James are dutifully accounted for, but the inclusion of names ranging from William Inge, Gordon Allport, and George Combe to Donald MacKay, David Premack, and novelist Mark Salzman displays the authors' substantial historical knowledge base as well as a contemporary sensibility.

What is most impressive about this text is the historical ground that it covers in such little space. Early chapters seem to be written more for those who are new to the conversation, but they have nuggets of information that even those familiar with the area will find beneficial and worth mining. These chapters include an introductory chapter, a historical review of the relationship between science and theology, and another historical chapter on the soul and mind. A primer chapter on brain functioning lays the groundwork for reinterpreting the notion of mind and links it to the brain. It is then followed by a chapter on evolutionary psychology that deals with cognition and origins issues. The later chapters hit upon significant

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findings from the past several years (i.e., mirror neurons and the neurology of moral decision making and mystical experiences). A chapter on the neuroscience of religiousness is followed by another that attempts to develop a metanarrative on human nature, which includes the voices of both science and religion.

The writing is concise, crisp, and easy to follow. Some of the sections within the chapters are shorter than hoped for if you are looking for a thorough treatment of a particular topic. For example, there are a total of three pages on consciousness—an area that would seem to warrant significantly more comment. There should be little doubt that the authors could have said more, but the constraints of the book's text seem to have forced them to make it brief and to the point. Given the density of information that is covered in the text and the manner in which it presents it, this text would be a valuable starting point for those looking to enter a conversation with an opposing viewpoint. The book ends with an upbeat look at future possibilities of dialogue and a challenge to entertain ways in which we can appreciate humanity's place in creation.

This text would be an excellent accompaniment either to an upper-division undergraduate course or to an entry-level graduate survey course. It contains a list of recommended readings and an index of names and subjects.

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**SACRED DESIRE: Growing in Compassionate Living** by Nancy K. Morrison and Sally K. Severino. West Conshohocken, PA: Templeton Foundation Press, 2009. xv + 179 pages. Hardcover; \$21.95. ISBN: 9781599471501.

Psychiatry at times gets a bad rap, sometimes deservedly so, sometimes not. With a history of occasional erroneous and damaging theorizing, psychiatry has had a tendency to theorize on a given subject before the science has been present to support the claim. For instance, autism once was believed to be caused by "refrigerator mothers,"<sup>1</sup> and the concept of the "schizophrenogenic" parent was used for schizophrenia.<sup>2</sup> Over time these harmful theories, as well as others, had to be retracted. Yet theory has played a powerful role in the development of psychiatric care. Even when certain aspects of a theory have been refuted, it continues to guide therapy work. What we do not know about the human brain, especially in regard to psychiatric illness, outweighs what we do know. Until now, there are still no definitive biological markers for any psychiatric diseases.

The human brain is by far the most complex organ in the body, comprising over one hundred billion nerve cells. As a vital organ, it is not amenable to direct observation. Mainly indirect, but still intriguing, is the secondary information that is obtained from neurophysiologic studies, since they provide researchers with clues to what is actually occurring *in vivo*. Psychiatry and the neurosciences thus must rely on animal studies, often with rat and monkey brains, as well as on human autopsy studies, cerebrospinal fluid collections, and more recently neuroimaging studies. These latter research tools include func-

tional magnetic resonance imaging, positron emission tomography, and diffusion tensor imaging, all of which provide exciting and compelling information about normal developing brains and pathological conditions.

In the opinion of this reviewer, to practice psychiatry one must, first of all, feel comfortable dealing with a lot of uncertainty. Secondly, one must remember the theoretical constructs that are important as a framework for treatment. Nonetheless, these theories must be open to modification based on the evolving research in the field. Our diagnoses have been developed and defined based on the consensus of experts in the field, rather than on pure biological data. In addition to not knowing the cause of psychiatric illnesses, we have only limited information about how our psychiatric medicines treat the illnesses. We know, for instance, the immediate effects of antidepressant medications on certain neurotransmitters, which usually cause reuptake inhibition within the synapses. However, this does not explain why the true therapeutic effects of antidepressants usually require two or more weeks of treatment; this is much later than the immediate neurotransmitter reuptake inhibition effects. This has led to speculation that true therapeutic effects may be "further downstream" from the synapse and may be due more to second messenger systems. Nonetheless, this is still a conjecture. We are left with our simplistic explanations, for instance, depression as a "chemical imbalance" and antidepressant medications helping to restore the balance. It is an oversimplification, but easier to digest for the patient (and sometimes the psychiatrist), than both having to experience the "indigestion" of ignorance.

