

Minuchin, Haley, Benjamin, and Keisler; “psychoscience” developments from Fechner, Galton, and Wundt through Miller, Chomsky, Bandura, Beck, Ellis, and Kohlberg; psychoanalytic thinking from Freud through Kohut and Kernberg; and “personalogic” themes, from James through Millon, Cloninger, Wachtel, Gardner, Sternberg, and Linehan—among others. These broad themes are cross-cut by other dominating stories: the development of scientific thinking; asylums and the appreciation for human potential; classification of psychiatric disorders; brain science; studies of consciousness; and studies of thought, cognition, behavior, interpersonal relations, evolutionary theory, human adaptation, and more.

Literally hundreds of contributors through the ages are briefly showcased through mini-biographies and concise encapsulation of their legacies, and their major ideas are put into historical and intellectual context. You really come away with the sense that you’ve been standing on the shoulders of giants, and these individuals now have more of a human face and flavor.

We can only wish Dr. Millon many more years of fertile productivity. I personally hope that the next edition will continue to extend the “maps” and incorporate some of the late 20th century’s major contributors such as Edelman, Damasio, and others who did not make it into this magnificent work. That aside, this book begs to be used in far-ranging survey courses on the history of psychiatry or psychology, and it can be profitably read by anyone interested in visiting or revisiting the rich scholarly traditions of these professions.

A final note: one confirmation of its being a “labor of love” is the fact that the book is richly illustrated with scores of portraits of the luminaries it describes. The large majority of these portraits were actually created by Millon himself, clearly a graphic artist of considerable ability, with some contributions by one of his daughters, Carrie Millon. That’s really something.

JOEL YAGER, M.D.
Albuquerque, N.Mex.

Philosophy of the Brain: The Brain Problem, by Georg Northoff. Philadelphia, John Benjamins Publishing Co., 2003, 429 pp., \$119.00; \$81.95 (paper).

Georg Northoff is a German philosopher who decided to investigate the major philosophical questions of brain and mind by immersing himself in neuroscience and neuropsychiatry, including taking leave from his teaching and clinical duties in Magdeburg and Düsseldorf to visit “the Department of Neurology at Harvard University in Boston.” Apparently this is a departure from business as usual; so much philosophy remains aloof and abstract and does not deal with empirical neuromental parameters. Perhaps he made this departure because Northoff himself engaged in clinical investigation. The book cites a study (1) in which Northoff and his co-workers threw balls back and forth with 32 acute akinetic catatonic patients (an impressive number to have found) at the university psychiatric clinic in Frankfurt. Really, they did! They found a deficit in internal initiation and generation of movement, as in parkinsonism.

The present volume is organized in four chapters. In the first chapter Northoff deals with the “brain problem” in phi-

losophy, which, to put it bluntly, has been its neglect in favor of discussing mind. He creates the neologism “embedding,” a combination of embodiment and embeddedness, defined “by an intrinsic relationship between brain, body and environment” (p. 19), which are reciprocally dependent. Neurophilosophy is the investigation of philosophical theories in relation to neuroscientific hypotheses, and it can be phenomenal or cognitive, empirical or theoretical. The author says the brain has an epistemic inability to detect and recognize itself as a brain. The “autoepistemic limitation” means you have no first-person direct epistemic access to your brain states as brain states. What about fMRIs? This poses a challenge to philosophers, but a mock dialogue between a psychiatrist and a philosopher (p. 114) says you need a radiologist to help you. (What if you are a radiologist? What if you are a psychiatrist who reads journals like this one, which investigates brain imaging, and you set up mirrors to watch your own fMRI?)

Chapter 2 deals with epistemological issues under the headings spatial, temporal, mental, and reflexive embedding, the last being oddly termed “the own brain and other brains.” The third chapter advances a philosophy of the brain as both embedded and dynamic, engaged in event coding. Careful reading reveals that the term “dynamic” is not used here in the usual psychiatric sense of a system of drives in dynamic balance with repressive self-controls, or the unconscious struggling to become conscious, or conflict between agencies of mind. Rather, the picture is one of vector-to-vector transformations and self-organization familiar to neural network modelers. On page 292, Northoff discusses dynamic causation as involving changes rather than stationary moments, but the crucial component of *forces* seems to be omitted here, as it often is in cognitive psychology.

Psychoanalysis is mentioned twice in the book and psychodynamics twice. “Psychologically, blockade of integration between past and present feelings/emotions may be reflected in defence mechanisms, as described in psychodynamics” (p. 153). “Phenomenal judgment,” or conscious awareness, is “exploited in psychoanalysis” (p. 241). Emotions are seen as a paradigm for the convergence of environmental and bodily events. Consciousness is problematic:

Philosophers are always discussing “(mental) states” of consciousness, alertness and so forth. However, seen from the brain that is doing the job of creating consciousness, the (mental) state is ephemerical [sic]. When we look inside the brain we see no (mental) states, only constantly fluctuating scintillations of graded potentials and quickly flashing action potentials. (p. 190)

Northoff states that dynamic states are not neuronal states. They are constitutive for the co-occurrence of both neuronal and mental states. Nobody has detected a mental state by imaging, Northoff strictly rules.

The last chapter deals with the paradigm shift that is required by neurophilosophers, “as traditional philosophy is undermined and complemented” (p. 364). “The domain of philosophy consists no longer in the mind and the ‘philosophy of mind’ but rather in the brain and the ‘philosophy of the brain’ ” (p. 364).

