

Neurological foundations of cognitive neuroscience edited by Mark D'Esposito, The MIT Press, 5, Cambridge Center, Cambridge, MA 02142, USA, 2002, pp. 290, \$ 60.

Most advances in the broad field of neuroscience in recent years can be attributed to the use of molecular biology and sophisticated neuroimaging techniques (CT, MRI, fMRI, PET, SPECT). The importance of astute clinical observations and study of altered neurological and mental functions in brain-damaged patients, an unparalleled source of advancing our knowledge of human brain till recently, seem to be overshadowed by these more glamorous investigations. The present publication brings back the clinical studies of a heterogeneous group of neurological syndromes—neglect, amnesia, semantic dementia, dyslexia, aphasia, apraxia, etc.—to throw new light on brain function. Each chapter in this book is written by a neurologist who also practices cognitive neuroscience, a newly emerging discipline. The goal of this book is to consider normal cognitive processes based on neurobehavioural study of patients with well-defined brain lesions.

Each chapter begins with the clinical details of a patient presenting with a particular cognitive defect mentioned above. This includes the neurological, behavioural and psychological observations along with the electrophysiological and imaging studies carried out on such a patient. Based on the observations on a given patient, the author summarizes the information from similar well-documented cases in the literature thus precisely delineating a specific neurocognitive entity or syndrome.

The discussion that follows includes a historical perspective, followed by new insights gained from diverse techniques and technologies having a bearing on the subject. Thus information gained from personal and published researches on molecular, genetic, biochemical and pathological aspects relevant to the subject are correlated with the clinical observations. These are discussed in the light of the knowledge gained from modern neuroimaging investigations of various cognitive functions on normal human volunteers. Ultimately a comprehensive picture of the current knowledge on the neuroanatomical, neurophysiological and neurobehavioural basis of a particular cognitive function—e.g. attention, perception, memory, speech, body image, etc.—emerges. Each chapter then ends with suggestions for future researches on the subject in the light of some of the ill-understood aspects of the problem.

I found this book extremely interesting not only because of the unique manner of presentation but for the new insights it provides on some of the well-known clinical entities like aphasia, apraxia or agnosia, or the recently recognized syndromes like lateral prefrontal syndrome (a disorder of executive control). It convincingly establishes the value of evaluating cognitive functions in addition to the conventional neurological examination routinely practiced of brain-damaged patients. It weaves together a holistic picture based on information gleaned from reductionist approaches currently dominating brain research. I am in full agreement with the editor who points out in the preface, “many neurologists in training and in practice lack exposure to cognitive neuroscience. Similarly many cognitive neuroscientists lack exposure to the rich history of investigations of brain–behaviour relationships in neurological patients”. In addition to

neurologists the book should be of interest to psychologists, psychiatrists, basic neuroscientists and even philosophers interested in the brain–mind relationship.

Department of Neurosurgery
All India Institute of Medical Sciences
New Delhi 110 029, India
email: tandon@nbrc.ac.in

P. N. Tandon