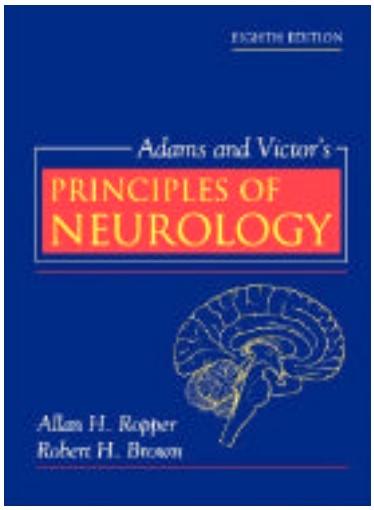
ADAMS AND VICTOR'S PRINCIPLES OF NEUROLOGY

BY ALLAN H. ROPPER AND ROBERT H. BROWN

Reviewed by: Saad Shafqat



Authors: Allan H. Ropper and Robert H. Brown

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One of the most popular textbooks of neurology, Adams and Victor's *Principles of Neurology* first appeared in 1977. Over the years, along with Brain's Diseases of the Nervous System and Merritt's *Textbook of Neurology*, it achieved iconic status as one of the three standard reference works in clinical neurology. Although in recent years, the multi-authored 2-volume *Neurology in Clinical Practice* is widely considered the definitive work, *Principles of Neurology* has continued to keep its place at the table of neurological references.

The reason for the book's popularity has been two-fold. It is a comprehensive overview of the subject, with systematic treatment of all major areas in neurology. Perhaps equally important, the book has been helped by the reputation of its authors, especially Dr. Raymond Adams, who became famous for developing Boston as a major center of clinical neurology in the 1960s and 70s.

Principles of Neurology has many strengths, and the publication of the 8th edition confirms that demand for this text is sustained, if not growing. Neurology is a transformed specialty from the time when the book first appeared, yet it is clear from the latest version that the effort has kept pace with changing times. The roots in classical neurology and the elaborate clinical descriptions are still there, but emerging information on the scientific foundations of disease has been integrated. Also retained are the limited authorship and the authoritative and declarative tone, but new knowledge - from modern developments in neuroimaging and molecular genetics to immunomodulation for multiple sclerosis and cutting-edge therapies for acute stroke - has been adequately accommodated. The core organization of the book based on a foolproof classification comprising six parts (clinical method, disease manifestations, growth and aging, major disease categories, spinal cord and peripheral neurology, and psychiatry) has stood the test of time. As Ropper and Brown state in the preface, “Time and knowledge have moved on in neurology, but these basic virtues are still to be emulated.”

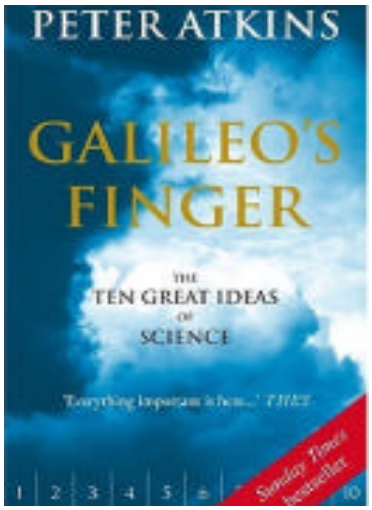
Purists will appreciate - if for no other reason than historical sentiment - that *Principles* remains a Boston effort. All four figures associated with the book - Adams, Victor, Ropper and Brown - are in fact strongly linked with the Massachusetts General Hospital, although in subsequent years the late Maurice Victor had moved to Dartmouth University and Allan Ropper left to join Tufts University. With the deference of disciples, Ropper and Brown point out that the book's “esteemed authors have ceded the authorship to two of their students.” Both Drs. Ropper and Brown are eminent figures in clinical neurology and neuroscience and their sterling contributions will easily carry *Principles* into the next phase of its life.

By spanning the classical and the modern, the 8th edition may be regarded as almost a unique work in neurology today. Whether you are looking for a bread-and-butter neurological question or an obscure eponymous entity, a lucid pathophysiologic treatment or instructions on contemporary management, this book provides the answer. These attributes make *Principles of Neurology* an essential presence on the bookshelves of trainees and practicing neurologists alike. It is also an ideal neurology reference for neurosurgeons and psychiatrists looking for a book that is comprehensive and commanding, yet remains engaging and accessible.