The title of the book under review, *Sacred Desires: Growing in Compassionate Living* by two clinical psychiatrists, Nancy K. Morrison and Sally K. Severino, suggests that this could be a manual to foster the personal development of empathy toward others. This seems a noble endeavor in our modern age of isolation, conflict, and terrorism. However, the publishers use the dust cover to emphasize a different aspect of the book, introduced by the query,

Is the call to spirituality embedded in human biology? Drawing on cutting-edge research and recent discoveries on the neurophysiological functions of the brain, [the] authors ... boldly argue that the same neurons that lead us to connect with each other also lead us to seek a connection with the divine. We are, in fact according to the authors, biologically wired to seek oneness with the divine.

In this reviewer's opinion, this is quite a strong claim for the authors and publisher to make. One might imagine that Morrison and Severino would demonstrate the existence of a brain circuit for religious belief or a brain chemical that would make humans contemplate the divine. In fact, this is what the authors try to do, but unfortunately in a way that overstretchs the available scientific data. For neurocircuitry, they theorize that the ventral aspect of the vagus nerve serves as the link to the divine. The ventral vagus nerve is, in phylogenetic terms, a newer part of the parasympathetic nervous system, which not only aids to counterbalance our sympathetic nervous system's response to stress and helps the body regulate cardiac physiology, but it also innervates facial muscles and the vocal cords.

The authors cite Stephen Porges' theory<sup>3</sup> of this aspect of our nervous system as playing a role in social communication and connection. They then tack on the implication that this social connection is really evidence for the spiritual. As far as a "God chemical" (this reviewer's term, not the authors'), Morrison and Severino turn to the neuropeptide oxytocin and its potential role in attachment, especially between newborns and their mothers. They take the liberty of modifying the reference that Kerstin Moberg makes to oxytocin in her book as "personal healing nectar" and renaming it as "holy nectar."<sup>4</sup> Here again the spiritual is tacked on.

The authors also draw on research regarding the existence of a mirror neuron system in the brain, as being responsible for the human capacity to empathize with others, which the authors label as "redemptive attuning." The theory of a mirror neuron system is still somewhat of a controversial entity. It draws on research originally involving macaque monkeys: the activation that occurs in the monkey's premotor cortex when watching someone else engaging in a certain activity. This action might be as simple as the researcher reaching for a cup, the original observation that initiated this scientific work. This research has been expanded to human studies, using functional magnetic resonance imaging (fMRI) showing some similarities to the macaque data, specifically neurocircuits for action intention based on the context of the action. Thus a mirror neuron system is believed to be activated, not just from an action, but from witnessing someone else engage in the action. These monkey findings have led researchers to theorize about the role of imitation in language acquisition and the aberration of this system as a potential explanation for childhood autism. In addition, some research involving human subjects has provided support for the animal data regarding mirror neurons. Functional MRI studies of healthy volunteers have demonstrated that subjects viewing photographs of various facial expressions, such as disgust, will activate regions of the subject's brain linked directly to these strong emotions. In short, researchers in this field postulate that the mirror neuron system is essential for social interactions and learning through imitation.<sup>5</sup>

Morrison and Severino go on to propose that this same mirror neuron system forms part of the basis, not only for our connections with others, but also for our connection with the sacred, which they refer to as "sacred desire." This could be God or any other universal life force. For the authors, it appears that their connection to the sacred is influenced significantly by Roman Catholic contemplative prayer, yet they allow for a full gamut of religious and spiritual perspectives on a higher power.

