



The Other Brain: From Dementia to Schizophrenia, How New Discoveries about the Brain Are Revolutionizing Medicine and Science

By R. Douglas Fields

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Despite everything that has been written about the brain, a very important part of this vital organ has been overlooked in most books -- until now. *The Other Brain* is the story of glia, which make up approximately 85 percent of the cells in the brain. Long neglected as little more than cerebral packing material ("glia" means glue), glia are sparking a revolution in brain science.

Glia are completely different from neurons, the brain cells that we are familiar with. Scientists are discovering that glia have their own communication network, which operates in parallel to the more familiar communication among neurons. Glia provide the insulation for the neurons, and glia even regulate the flow of information between neurons.

But it is the potential breakthroughs for medical science that are the most exciting frontier in glia research today. Diseases such as brain cancer and multiple sclerosis are caused by diseased glia. Glia are now believed to play an important role in such psychiatric illnesses as schizophrenia and depression, and in neurodegenerative diseases such as Parkinson's and Alzheimer's. They are linked to infectious diseases such as HIV and prion disease (mad cow disease, for example) and to chronic pain. Scientists have discovered that glia repair the brain and spinal cord after injury and stroke. The more we learn about these cells that make up the "other" brain, the more important they seem to be.

Written by a neuroscientist who is a leader in the research to reveal the secrets of these brain cells, *The Other Brain* offers a firsthand account of science in action. It takes us into the laboratories where important discoveries are being made, and it explains how scientists are learning that glial cells come in different types, with different capabilities. It tells the story of glia research from its origins to the most

recent discoveries and gives readers a much more complete understanding of how the brain works and where the next breakthroughs in brain science and medicine are likely to come.

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Editorial Review

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For a hundred years, since Camillo Golgi developed an efficient method of studying brain tissue under the microscope, the specialized brain cells called neurons have been the de facto stars of neuroscience. With the capability for observing live electrical signals between neurons and their associated synapses, it has been assumed that neurons form the cellular wiring that houses the mind. Now, as researcher Fields illustrates in this fascinating overview of contemporary neuroscience, a new and equally vital team of costars in brain functionality is emerging: glial cells, or, simply, glia. Once deemed valuable only as “packing material” or nutritional support for neurons, glia are being recognized for their critical role in everything from childhood learning to mental illness. In 16 absorbing and accessible chapters, Fields gives life to a potentially dry medical topic by eavesdropping on the work of other neuroscientists, past and present, and shows how penetrating glia's secrets offers hope for breakthroughs in healing Alzheimer's, brain tumors, and even spinal cord injuries. Highly recommended, especially to science lovers and medical professionals. --Carl Hays

Review

“*The Other Brain* offers an insightful, complex, and nuanced picture of the most interesting substance on earth: the matter inside our heads.”

—Anthony Doerr, *The Boston Globe*

Users Review

From reader reviews:

Earl Hess:

In this period globalization it is important to someone to receive information. The information will make someone to understand the condition of the world. The condition of the world makes the information easier to share. You can find a lot of sources to get information example: internet, newspapers, book, and soon. You can see that now, a lot of publisher this print many kinds of book. The particular book that recommended for you is *The Other Brain: From Dementia to Schizophrenia, How New Discoveries about the Brain Are Revolutionizing Medicine and Science* this reserve consist a lot of the information with the condition of this world now. This particular book was represented how do the world has grown up. The terminology styles that writer use to explain it is easy to understand. Typically the writer made some research when he makes this book. Here is why this book ideal all of you.

Maria Smith:

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Lawrence Pomerleau:

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