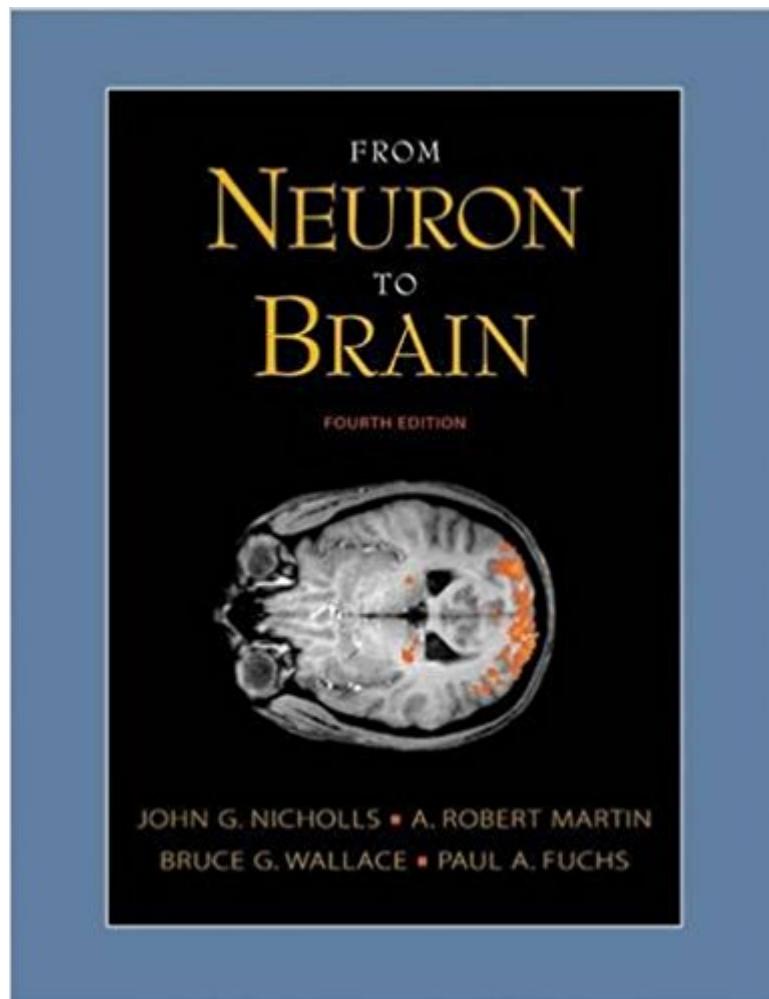


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# From Neuron To Brain: A Cellular And Molecular Approach To The Function Of The Nervous System, Fourth Edition



## Synopsis

In the 25 years since *From Neuron to Brain* was first published, the authors' aim has remained constant—to describe how nerve cells go about their business of transmitting signals, how the signals are put together, and how, out of this integration, higher functions emerge. The new Fourth Edition, while maintaining this focus, has been completely reformatted and updated. The emphasis, as before, is on experiments, and on the way they are carried out. Using a narrative approach, the authors follow a line from the original inception of a new idea to an account of research being done today. The wealth of new facts, techniques, and concepts, however, presented a challenge in keeping the book to a manageable size. Inevitably, the authors have had to delete descriptions of certain classical experiments. Largely in response to readers' comments, elements of format and presentation have been changed for this new edition—more headings have been introduced, the paragraphs are shorter, and the illustrations, now in full color, have been clarified. As in previous editions, references are cited throughout the text, and appendices are provided to help readers unfamiliar with the nervous system deal with essential facts and definitions. Intended for use in upper-level undergraduate, graduate, psychology, and medical school Neuroscience courses, *From Neuron to Brain* will be of interest to anyone, with or without a specialized background in biological sciences, who is curious about the workings of the nervous system. It presents a readable and coherent account of how cellular and molecular approaches can provide insights into the workings of the brain.

