



Histology of the Nervous System of Man and Vertebrates (History of Neuroscience, No 6) (2 Volume Set)

By S. Ramon y Cajal

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With the research summarized in this monumental two volume treatise, Santiago Ramon y Cajal founded modern neuroscience and thus joined Darwin and Pasteur as the leading biologists of the 19th century. Starting around 1887, Cajal refined a neurological staining method developed almost 15 years earlier by the Italian histologist Camillo Golgi, and applied it first to relatively orderly parts of the nervous systems like the cerebellum, spinal cord, and retina. The conclusions he drew about the organization of neural circuits were, however, diametrically opposed to those advocated by Golgi, spurring an acrimonious debate that lasted well after the two shared the Nobel Prize in 1906. Early on, Cajal concluded that neural circuits are made up of individual units or nerve cells and interact by way of contact, whereas Golgi believed that such circuits are formed by a reticulum or net of contiguous nerve cells. Cajal was the first to see how neurons interact in the brain, laying the foundation for what came to be known as the neuron doctrine. His second great contribution was the ability to predict the direction of information flow in neural circuits based strictly on morphological criteria: dendrites and soma form the input side of a neuron while the axon forms its output side. This became known as the functional polarity hypothesis.

Using these two foundation stones, Cajal went on to analyze systematically all parts of the mammalian nervous system, along with selected parts in all classes of vertebrates. A synthesis of that work, this volume, which is accompanied by **over 1,000 original illustrations**, is based almost entirely on personal observation and offers a wealth of factual, historical, and theoretical information.

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Editorial Review

Review

"While reading several sections from this present translation I have been repeatedly reminded of the advice I received from my Ph.D. mentor, Sir Wilfrid Le Gros Clark. 'The best advice I can give you is to always check what Cajal has said before you begin working on any part of the nervous system.' That was good advice in 1953; it served me well throughout my own career. It remains the best advice one can give to any neuroscientist. And now that his major work is available in this accessible form, it is advice that no one should ignore."--W. Maxwell Cowan, from the Foreword

"This long-awaited collection of the complete works of Ramon Y Cajal is a must for every library...the reader will be awestruck by the thoroughness of the author's studies; he has touched on nearly every aspect of the nervous system...for the first time, the complete works of this incredible scholar will be read (and reread)...a work every bit as important as those of Darwin, Watson and Crick, and Hodgkin, Huxley, and Katz."K.M. Susman, Vassar College

"This new translation of the classic work by Santiago Ramon y Cajal is a poignant reminder that histology need not be dull...This magnum opus represents a summary of 20 years of research by Cajal. Yet, rather than a mere description of structural relations, this work is a magnificent formulation of theories of interactions and interrelations...The volumes themselves are beautifully produced and faithfully illustrated. Clinical neurologists, neurosurgeons, and psychiatrists will enjoy and benefit from reviewing and reading this work, but perhaps every cellular or molecular neuroscientist should be required to read this classic."-- New England Journal of Medicine

"Who would be interested in this new translation? Any medical library without the original work certainly needs to acquire this English-language version. Anyone with the historical itch to examine neurohistology as it was known at the turn of the century will closely examine this work. Some neuroscientists have advised anyone who undertakes to study a specific cell type in the nervous system to begin by examining what Ramon y Cajal has to say on the subject"--Journal of the American Medical Association

"It is a book in which to gain an intimate acquaintance with an extraordinarily gifted, dedicated and original mind whose total involvement with the discovery, details and development of neurohistology and, perhaps most importantly, its functional interpretation, is communicated with clarity and excitement."--Trends in Neurosciences

Language Notes

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About the Author

S. Ramon y Cajal is at University of Madrid. Neely Swanson is at University of Southern California. Larry Swanson is at University of Southern California.

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