Normal Pressure Hydrocephalus: Pathophysiology — Diagnosis — Treatment. By Michael J. Fritsch, Uwe Kehler, and Ullrich Meier. New York, NY: Thieme Publishing Group; 2014. US $143.31 (Hardcover). 204 pp. ISBN: 3131646012.

With the exception of some texts directed to patients and families, Normal Pressure Hydrocephalus: Pathophysiology — Diagnosis — Treatment represents the first dedicated on normal pressure hydrocephalus (NPH), a condition that the authors find important due to its similarities in presentation to neurodegenerative disorders such as Alzheimer’s disease. The authors assert that a full textbook dedicated to differential diagnosis and treatment of NPH is imperative due to the viable treatment options that exist.

The authors have significant experience with NPH: Most are specialized clinicians who have treated patients with this diagnosis and all have taught courses on NPH in conjunction with the Aesculap Academy since 2009. Also, they are affiliated with a developer and engineer of neurosurgical products, Cristoph Miethke, who is a contributor to the text and dedicates a few pages to his proGAV and proSA valves.

Much of the first half of the book focuses on introducing medical professionals to NPH. The authors include brief summaries of peer-reviewed publications involving participants with NPH, discuss the classical clinical presentation of the disorder, and comment on differential diagnosis. They dedicate two chapters to the diagnostic process itself, including both non-invasive and invasive components. This section concludes with a full-page, colored diagnostic decision tree that guides readers through steps from suspected NPH to shunt placement. Some of the discussion that follows about shunt mechanics may be tedious for readers with less familiarity with physics, but colored schematics accompany the text and illustrate the basic principles to consider in shunt placement. The closing chapters address shunt complications and serve as a key resource for troubleshooting clinical issues.

Overall, the text is recommended as a reference for medical professionals interested in the differential diagnosis of NPH and for those considering specializing in this disorder. Physicians will gain the most from the introductory and concluding chapters.

Allison Mesa
Department of Communication Disorders
Southern Connecticut State University

The Nostalgia Factory. By Douwe Draasima, with Liz Waters (translator). New Haven, CT, and London, England: Yale University Press; 2013. US $20 (paperback). 144 pp. ISBN 978-0300205398.

With a style that is informative without being overwhelmingly scientific, The Nostalgia Factory provides an enlightening view into the aging mind, and reassuring knowledge to those who feel that their minds are not what they once were. Douwe Draasima takes a multidisciplinary approach to examining the changes to memory that occur with age. In each chapter, he discusses a different aspect of aging and memory, from the complaints of the elderly mind, to the tricks and games sold to appease a fear of dementia, and to the reminiscences most likely to be encoded and replayed. His brief descriptions of scientific studies are complemented by anecdotes and interviews that place a younger reader into the reminiscent state of an older mind, and placates the older mind with reassurances that it is not alone in its experiences.

Draasima focuses on not only the increased tendency to forget daily tasks and “to-dos,” but the “parabolic pattern” of memory that describes the tendency of older brains to connect normal, daily occurrences with long-dormant memories. Parabolic memory comes up time and again as he explains the trope of loquacious grandparents and the histories of nostalgia and homesickness. It surfaces again as Draasima discusses the joy brought to the aging mind by the resurfacing of childhood, and in his interview with Oliver Sacks, 72, whose childhood memories and experience with the parabolic pattern of memory were the focus of both his autobiography and the interview. The Nostalgia Factory is an appealing read for scientists and nonscientists alike, and for readers throughout the stages of memory described by Draasima.

Erica Gorenberg
Interdepartmental Neuroscience Program
Yale University School of Medicine

Principles of Neurobiology. By Liqun Luo. New York, NY: Garland Science; 2015. US $135 (paperback). 684 pp. ISBN: 9780815344926.

Principles of Neurobiology offers a comprehensive introduction to a rapidly evolving and multifaceted field of life science. Written after two decades of teaching experience at Stanford University, the text is intended for upper-level undergraduate and graduate students. It explicitly caters to students from a diversity of scientific backgrounds, including engineering and physical sciences, which is a prescient decision as these fields are increasingly intersecting with neuroscience.

The textbook includes several unique features. One is instead of structuring the text around traditional subdivisions in neuroscience, (e.g. molecular, cellular, systems, etc.) the chapters are centered around multidisciplinary questions. - For example, one chapter is devoted to the neuroscience of sex that elucidates a detailed history of behavioral, genetic, cellular, and biochemical experiments on mating behavior in Drosophila and mammals. Luo also provides extensive figures and citations — no fewer than four figures of Drosophila copulation dot this chapter. The approach is appreciated, as it focuses on answering and understanding critical questions in neuroscience, rather than simply listing facts for memorization.
Echoing Theodosius Dobzhansky’s famous maxim, “Nothing in Biology Makes Sense Except in the Light of Evolution,” the text also concentrates on the evolutionary foundation of neurological systems. For instance, the chapter on the visual system contains an excellent description of how trichromacy evolved in old-world primates from duplications in opsin genes, tying together the evolutionary origins of these molecules to their biochemical functions. Moreover, unlike many other alternatives, the textbook dedicates an entire chapter to the evolution of the nervous system — a subject that, in the authors’ experience, tends to be glossed over or omitted in introductory neuroscience courses. This chapter is especially well-written, with a prelude on phylogenetic methods and subsequent sections on the evolution of sensory organs, neuroanatomical structures, and chemical communication in the nervous system.

The book’s final chapter explores research methods, including transgenics, behavioral models, CRISPR-Cas9, optogenetics, and electrophysiology, taking great care to remain up-to-date by citing recent studies. Text features also include copious references to primary literature, online supplements containing figures in PowerPoint, and paper suggestions for journal clubs. These resources may prove helpful to rotating graduate students and undergraduates in neuroscience laboratories.

In conclusion, *Principles of Neurobiology* provides a thorough overview of an array of neurobiological subfields, with a structure emphasizing methodology and discovery. Its organization based on broad questions, well-conceived figures and diagrams, and extensive usage of primary literature are particularly noteworthy. Overall, Luo’s text is a strong choice for undergraduates and graduate students whose research requires a background in neurobiology.

Linna Duan
Yale University School of Medicine
Eric Mukherjee
Perelman School of Medicine
University of Pennsylvania