



Henry A. Nasrallah, MD
Editor-in-Chief

Psychiatry is as much anchored in the brain as its sister specialty neurology is

Let's tear down the silos and reunify psychiatry and neurology!

A century ago, neurology and psychiatry were one specialty, with unified training, a unified journal (*Archives of Neurology and Psychiatry*), and a unified board exam through the American Board of Psychiatry and Neurology.¹⁻³ Kraepelin, Alzheimer, Freud, and Meyer were all neuropsychiatrists who treated patients with all brain disorders—stroke, epilepsy, tertiary syphilis, psychosis, depression, and anxiety. Disorders of the “mind,” such as emotions, thought, or behavior, were rightfully regarded as manifestations of cerebral pathology, and research was based on that model.

That was the rational era, when disorders of the brain and its mind were integrated into one specialty.

Why did psychiatry and neurology drift apart?

Two answers to this question come to mind: 1) Freudian theory and psychoanalysis and 2) the inability to localize the brain “lesion” associated with psychiatric disorders.

Although Freud was a neurologist and psychiatrist, his psychodynamic formulation of human behavior was more speculative than empirical, and his psychoanalytic theory was not evidence-based (to be fair, almost all neurologic disorders lacked any treatment 100 years ago). Furthermore, neuropsychiatry did not have the sophisticated

brain assessment tools that are available today to physically localize disorders of thought, affect, or mood in the brain. Knowledge of neurochemistry, receptors, neurotransmitters, and brain circuits was nonexistent—let alone an understanding of molecular and cellular neurobiology. The “mind” was therefore divorced, so to speak, from its physical foundation, the brain, and mental illness was erroneously re-conceptualized as “psychological,” not neurological!

In the 1950s, the American Medical Association's *Archives of Neurology and Psychiatry* was split into *Archives of Neurology* and *Archives of General Psychiatry*. Since then, the two specialties have drifted apart and reduced to a minimum the overlap of their clinical, educational, and research emphases. Much has been lost over the past five decades because of the rupture of diseases of the human brain from diseases of the mind, which includes the most advanced functions of that brain.

The pendulum is swinging back

We are at a point at which advances in understanding of the neurological roots of mental disorders show that psychiatry is as much anchored in the brain as its sister specialty neurology is.^{4,7} For a list of reasons that explain why the reconciliation and reintegration of neurology and psychiatry are accelerating, visit this article at CurrentPsychiatry.com.

To comment on this editorial or other topics of interest, visit www.facebook.com/CurrentPsychiatry, or go to CurrentPsychiatry.com and click on the “Send Letters” link.



Editorial Staff

EDITOR **John Baranowski**
 MANAGING EDITOR **Erica Vonderheid**
 ASSOCIATE EDITOR **Hina Khaliq**

Art & Production Staff

CREATIVE DIRECTOR **Mary Ellen Niatas**
 ART DIRECTOR **Pat Fopma**
 DIRECTOR, JOURNAL MANUFACTURING
Michael Wendt
 PRODUCTION MANAGER **Donna Pituras**

Publishing Staff

PUBLISHER **Sharon J. Spector**
 MARKETPLACE ACCOUNT MANAGER
Linda Wilson
 DIRECTOR OF NEW MEDIA **Amy Park**
 CONFERENCE MARKETING MANAGER
Kathy Wenzler
 Subscription Services: (800) 480-4851

Editor-in-Chief Emeritus

James Randolph Hillard, MD

Quadrant HealthCom Inc.

PRESIDENT AND CEO **Marcy Holeton**
 EDITORIAL DIRECTOR **John Baranowski**
 VICE PRESIDENT, MULTICHANNEL CUSTOM
 SOLUTIONS **Margo Ullmann**
 VICE PRESIDENT, EVENTS **David Small**

Frontline Medical Communications

CHAIRMAN **Stephen Stoneburn**
 CFO **Douglas E. Grose**
 PRESIDENT, CUSTOM SOLUTIONS
JoAnn Wahl
 VICE PRESIDENT, CUSTOM PROGRAMS
Carol J. Nathan
 CORPORATE CIRCULATION DIRECTOR
Donna Sickles
 CORPORATE DIRECTOR, MARKETING
 & RESEARCH
Lori Raskin

FRONTLINE MEDICAL COMMUNICATIONS

7 Century Drive, Suite 302
 Parsippany, NJ 07054
 Tel: (973) 206-3434
 Fax: (973) 206-9378
 www.qhc.com

Published through
 an educational
 partnership with
 UNIVERSITY OF
Cincinnati

Scientific progress has essentially nullified the reasons that led to the separation of psychiatry and neurology. The road to reintegration is littered with obstacles, however—not the least of which is the stubborn “turfishness” that accumulated over decades of alienation. Clinicians and academicians on both sides are entrenched in their habits and beliefs, and will resist changes to their practice and cherished conceptual models. Why? Bridging the chasm will require new clinical training and revisions to educational and residency curricula.