All this leads me to a discussion of the central assumption of *Sacred Desire*. The authors make a case for a link from exceptionally broad biological theories to the authors' spiritual musings. They take the bonding experience of a child with its parent (mother) as the foundation for their theory regarding the biological-spiritual link, equating this attachment experience to the relationship between God (or the sacred) and humanity. They name this relationship "first nature" and refer to it in other places as "redemptive attuning." Although compelling, and perhaps even pleasing to contemplate, this is undoubtedly

speculation, outside the realm of science and more properly in the realm of metaphysics. This assumption regarding the fundamental significance of the parent-child bonding experience has its origin in psychology, most significantly in attachment and object relations theory. The authors discuss these theories, which are psychological models that postulate a link between the primary bonding experience between a child and its caregiver (specifically the interaction of the child's temperament style and the availability of the caretaker) as a predictor for future social relationships.

The authors then tackle disordered relationships, referring to them as "second nature" or "dissonant tuning." They view compassionate relationships within or outside therapy as able to keep one in first nature or to be the impetus for a move from second to first nature. This latter dynamic seems similar to the psychoanalyst Franz Alexander's concept of a "corrective emotional experience."<sup>6</sup> Morrison and Severino then expand their theory of interpersonal interactions to the broader context of communities, including the global community.

In my judgment, this book is far better suited as a resource for weekend workshops for spiritually minded psychotherapists or as part of a retreat for pastoral counselors, rather than as a resource book for the serious scientist. *Sacred Desire*, like many of the sources that it draws upon, is fraught with what seems to me to be an oversimplification of brain science, and it jumps to conclusions that extend far beyond the available evidence.

Unfortunately, the writing is not that engaging and seems to be uneven in style. The book suffers from a mish-mash of quick summaries of simplified science, quotations from sources, case studies from the authors' practice, summaries of spiritual figures, and a fair bit of hyperbole. The gray boxes of scientific evidence seem to be too large and detract from the main text. On the positive side, the glossary was helpful since it provides the reader with definitions of the unique terminology developed by the authors.

Does this book reach its goals? From my perspective, the answer is in part "yes" and in part "no." As far as creating a framework for relationship and compassion building, the book is on target. Some of the examples of the remarkable spiritual transformation made by specific individuals are quite inspiring. It might sit comfortably alongside other books dealing with the "science" of compassion, such as those by the Dalai Lama, leader of Tibetan Buddhism.<sup>7</sup> In the authors' attempt to connect basic science research to the human quest for the divine, the book falls far short of the mark. It takes its place alongside other books in psychiatry that could be categorized as "soft science," containing more conjecture than scientific data. Fortunately, there are still many examples of top-notch research. These include, *inter alia*, basic science studies of brain functioning research on psychopathology and evidence-based treatment studies for various psychiatric disorders, published in textbooks or fine journals such as the *Archives of General Psychiatry*, the *American Journal of Psychiatry*, or my journal of choice, the *Journal of the American Academy of Child and Adolescent Psychiatry*.



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## Notes

- <sup>1</sup>L. Kanner, "Autistic Disturbances of Affective Contact," *Nerv Child* 2 (1943): 217–50. Reprinted in *Acta Paedopsychiatry* 35, no. 4 (1968): 100–36.
- <sup>2</sup>R. W. Lidz and T. Lidz, "The Family Environment of Schizophrenic Patients," *American Journal of Psychiatry* 106 (1949): 332–45.
- <sup>3</sup>S. W. Porges, "The Polyvagal Theory: Phylogenetic Substrates of a Social Nervous System," *International Journal of Psychophysiology* 42 (2001): 123–46.
- <sup>4</sup>K. Moberg and R. Francis, *The Oxytocin Factor: Tapping the Hormone of Calm, Love, and Healing* (Cambridge, MA: Perseus Press, 2003), 129.
- <sup>5</sup>M. Iacoboni, *Mirroring People: The New Science of How We Connect with Others* (New York: Farrar, Straus, & Giroux, 2008).
- <sup>6</sup>F. Alexander, T. French et al., "The Principle of Corrective Emotional Experience," in *Psychoanalytic Therapy: Principles and Application* (New York: Ronald Press, 1946), 66–70.
- <sup>7</sup>D. Goleman, *Destructive Emotions: How Can We Overcome Them? A Scientific Dialogue with the Dalai Lama* (New York: Bantam Dell, 2003); Dalai Lama and P. Eckman, *Emotional Awareness: Overcoming the Obstacles to Psychological Balance and Compassion: A Conversation between the Dalai Lama and Paul Eckman* (New York: Times Books, 2008).

