

Meymandi at Large



PSYCHOANALYSIS and NEUROSCIENCE —A Book Review

by Assad Meymandi, MD, PhD, DLFAPA

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This column is devoted to bridging the gap between basic sciences, medicine, the arts, and humanities.

Interest in dreams goes back to Sumerian recordings some 8,000 years ago. There are abundant references to dreams in Torah, the Bible, the Holy Quoran, and other celestial books, such as Avesta, the book of Zoroaster, written 500 BCE. But it was not until early last century, when Freud published his work on understanding and

interpreting dreams, that a firm connection between dream, memory, and “mental” history began to evolve.

Fast-forward the clock. Neuroscientific interest in dreams started in 1953 with the discovery of rapid eye movement (REM) sleep by Aserinsky and Kletman, taking psychophysiological findings of dream

into the realm of biology. There are many exciting discoveries in the area of psychoendocrinology of dream and memory coming out through many sources and laboratories both in the United States and abroad. In fact, an article by Mauro Mancia, the enormous sage of the Italian academia, neurobiologist, and psychoanalyst, was recently published in the *American Journal of Psychiatry* entitled, “The role of the interrelation between serotonin (5-HT), muramyl dipeptide, and interleukin-1 (IL-1) in sleep regulation, memory, and brain regulation.”

This brings me to one of my most recent reads: *Psychoanalysis and Neuroscience*, which was edited by Dr. Mancia. Dr. Mancia is Professor Emeritus of Neurophysiology, University of Milan, Italy, and Training Analyst of the Italian Psychoanalytical Society and has written extensively on the subjects of narcissism, dreams, sleep, memory, and the unconscious.

This particular work by Mancia, *Psychoanalysis and Neuroscience* [Springer, 436 pages, 2006] is organized into four parts that propose a link between neuroscientific knowledge and psychoanalytic theories of mind.

OVERVIEW

Part I—memories and emotions. Part 1 of the book consists of eight chapters written by experts in their respective fields and examines one basic message: Memories stand out and last longer when they are accompanied and highlighted by emotional experience. The message conveys the importance of interconnection of memory with emotions. With scientific detail and elaboration, the authors demonstrate the proteins in the amygdala and hippocampus are responsible for retention of

memories, which are parts of the limbic system that is, overall, responsible for housing emotions, denoting the common neuronal pathway for memory and emotions. It was Paul D. McLean in the 1940s, while mapping specific components of the limbic system, who invoked the romantic notion that the limbic system is “the anatomy of emotions.”

Part II—the shared emotions.

The second part of the book examines the sensorimotor side of “empathy pain,” the role of the anterior cingulate cortex in affective pain, and social cognition and response to embodied stimulation.

Part III—the dream. The third part of the book, which is perhaps the most exciting, deals with the dream in the dialogue between psychoanalysis and neuroscience. One chapter dissects the neurobiological and psychoendocrinological anatomy of dreams and memory formation. In recalling events of the past as practiced in psychoanalysis, the brain’s physiology and even anatomy and morphology stands to be changed. This part of the book reminded me of another significant book recently published, *Train your Mind, Change your Brain*, in which author Sharon Begley, a *Wall Street Journal* neuroscience reporter, showed how thinking can change the brain functionally and anatomically.

Part IV—the fetus and the newborn. Part IV discusses fetal behavior. While the word *embryology* is seldom used, the authors of these two chapters examine in detail the onset of human fetal behavior and the neurophysiologic impact and influence of nursing on the early organization of the infant mind.

DISCUSSION

With the knowledge that the basic instrument in the discipline of psychoanalysis is recall of memories, dreams, and transference, the 21 contributors to this book make a good case as to why there should not be a robust and constant conversation between psychoanalysts and neurophysiologists. It is time for these disciplines to learn about and from each other. The book’s contributors invite readers, in the most scholarly and convincing manner, to consider that psychoanalysis is a powerful reservoir of volumes of memories and should integrate resources with neurophysiology and enjoy the mutual fertile and rich products. It is the expressed purpose of the book to further elaborate and understand the relationship between memory, dreams, and neurobiological changes occurring during the experience and the course of psychoanalysis. This holy partnership is encouraged, and the

book’s contributors, like priests, are willing to bring about this holy matrimony to the world of science.

The downside of the book is that it is a rather difficult read, likely owing to the fact that it is a translated work. I do not know how much education on psychoanalysis and neurophysiology the translator, Mrs. Judy Baggott, has had. To a linguist, such as myself, who is conversant with a variety of Eastern and Romance languages, the slip of the translator shows fairly frequently. Her skirt should be longer! However, this minor flaw should not dissuade anyone from tackling this enormously informative and scholarly work.



AUTHOR

AFFILIATION: Dr. Meymandi is in private practice as a psychiatrist and neurologist and serves as an adjunct professor of psychiatry at the

University of North Carolina at Chapel Hill. He is a noted physician, editor, and philanthropist who frequently speaks and writes on diverse topics that relate to his interests in medicine, the arts, religion, and philanthropy. He lives in Raleigh with his wife Emily.

ADDRESS FOR CORRESPONDENCE:

Dr. Assad Meymandi, e-mail: emeymandi@nc.rr.com ●