# ANNOTATED BIBLIOGRAPHY

This is a select list of references with some commentary to help the learner choose additional learning resources about the structure, function, and diseases of the human brain.

The perspective is for medical students and practitioners not involved with neurology, as well as those in related fields in the allied health professions. The listing includes texts, atlases, and videotapes, as well as Web sites and CD-ROMs.

## TEXTS AND ATLASES

This listing includes neuroanatomical textbooks and atlases, as well as clinical texts; recent publications (since 2000) have been preferentially selected.

### Neuroanatomical Texts

Afifi, A.K. and Bergman, R.A., *Functional Neuroanatomy Text and Atlas*, 2nd ed., Lange Medical Books, McGraw-Hill, New York, 2005.

This is a neuroanatomical text with the addition of functional information on clinical syndromes. A chapter on the normal is followed by a chapter on clinical syndromes (e.g., of the cerebellum). The book is richly illustrated (in two colors) using semi-anatomic diagrams and MRIs. Each chapter has key points at the beginning and terminology for that chapter at the end. It is a pleasant book visually and quite readable. There is an atlas of the CNS at the end, but it's not in color, and also several brain MRIs.

Arslan, O., *Neuroanatomical Basis of Clinical Neurology*, Parthenon Publishing, New York and London, 2001.

A traditional neuroanatomical textbook with many references to clinical disease entities (set in blue boxes). The text is nicely formatted, and there are many illustrations, photographs, histological sections, and diagrams (in two colors).

Carpenter, M.B., *Core Text of Neuroanatomy*, 4th ed., Williams and Wilkins, Baltimore, 1991.

This "classic" textbook by a highly respected author presents a detailed description of the nervous system, from the perspective of a neuroanatomist. A more complete version is also available as a reference text — Carpenter's Human Neuroanatomy, (1995), now with A. Parent as the author.

Fitzgerald, M.J.T. and Folan-Curran, J., *Clinical Neuroanatomy and Related Neuroscience*, 4th ed., Saunders, Philadelphia, 2002.

The authors have attempted to create an integrated text for medical and allied health professionals, combining the basic neuroscience with clinical entities. The book is richly illustrated, in full color, with large appealing explanatory diagrams and some MRIs, but there are few actual photographs. The clinical syndromes are in boxes accompanied by illustrations. A glossary has been added.

Haines, D.E., *Fundamental Neuroscience,* 2nd ed., Churchill Livingstone, Philadelphia, 2002.

This edited large text, with many color illustrations, is an excellent reference book, mainly for neuroanatomical detail.

Kandel, E.R., Schwartz, J.H., and Jessell, T.M., *Principles of Neural Science*, 4th ed., McGraw-Hill, New York, 2000.

This thorough textbook presents a physiological depiction of the nervous system, with experimental details and information from animal studies. It is suitable as a reference book and for graduate students.

Kiernan, J.A., *Barr's The Human Nervous System*: *An Anatomical Viewpoint*, 8th ed., Lippincott, Williams & Wilkins, Baltimore, 2005.

This new edition of Barr's book is a neuroanatomical textbook, now with added color, as well as clinical notes (in boxes) and MRIs. It is clearly written, clearly presented, and includes a glossary. There is an accompanying CD-ROM with questions and expanded versions of certain chapters.

Kolb, B. and Whishaw, I.Q., *Fundamentals of Human Neuropsychology*, 4th ed., W.H. Freeman and Co., New York, 1996.

A classic in the field and highly recommended for a good understanding of the human brain in action. Topics discussed include memory, attention, language, and the limbic system.

Martin, J.H., *Neuroanatomy: Text and Atlas*, 3rd ed., McGraw-Hill, New York. 2003.

A very complete text with a neuroanatomical perspective and accompanied by some fine (two-color) explanatory illustrations, written as the companion to Kandel et al. The material is clearly presented, with explanations of how systems function. A detailed atlas section is included at the end, as well as a glossary of terms.

Nolte, J., *The Human Brain*, 5th ed., Mosby, St. Louis, 2002.

This is a new edition of an excellent neuroscience text, with anatomical and functional (physiological) information on the nervous system, complemented with clinically relevant material. The textbook includes scores of illustrations in full color, stained brainstem and spinal cord cross-sections, along with three-dimensional brain reconstructions by John Sundsten. A glossary has been added.

Steward, O., *Functional Neuroscience*, Springer, Berlin, 2000.

According to the author, this is a book for medical students that blends the physiological systems approach with the structural aspects. The emphasis is on the "processing" of information, for example, in the visual system. Chapters at the end discuss arousal, attention, consciousness, and sleep. It is nicely formatted and readable.

Williams, P. and Warwick, R., *Functional Neuroanatomy of Man,* W.B. Saunders, Philadelphia, 1975.

This is the "neuro" section from *Gray's Anatomy*. Although somewhat dated, there is excellent reference material on the central nervous system, as well as the nerves and autonomic parts of the peripheral nervous system. The limbic system and its development are also well described.

Wilson-Pauwels, L., Akesson, E.J., and Stewart, P.A., *Cranial Nerves: Anatomy and Clinical Comments*, B.C. Decker, Toronto, 1988.

A handy resource on the cranial nerves, with some very nice illustrations. It is relatively complete and easy to follow.

## Neuroanatomical Atlases

DeArmond, S.J., Fusco, M.M., and Dewey, M.M., *Structure of the Human Brain: A Photographic Atlas*, 3rd ed., Oxford University Press, Oxford, 1989.

