

# Preface

“Autism and the Brain” is an interdisciplinary study that provides neurophenomenological analysis of autism. It hypothesizes the brain networks involved in autism allowing a new understanding of why symptoms of autism go together and how they are connected to one another in a complex pattern that repeats itself in each autistic child.

In this book, introspections of high functioning autistic individuals (HFA), products of autistic savants (as a means of inferring their subjective experience), and behavioral descriptions of low functioning autistic individuals (LFA) are analyzed in connection with the function of various cortical and subcortical regions (and the networks they belong to).

The specific function of each particular region (network) is considered within the conceptual frame of human brain three-dimensional differentiation: *hierarchical* (low order–higher order function); *Left–Right Brain* (analytic–holistic information processing); *Posterior–Anterior Brain* (spatial–temporal organization of information).

Considering general principles of brain organization, together with the specific functions of the separate regions while explaining symptoms of autism, this work strives to overcome reductionism of modern neuroscience and arrive to a new cooperation linking phenomenology, psychopathology, and neuroscience.

The conducted neurophenomenological analysis gives rise to a new hypothesis of the brain pattern that underlies clinical manifestation of autism. The pattern includes the primary, fundamental brain abnormality, and secondary changes resulting from reorganization of brain functional systems in response to the primary deficit.

The book tracks the fundamental problem to part of the left hemisphere which is responsible for awareness of personal identity, self as *one* and apart from others. In this connection, the primary problem of autism is the problem of consciousness, of the self, not of cognition. Self as an agent is missing or underdeveloped.

This book offers a unique and original approach. It gives a panoramic view of autistic brain’s functioning. It defines the brain networks that explain the diversity

of the clinical manifestation of autism: from the low functioning autists to high functioning autists to autistic savants. On the other hand, it delineates autistic clinical-brain model—what is necessary and sufficient for diagnosis. This is important as at present we witness unjustified broadening of autistic-spectrum-disorder boundaries.

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