I believe that the majorities on both sides of the chasm understand the merits of abandoning the fallacious dualism of brain and mind and of merging the two disciplines into the neuropsychiatric specialty that our revered founders upheld and practiced. In fact, neuropsychiatry and behavioral neurology disciplines, which emerged in the 1980s, represent the bridges that recognize the cerebral basis of psychiatric disorders and the psychiatric consequences of neurologic lesions.

Just as all ophthalmologists train as ophthalmologists and then subspecialize into corneal specialists, cataract specialists, vitreoretinal specialists, or neuro-ophthalmologists, so can psychiatrists and neurologists train in neuropsychiatry and then subspecialize to become epileptologists, psychosis specialists, vascular neurologists/neurointensivists, mood disorders specialists, neuromuscular specialists, anxiety experts, and so on. Patients will benefit, because every psychiatric patient deserves a full neurological assessment and treatment and every neurologic patient deserves a full psychiatric assessment and treatment.

The unification of diseases of the brain and diseases of the mind will lead to a higher quality of care and will diminish the stigma of mental illness. In addition, novel strategies for brain repair will advance therapeutics for all brain

disorders. Because neuropsychiatric disorders are the leading cause of burden of disease worldwide, early recognition and intervention, as well as prevention, are top public health priorities.

Call to action

The time has come to tear down the silos of neurology and psychiatry and reunify the disciplines, as they were 100 years ago.⁸ Forward-thinking medical schools should seriously consider this initiative and start moving to consolidate clinical brain disorders and mind disorders into one department. The American Board of Psychiatry and Neurology (which, fortunately, remained integrated during the decades of separation) would then revert to the days when board exam candidates were assessed on neurologic and psychiatric patients—as I was, when I sat for my oral boards.

The reintegration of psychiatry and neurology is good and necessary. It’s a no brainer!



Henry A. Nasrallah, MD
 Editor-In-Chief

References

1. Yudofsky SC, Hales EH. Neuropsychiatry and the future of psychiatry and neurology. *Am J Psychiatry*. 2002;159:1261-1263.
2. Boller F, Dalla Barba G. The evolution of psychiatry and neurology: Two disciplines divided by a common goal? In: Jeste DV, Friedman JH, eds. *Psychiatry for neurologists*. Totowa, NJ: Human Press, Inc.; 2006: 11-18.
3. Martin JB. The integration of neurology, psychiatry, and neuroscience in the 21st century. *Am J Psychiatry*. 2002;159:695-704.
4. Kandel ER. A new intellectual framework for psychiatry. *Am J Psychiatry*. 1998;155:457-469.
5. Schiffer RB, Bowen B, Hinderliter J, et al. Neuropsychiatry: a management model for academic medicine. *J Neuropsychiatry Clin Neurosci*. 2004; 16:336-341.
6. Lee TS, Ng BY, Lee WL. Neuropsychiatry: an emerging field. *Ann Acad Med Singapore*. 2008;37:601-605.
7. Reynolds CF, Lewis DA, Detre T, et al. The future of psychiatry as a nuclear neuroscience. *Acad Med*. 2009;84:446-450.
8. White PD, Richards H, Zeman HZ. Time to end the distinction between mental and neurological illnesses. *BMJ*. 2012;344(e3):4540.

Box

What developments are bringing neurology and psychiatry together again?

Several advances are driving the reconciliation and reintegration of the two disciplines:

- The **neuropharmacological revolution** in psychiatry and the discovery of medications that control the symptoms of psychosis and of mood and anxiety disorders

- The **explosive growth of neuroscience**, which was catalyzed and enhanced by sophisticated investigational techniques

- The **computerization revolution**, which has facilitated development of myriad neuroimaging techniques that reveal, in vivo, the multiple neurological and neuropathological abnormalities associated with psychiatric disorders

- Breakthrough **advances in molecular and cellular neurobiology**, which are linking behavior, thought, affect, and cognition with specific signaling pathways.

This has led to the scientific epiphany that psychiatric brain disorders cannot be localized (as neurologic brain disorders are) because they are caused by disrupted neural circuits and connectivity and are not localized in cortical or subcortical regions

- The **molecular genetics revolution**, which has revealed the complex genetics of psychiatric disorders, including risk genes, copy number variants, nonsense mutations, and epigenetics. With 50% of the 22,000 genes in the 23 pairs of human chromosomes involved in brain development, it isn't surprising that the neurogenetics of mental illness are mainly aberrations in neurodevelopment genes—just as most non-genetic factors disrupt normal brain development during fetal life

- The recognition, over the past 2 decades, that anomalies of neurochemistry and neuroplasticity are the underpinnings of psychiatric illness.