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**HOW GOD CHANGES YOUR BRAIN: Breakthrough Findings from a Leading Neuroscientist** by Andrew Newberg and Mark R. Waldman. New York: Ballantine Books, 2009. xi + 348 pages. Hardcover; \$27.00. ISBN: 9780345503411.

For most of the twentieth century, with a few notable exceptions, the study of the biological underpinnings of religious beliefs was off limits to members of most professional guilds. Those who were aligned as behavioral or natural scientists were actively discouraged from investing any intellectual stock in this elusive endeavor, which is now known as the discipline of neurotheology. Fortunately, a subtle paradigm shift opened the door for scholars from a variety of disciplines—including neuroscience—to weigh in on this fascinating subject. Within the past ten years, there has been a plethora of scholarship involving hundreds of published articles in referred journals and dozens of books. Andrew Newberg's latest book, *How God Changes Your Brain*, is another addition to the recent collection. Newberg, currently the director of the Center for Spirituality and the Mind at the University of Pennsylvania, is regarded by many as one of the founders of neurotheology. His co-author, Mark Waldman, a therapist, is an associate Fellow at the above-mentioned Center for Spirituality.

This book attempts to accomplish several goals. One goal is to elucidate how belief in God is good for mental, physical, and spiritual health (chapters 1–3). A central thesis of the book is to proclaim that once a person begins to contemplate God—particularly for extended periods of time—neural functioning becomes altered; real physical changes occur to the dendrites, synapses, and neurochemistry. These changes, for the most part, bring about several positive outcomes.

In contrast to Newberg's previous books, *How God Changes the Brain* reads much like a self-help text with

a substantial emphasis on practical steps one can take to improve areas as diverse as memory, communication skills, meditation, and finding serenity. In fact, chapters 8–10 are devoted to practical applications that comprise nearly half of the text. It is clear that this is not an academic book; to the contrary, it is written to an educated, general audience: those who preferably respond well to concise and formulaic prescriptions about how to bring about changes in their lives. The most solid of the applied chapters is the one called "compassionate communication" that teaches individuals how to communicate more effectively with their spouses, colleagues at work, or strangers.

There are several strengths to this book. The authors write in a clear and crisp style that avoids the technical language that can frequently confound nonscientists, particularly on subjects that integrate brain science with theology. For example, when neuroanatomy is discussed, the authors strategically limit the discussion to no more than six brain regions. In addition, case studies and personal stories are interspersed that contribute to an engaging, provocative, and honest presentation of the material. The book also avoids a technical discussion of some of the brain imaging technologies that provide data for several of the studies that are referenced. This could be viewed as a weakness, since some would prefer any "light-bright" interpretations of PET data to include a more thorough explanation. Lastly, the book capitalizes on new research into neuroplasticity that has captured the attention of neuroscientists.

Unfortunately, this book possesses several weaknesses. Some of the difficulties arise from the self-help genre to which this book belongs. It is always difficult to unpack basic research findings and then extrapolate practical applications to everyday life. Many *PSCF* readers will not feel comfortable with the liberties that the authors have taken in generalizing research. The authors' use of inflated language does not help their cause. Words like "breakthrough discoveries" sprinkled within the text reduce the authors' credibility; in addition, they draw sweeping conclusions from single studies—in some cases, with modest sample sizes—without the normal cautious language that would be present in the scientific literature. Some *PSCF* readers will be frustrated that factual information is embedded right alongside material that is conjecture and not supported by credible research. Discerning the fact from the fiction, for the nonscientist, might be rather challenging. In addition, the title is a bit misleading. It turns out that according to Newberg, God is not necessary to bring about the beneficial changes; the practice of religious behaviors, with God left out, works just fine.

Some readers will be disappointed by the negative presentation given to those who come from a fundamental religious tradition. The authors—one an agnostic and the other an atheist—clearly favor Unitarian religious expressions that are completely open to all religious conceptions, and frown upon those who believe in an "authoritarian" God. If readers are interested in neurotheology, start by reading one of Newberg's earlier books such as *Why God Won't Go Away*.

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