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## Preface

Neuropsychological assessment has changed dramatically over the last half of the 20th century, continuing into the 21st century. These changes have occurred for a number of reasons, including scientific and technological progress in neurobiology, particularly in the area of neuroimaging and development of new neuropsychological assessment methods. However, another reason, and the one that stimulated the writing of this book, is the appearance of new syndromes and substantial rethinking about many syndromes that already existed. Individuals engaged in the practice of clinical neuropsychology since the earlier part of the 20th century have in recent years been likely to receive referrals for evaluation of disorders that did not exist when they began their careers. It is now not uncommon for neuropsychologists to receive referrals for testing such conditions as autoimmune deficiency syndrome (HIV-AIDS), multiple chemical sensitivities, chronic fatigue syndrome, exposure to potential neurotoxins such as depleted uranium, war-related injuries, and developmental disorders associated with neurotoxicity transmitted by mothers during pregnancy. It is now common to provide cognitive assessments for children with autism, which was originally considered to be an emotional disorder. While the traditional disorders such as stroke, brain trauma, multiple sclerosis, the dementing disorders, and learning disabilities continue to be evaluated, neuropsychologists in many settings are often asked to evaluate these new and newly conceptualized disorders if they have neurobehavioral consequences. Furthermore, disorders such as autism and schizophrenia that were typically evaluated within a psychopathological framework are now viewed as cognitive brain disorders that may benefit from neuropsychological assessment. The "biological revolution" in psychiatry, as well as providing a focus on behavior in neurology, has contributed substantially to these changes.

In determining the content of this book, three considerations were made. The first asked a question concerning the major new neurobehavioral disorders. What syndromes exist now that did not exist before the beginning of the 20th century? One answer that occurred to us was exposure to toxic agents that did not exist before the 20th century. New organisms evolve that may produce harm in the form of infection, and new substances may be created by humans that have neurotoxic effects. The AIDS and Legionella viruses may be examples of the first possibility, and depleted uranium and organophosphates are examples of the second. There are also disorders that simply appear or begin to be diagnosed for no apparent reason. It is not clear whether autism existed before the 20th century or whether it was simply recognized

as a disorder and diagnosed after it was identified as a distinct illness. Additionally, there are disorders associated with recently occurring unfortunate circumstances, notably posttraumatic stress disorder (PTSD) and the Gulf War syndrome.

The second question involved the matter of disorders already recognized but thought of differently from what was the case when they were originally identified. The clearest example of this development occurring in recent times is autism, which was originally considered to be an emotional disorder produced by distant, cold relationships with parents during early life but is now considered to be a neurobiological disorder, possibly with a genetic basis. We also think differently about the dementing diseases of the elderly, initially thinking that most of it was produced by cerebral vascular pathology and now thinking that most of it is associated with neuronal degeneration that apparently has a neurochemical basis.

A third question involved the circumstances in which neurobehavioral disorders were observed in individuals but were not fully understood. A large proportion of these disorders were developmental in nature and appeared early in life. It is now known that many of these conditions are toxicological disorders that are produced during pregnancy by mothers exposed to toxic substances such as methylmercury, or that emerge during the perinatal period, such as low birth weight. We now have an understanding of how conditions of this type may result in impaired cognitive development.

Additional issues were that contemporary neuropsychologists appear to have departed from traditional concerns with diseases that directly affect the brain, such as trauma, stroke, or dementia, and have developed an interest in broader health considerations. Also, from a research standpoint, there has been a growing interest in comorbidity among mental disorders or between mental and physical disorders, addressing the extremely common situation in which the patient has more than one illness.

In order to address these matters we tried to identify those individuals who had particularly authoritative knowledge and expertise in each of these areas. We now have important scientific research involving the new disorders, such as those investigated by the field of behavioral neurotoxicology, reconceptualized disorders mainly in the areas of autism and the dementias of the elderly, and the broadened scope of neuropsychology to include serious mental illness and the neurobehavioral consequences of systemic disease involving the whole body. We believe we have succeeded extremely well in achieving this goal by producing a book containing chapters by people who are unquestionably leaders in these new areas of neurobehavioral science. We are indebted to them for making their important contributions.

The editors are also indebted to two individuals who significantly supported the production of this book. Dr. Kevin Krug, Associate Professor of Psychology at Louisiana State University in Shreveport, performed multiple tasks involved with the coordination among contributors, the editors, and the publisher, located in places throughout the world, and keeping us all informed about the progress of the book and what needed to be done. Monica Setikas, a person with substantial editorial experience, voluntarily edited the text of each chapter, for which we are grateful and express our thanks. Dr. Goldstein acknowledges the support of

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