Behavioral Neurology of White Matter, The

This unique book examines the role of the brain's white matter in the organization of human mental function.

In contrast to standard textbooks of behavioral neurology and neuropsychiatry that emphasize the cortical and subcortical gray matter in brain-behavior relationships, this text specifically considers the white matter as a vital contributor to cognition and emotion. Written from a clinical perspective, this book is founded on the study of patients with neurobehavioral syndromes resulting from disorders primarily affecting the brain's white matter. These syndromes include white matter dementia, focal neurobehavioral syndromes, and a variety of neuropsychiatric syndromes. In the first part of the book, fundamental aspects of myelinated systems are covered to introduce white matter as an important structural and functional component of the brain. In Part II, a thorough review of white matter disorders at all ages is provided, particularly regarding their impact on normal mentation. Finally, Part III synthesizes the collected information into a coherent summary that presents a behavioral neurology of white matter. Throughout the book a major emphasis is placed on distributed neural networks, in which connecting white matter tracts complement the operations of gray matter structures in the production of the human behavioral repertoire.