

Foreword

Clinical neuropsychology, i.e. the study of patients with cognitive disorders due to lesions of the central nervous system, has been for many years the main or, in the case of language, the only source of knowledge about the neural basis of cognitive function. This state of affairs has considerably changed in the last two decades. The “cognitive revolution” has led to extensive developments in the modelling of cognitive functions in normal subjects. At the same time, modern functional imaging techniques have provided new opportunities for the investigation of brain activity in normal subjects engaged in cognitive tasks. These recent advances, together with other developments in the field of neurophysiology and experimental psychology, have played a crucial role in the inauguration of a new field of investigation, cognitive neuroscience. This increasing body of knowledge must be confronted, and whenever possible integrated, with the findings of clinical neuropsychology.

The aim of this book is to provide an introduction to cognitive neuroscience from a particular vantage point, i.e. as the “basic science” associated with the clinical practice of cognitive neurology. Cognitive neurology is the branch of clinical neurology dealing with the diagnosis and treatment of disorders of cognition and behaviour, associated to damage or dysfunction of the central nervous system. It thus corresponds to the sub-speciality which in the U.S. goes under the name of behavioural neurology: the choice of “cognitive” instead than “behavioural” is only intended to underline the choice of cognitive neuroscience as a theoretical framework.

The first section of the book is devoted to selective summaries of current models of cognitive functions and of their neurological underpinnings; the second considers diagnostic issues; the third part provides an overview of the most frequent clinical presentations, and attempts an integration with the first section; finally, the fourth section is devoted to treatment and management issues.

Of course, a single-author book in an active scientific field cannot pretend to be exhaustive; there are several excellent textbooks available for those interested in a more in-depth study of neuropsychology and cognitive neuroscience, and they are mentioned many times in the text. The aim of this introductory book is to provide a clinically-oriented introduction to this

complex area, which takes into account recent research aspects which are sometimes neglected in the medical literature.

It is a pleasure to acknowledge my debts to the many people who have shared their knowledge with me, and shaped my way of thinking about each of the multiple domains which are involved in clinical and cognitive neuropsychology.

In the first place, I would like to mention some of my teachers. In neuropsychology, the first names which come to my mind are Luigi A. Vignolo, Anna Basso, Luigi Pizzamiglio, Harold Goodglass, Edith Kaplan and Sue Corkin; in neuroimaging, Ferruccio Fazio and Richard Frackowiak. I have been lucky enough to have many wonderful co-workers: my own contributions to the field are the result of common work with Giuseppe Vallar, Daniela Perani, Giuliano Binetti, Antonio Miozzo, Alessandro Padovani and many others. My students in Milano and Brescia have been a source of continuous stimulation, through their enthusiasm, criticism and dissatisfaction with accepted wisdom. Finally, my family has been the source of motivation, and the provider of constant support, all along the way.

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