Brain Architecture

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Now in its second edition, Brain Architecture is the continued exploration of how the brain works. At the very core of our existence, the brain generates our thoughts and feelings, directs our voluntary interactions with the environment, and coordinates all of the vital functions within the body itself. This long-overdue new edition explains this oftentimes daunting intricacy and exquisite detail. The first half of the book discusses the basic parts and how they work, presenting an overview of the nervous system at both the microscopic and macroscopic levels. The approach follows three classic lines of thought that proceed from simple to complex: the history of neuroscience research, the evolution of the nervous system, and the embryological development of the vertebrate central and peripheral nervous systems. The second half of the book outlines the basic wiring diagram of the brain and nervous system-how the parts are interconnected and how they control behavior and the internal state of the body. This is done within the framework of a new four-system network model that greatly simplifies understanding the structure-function organization of the nervous system. Written in clear and sparkling prose, beautifully illustrated, and thoroughly updated, Brain Architecture, Second Edition is must-read for anyone interested in the science of how the brain works.

Brain Architecture Details

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Christopher Benassi says

Very few people in the world could have created a text similar to Brain Architecture and Swanson happens to be one of those specialists within neuroscientists. I give him great credit for pioneering a simplified crash course into the genomic, structural, and molecular aspects of neurobiology spanning from the beginnings of its history. However, there were a few chapters that were of difficulty to read due to insufficient background knowledge or jagged structure/syntax. In the end, there were some great chapters, some okay chapters, and some I didn't especially like. However, credit must be given for creating a readable means to glimpse into the history and dynamics of a complex and changing field. Very few know and can present this general knowledge across multiple dimensions of the field.

RK-ïsme says

An excellent introduction to the brain, its development and some of its workings. The author leads the reader through each stage carefully and with enthusiasm. This is a man in love with his topic.

The book takes the reader from simple cells through ever more complex subject matter. The conscientious reader builds one idea on top of the other. The book is quite impressive even if my understanding of it was somewhat lacking at times due to a weakness of will.

This book would make an excellent text for an introductory course on the brain. I would love to see Swanson lecturing.

Jafar Isbarov says

"Most of us don't think much about our brain—let alone about how it works—until something goes wrong with it."

Maybe I had to revise my knowledge of neuroanatomy before reading this book, because after neglecting biology for a year some pages seemed to me as nothing more than incomprehensible anatomical details, importance of which I am unable to determine. However, I don't think my ignorance was only reason the book was so unreadable sometimes. Physiology is inexplicable without proper use of anatomy, that I fully understand. What I cannot understand is why Swanson felt such a terrible urge to opt for pictures of historical importance over more illustrative ones. Considering the amount of anatomy (although it was just several pages) and lack of good illustrations to accompany it, I think the very basic understanding of brain structure was taken for granted.

Having said that, this books is totally successful at its main purpose, outlining the basic structure of central nervous system. Author has accomplished nearly all that could be within such an obscure field. Actually what stroke me most about this book was how often it hit the bottom of human knowledge in such few pages. I have lost the number of times Swanson reminds the reader about our ignorance of the topic and possibility of never overcoming this ignorance completely. This becomes even more terrifying under the light of the fact

that, the book is meant to be an introduction, not even an original scientific work.

So was it worth to read? Absolutely yes. Did I learn what expected to? No, but I learned that unlike other fields of biology, neurophysiology directly opens to uncertainty and almost to the edge of scientific research.

Hunner says

Coming as somewhat of an amateur to the study of the brain specifically, but with an undergraduate degree in the life sciences.

This book seemed at times like an extensive table of contents; Swanson provides very brief overviews that use a good deal of vocabulary and overly specific names that can be quite intimidating and detract from the professed goal of providing a "basic plan." Where interesting and clever descriptions of the complex ideas being presented would have been welcome Swanson instead resorts, like most pop science writers, to providing complicated and specific examples and sometimes interesting but mostly irrelevant historical narratives.

I felt at times as though he was listing the same amount of information as you would find in a textbook whiled avoiding the difficult task of actually explaining it. Definitely not an introduction to the basic plan. Might work as a refresher for someone already immersed in the field.