## Book Information

Hardcover: 679 pages

Publisher: Sinauer Associates; 4th edition (January 15, 2001)

Language: English

ISBN-10: 0878934391

ISBN-13: 978-0878934393

Product Dimensions: 11.4 x 8.7 x 1.2 inches

Shipping Weight: 3.9 pounds

Average Customer Review: 4.6 out of 5 stars [See all reviews](#) (18 customer reviews)

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## Customer Reviews

This highly readable textbook is probably the only one that has successfully dealt with the explosive growth of research and discovery in the exciting field of neuroscience. The 4th edition of the classic by Kuffler and Nicholls maintains the clear, logical and coherent presentation of its predecessors while keeping up with the latest work involving a range of techniques, from molecular genetics to functional MRI. The book's emphasis on the experimental and intellectual basis of knowledge in the field makes it ideal for graduate and advanced graduate students, even those with limited scientific background. It is doubtless no accident that the relatively compact new edition has kept the breadth and depth of earlier editions without becoming unwieldy. Its only real shortcoming is its hefty price, although it is still below most of the competition. It would be nice to see a paperback edition.

I am a physics graduate student who happen to become interested in neuroscience. I had been searching for an introductory book when I stumbled upon this one. Although I am only half-way through the book right now, I could already tell that it is exactly what a newcomer to this field would need. With the terminology clearly defined, the book gives a very concise, clear, and logic description on the fundamentals. It further keeps one's interest high by relating the fundamental knowledges to everyday experiences. What I like most about this book is that it does not shy away from pointing out what is not yet known. With the last chapter devoted to "open questions", it presents the real questions to be answered. This book is really perfect. Highly recommended.

This book is similar in format and style to Principles of Neural Science by Kandel, Schwartz, & Jessell. Nicholls book is half the length of Kandel's, yet just as good. Colored drawings & diagrams are laced throughout the text. It is strongest in auditory physiology, synaptic transmission, vision physiology, & neural development. Clear graphs and line-drawings of intracellular and extracellular recordings abound. Give this book its chance. It should be on the reading list for Medical & Graduate School.

This is an outstanding book - comprehensive, clearly written and beautifully produced, with many useful illustrations. It takes a bottom up approach, starting with the structure of ion channels and their proteins, and moves on to higher levels of structure and function. Because of the current state of knowledge it is necessarily much more detailed regarding the peripheral nervous system and sensory systems than it is regarding most areas of the central nervous system. You may be interested in "Phantoms in the Brain" by Ramachandran, a popular but very meaty book that takes

the complementary top down approach - starting with the mind as we experience it and looking at medical cases to see how it is constructed by the brain.

I'm a 3rd year graduate student in neuroscience, currently studying synaptic transmission with an electrophysiological approach. With biotechnology as an undergrad, let's just say my neurophysiology background was far from being strong. My PI recommended me this book a couple of weeks ago and I'm just loving it. The part on synaptic transmission (chapters 9 to 11) is simply great. I find things that I've read about MANY times before, on books like Kandel's, Fundamental Neuroscience, and many of the classic big textbooks, but none of them deals with this part as this one does. It's kind of the same issues but with a slightly different perspective, a perspective that I think you're able to appreciate more as you gain some experience in the field. Little details, certain experiments that you might have overlooked as a first year student, suddenly make all the sense. I don't think this is an overly simple book. It is really well written, and that's what I think makes it kind of reader-friendly but again, somehow it gets to deal with classical issues and concepts in a much deeper and USEFUL way (particularly for people actually working on this) than the great majority of other textbooks in this area. As I said in the title of my review, I wish I had learned about this book before, and that's the reason I'm writing this. Hope it helps :)

I am a first year graduate student "accidentally" entering the field of neuroscience. I needed a basic text to help me "catch up". This book has been wonderful! The authors' have a great writing style- easy to read. More importantly, the authors are expert at choosing and presenting important, basic aspects of neurobiology to inexperienced neuroscientists without bogging the reader down with unnecessary and confusing detail. In particular, the authors thoroughly discuss ion channels and their role in neuronal communication, presenting electrophysiology as a valuable tool for studying these channels. This text was "just right" for me. However, if you are an advanced "neuroscientist", this text might be a bit on the "simple" side.

It's a demanding book but useful. I bought the 4th edition Basics are there but neuroscience is a fast moving field so it's already out of date; needed to buy the later edition but the cost is prohibitive unfortunately.

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