Northoff puts every term he defines in quotes. This leads to pages full of terms in quotes. For example, “Epistemically, the

term 'event' is necessarily related to the context' [sic—missing open quotation mark] which reflects the 'environment' " (p. 232). At times it seems as if there is a concern with what the definition of "the" is. But I quibble. This is thoughtful work, and Northoff, like philosophers generally, is concerned with the definition of terms. There is also an impressive amount of reference to specific brain structures, for a philosophical text.

This may be an important book for philosophy. My own preference in neurophilosophy is the work of V.S. Ramachandran, M.D., Ph.D. His book, which I reviewed in the *Journal* (2), avoids a great deal of lucubration dwelling upon philosophical imponderables by simply designing brilliant experiments to provide answers. Northoff cites Ramachandran's work, but, in view of his theme of "embedment," I was surprised at his omission of Warren McCullough, the psychiatrist who in 1943 authored the seminal work in neural networks, reprinted in the book *Embodiments of Mind* (3).

References

1. Northoff G, Wenke J, Krill W, Pflug B: Ball experiments in 32 acute akinetic catatonic patients: deficits of internal initiation and generation of movements. *Mov Disord* 1995; 10:589–595
2. Forrest DV: Bk rev, VS Ramachandran, S Blakeslee: *Phantoms in the Brain: Probing the Mysteries of the Human Mind*. *Am J Psychiatry* 2000; 157:841–842
3. McCullough W: *Embodiments of Mind*. Cambridge, Mass, MIT Press, 1965, pp 19–39

DAVID V. FORREST, M.D.
New York, N.Y.

Emotions and Life: Perspectives for Psychology, Biology, and Evolution, by Robert Plutchik. Washington, D.C., American Psychological Association, 2002, 592 pp., \$59.95.

Emotions are a complex subject to explore in a single book. All animals experience emotions; although the emotions may be beyond self-awareness, they can influence the animals' behavior or that of animals around them. *Emotions and Life* is a textbook designed for students in psychology or graduate students studying the field of emotion. The author, Robert Plutchik, is a noted psychologist who has conducted extensive research and developed theories of emotions. He has published widely on the topic, and, in this volume, explores the evolution and biology of emotion.

"Life" in the title refers to this book's survey of emotions in all living creatures. The examination of emotions encompasses the evolution of emotions and its expression in different species, laying a framework for its empirical study in humans. The title may be a bit misleading, as it is much more a textbook than a clinical manual.

Reflected on the cover is Plutchik's psychoevolutionary theory of emotions. His experimental work (1) identified several emotions, such as fear, anger, and joy, as primary and postulated that all others were derived from these basic emotions. The emotional circle resembles the color wheel, with most emotions derived from combinations of the few primary emotions, which could be combined to form emotions of different intensities. He postulated that "primary emotions are identifiable, in some form, at all phylogenetic levels and that they have adaptive significance in the individual's struggle for survival" (1).

The first chapter is an overview of the "landscape of emotions." A framework is laid for the study of the ubiquitous, yet imprecise, use of the words that describe emotions. Emotions may organize cognitive processes or disorganize them, be active or passive, lead to adaptation, or be maladaptive. We may be conscious of our emotions or may be motivated by unconscious emotions. Some theorists divide emotions into positive and negative, while others disagree with this classification, believing that all emotions play an adaptive role.

Other chapters review historical influences, how emotions affect cognition, measurement techniques, emotional development, and emotions and the brain. The last two chapters review the emotional disorders and focus on love and sadness in everyday life.

One of the interesting controversies highlighted in this volume is the issue of which occur first, facial expressions of emotions or the emotional experience. Peripheral theories assume that feedback from facial expressions influences emotional states. In contrast, central theories postulate that facial expressions reflect inner feeling states. Finally, functional theories assume that facial expressions are communications that attempt to influence a social encounter regardless of inner feelings (p. 147).

Overall this book is an extensive compilation of evolutionary, anthropological, animal, and human studies related to the area of emotion. It is a comprehensive psychology textbook, with an emphasis on studies of emotions and a marginal reference to clinical work and implications. It would be an excellent reference for a graduate class in emotions but would be of more academic interest to a clinical graduate student or psychiatrist.

Reference

1. Plutchik R: *The Emotions: Facts, Theories, and a New Model*. New York, Random House, 1962

KATHRYN J. EDNIE, M.D.
Ann Arbor, Mich.

ASPECTS OF DEVELOPMENT

Developmental Psychobiology, edited by B.J. Casey, Ph.D. Washington, D.C., American Psychiatric Publishing, 2004, 176 pp., \$34.95 (paper).

It is increasingly recognized that events and experiences in childhood and infancy, and even in utero, can have medical consequences in later life. This is particularly true in psychiatry. Once the realm of Freud and his followers, the concept that early life experience can influence, if not cause, psychiatric problems in adulthood has recently been embraced by the antithesis of psychoanalysis, biological psychiatry. The embrace, still tentative, is strengthening as supporting evidence steadily accumulates. Animal studies have done much in this respect. Housing rats in solitary cages after weaning instead of in small groups results in the development of behavioral and physiological changes that bear substantial similarities to schizophrenia. The stress associated with frequent brief separations of neonatal rats from their mother can result in long-lasting "depressive" symptoms.