GALILEO'S FINGER: THE TEN GREAT IDEAS OF SCIENCE

BY PETER W. ATKINS

Reviewed by: Sohail A. Qureshi



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The title of this book is derived from the middle finger of Galileo Galilei dissected some 100 years after his death which is on display at the Museum of the History of Science in Florence, Italy. The finger sits in a glass jar pointing upwards and while it might offer a horrific sight for some, most Westerners are said to honor and admire this part of the great astronomer, mathematician and physicist who introduced the scientific method in an era dominated by armchair speculation. Atkins uses the finger as a symbol to emphasize his ten illuminating ideas of science which have provided the basis for myriad technological advancements.

Despite the fact that Dr. Atkins in a Professor Chemistry at Oxford University, he has chosen his ten great ideas carefully without much bias (only two ideas are from his own area of expertise). The reader can disagree with why some ideas were included and others left out.

The first chapter is on evolution. Here the contributions of Charles Darwin are discussed in detail along with those of his contemporaries such as Alfred Russel Wallace and Thomas Huxley. A few pages have also been dedicated to hominoid evolution. Referring to the inferior design of the human eyeball as compared that of the squid or octopus the author tells us that "evolution does not necessarily lead to greater sophistication" and that its course is completely unpredictable. Parts of this chapter are dry and contain more detail than is really necessary.
This is followed by an enlightening essay on DNA which opens with the line "Each of us is about a hundred trillion selves". After shedding some light on Mendel's work, information about the various aspects of the central dogma of molecular biology used to describe the flow of genetic information is imparted. We are also told about technologies such as genetic engineering, polymerase chain reaction (PCR), and automated high-throughput DNA sequencing which have collectively enabled scientists to decipher the arrangement of the entire human genome.

The third chapter is on energy and is relatively short. As expected, it is impossible to talk about energy without referring to Sir Issac Newton, born the year Galileo died and considered to be one of the greatest scientists of all time; his three laws of motion from which classical mechanics was born are expounded. Towards the end Atkins coyly informs us that "the conservation of energy, the law that appears to have absolutely no exceptions, has exceptions."

Entropy, referred to non-scientifically as "disorder", represents the fourth great idea of science. This chapter can be heavy reading for someone who does not have a science background but using steam engines, sneezes, and cooked eggs as examples the author makes his points clear that "the world is getting worse, that it is sinking purposelessly into corruption."

The subsequent three chapters on atoms, symmetry, and quantum theory are somewhat dry and probably represent the dullest part of the book. There is a tremendous amount of valuable information in these pages but one has to sift through it slowly and carefully, going back and forth to follow the discussion. Encouragingly, interesting stories are told about the Greeks and the discoveries of intellectual giants like Dimitri Mendeleev, J. J. Thompson, Neils Bohr, Ernest Rutherford, Werner Heisenberg, Erwin Schrödinger, and Albert Einstein, are presented in a simplified manner.

Anyone interested in cosmology should enjoy reading the next essay for it mentions everyone from Copernicus to Edwin Hubble to Stephen Hawking, and explains succinctly the basic concepts about galaxies, planetary motion, sun, back holes, Big Bang, and the Big Crunch to the inquisitive mind.

Followers of Einstein are then treated to a luxurious discussion of spacetime. The nuts and bolts of the special theory of relativity are discussed in considerable detail together with the intriguing conclusion that time, which represents the fourth dimension, is not always constant.

"One of the finest creations of the human mind is mathematics" and this fascinating subject is the last of the ten great ideas of science. Here the logic and beauty associated with numbers is revealed and the concept of infinity dealt with cautiously. For those of us who are numerically challenged, it is comforting to know that there are a bevy of mathematical equations and problems out there which don't have solutions.

Galileo's Finger is two thumbs up! Like a seasoned writer and a crystal clear thinker, Atkins attempts to take the reader through a journey of complex scientific concepts that have impacted our lives and makes it his mission to simplify them for the average mind. The fact that he succeed is a remarkable achievement. This book is a repository of useful information which should serve as excellent reading material for anyone who is even remotely interested in science.