An excellent and classic reference to the neuroanatomy of the human CNS. No explanatory text and no color.

England, M.A. and Wakely, J., *Color Atlas of the Brain and Spinal Cord*, Mosby, St. Louis, 1991.

A very well illustrated atlas, with most of the photographs and sections in color. Little in the way of explanatory text.

Felten, D.L. and Jozefowicz, R.F., *Netter's Atlas of Human Neuroscience*, Icon Learning Systems, Teterboro, NJ, 2003.

The familiar illustrations of Netter on the nervous system have been collected into a single atlas, each with limited commentary. Both peripheral and autonomic nervous systems are included. The diagrams are extensively labeled.

Haines, D., *Neuroanatomy: An Atlas of Structures, Sections and Systems*, 6th ed., Lippincott, Williams and Wilkins, Baltimore, 2004.

A popular atlas that has some excellent photographs of the brain, some color illustrations of the vascular supply, with additional radiologic material, all without explanatory text. The histological section of the brainstem is very detailed. There is a limited presentation of the pathways and functional systems, with text. This edition comes with a CD-ROM containing all the illustrations, with some accompanying text.

Netter, F.H., *The CIBA Collection of Medical Illustrations*, Volume 1, Part 1, CIBA, Summit, NJ, 1983.

A classic. Excellent illustrations of the nervous system, as well as of the skull, the autonomic and peripheral nervous systems, and embryology. The text is interesting but may be dated.

Nieuwenhuys, R., Voogd, J., and van Huijzen, C., *The Human Central Nervous System*, Springer Verlag, Berlin, 1981.

Unique three-dimensional drawings of the CNS and its pathways are presented, in tones of gray. These diagrams are extensively labeled, with no explanatory text.

Nolte, J. and Angevine, J.B., *The Human Brain in Photographs and Diagrams*, 2nd ed., Mosby, St. Louis, 2000.

A well illustrated (color) atlas, with text and illustrations, and neuroradiology. Functional systems are drawn onto

the brain sections with the emphasis on the neuroanatomy; the accompanying text is quite detailed. Excellent three-dimensional brain reconstructions by J.W. Sundsten.

Woolsey, T.A., Hanaway, J., and Gado, M.H., *The Brain Atlas: A Visual Guide to the Human Central Nervous System*, 2nd ed., Wiley, Hoboken, NJ, 2003.

Part II of the book is a complete pictorial atlas of the human brain, with some color illustrations and radiographic material. Parts III and IV consist of histological sections of the hemispheres, brainstem, spinal cord, and limbic structures. Part V presents the pathways, accompanied by some explanatory text.

## Clinical Texts

Aminoff, M.J., Greenberg, D.A., and Simon, R.P., *Clinical Neurology*, 6th ed., Lange Medical Books/McGraw-Hill, New York, 2005.

If a student wishes to consult a clinical book for a quick look at a disease or syndrome, then this is a suitable book of the survey type. Clinical findings are given, and investigative studies are included, as well as treatment. The illustrations are adequate (in two colors), and there are many tables with classifications and causes.

Asbury, A.K., McKhann, G.M., McDonald, W.I., Goodsby, P.J., and McArthur, J.C., *Diseases of the Nervous System: Clinical Neurobiology*, 3rd ed., Cambridge University Press, Cambridge, 2002.

A complete neurology text, in two volumes, on all aspects of basic and clinical neurology and the therapeutic approach to diseases of the nervous system.

Donaghy, M., *Brain's Disease of the Nervous System*, 11th ed., Oxford University Press, Oxford, 2001.

A very trusted source of information about clinical diseases and their treatments.

Fuller, G. and Manford, M., *Neurology*: *An Illustrated Colour Text*, Churchill Livingstone, London, 2000.

A concise explanation of select clinical entities is presented, with many illustrations (in full color); not a comprehensive textbook. The large format and presentation make this an appealing but limited book.

*Harrison's Principles of Internal Medicine*, 16th ed., Kasper, D.L., Braunwald, E., Fauci, A.S., Hauser, S.L., Longo, D.L., and Jameson, J.L., Eds, McGraw-Hill, New York, 2005.

Harrison's is a trusted, authoritative source of information, with few illustrations. Part 2 in Section 3 (Volume I) has chapters on the presentation of disease; Part 15 (Volume II) is on all neurologic disorders of the CNS, nerve and muscle diseases, as well as mental disorders. The online version of Harrison's has updates, search capability, practice guidelines, and online lectures and reviews, as well as illustrations.

Ropper, A.H. and Brown, R.H., *Adams and Victor's Principles of Neurology*, 8th ed., McGraw-Hill, New York, 2005.

A comprehensive neurology text — with part devoted to cardinal manifestations of neurologic diseases and part to major categories of diseases.

Rowland, J.P., *Merritt's Neurology*, 11th ed., Lippincott, Williams and Wilkins, Baltimore, 2005.

A well-known, complete, and trustworthy neurology textbook, now edited by L.P. Rowland.

Royden-Jones, H., *Netter's Neurology*, Icon Learning Systems, Teterboro, NJ, 2005.

Netter's neurological illustrations have been collected in one textbook, with the addition of Netter-style clinical pictures; these add an interesting dimension to the descriptive text. There is broad coverage of many disease states, though not in depth, with clinical scenarios in each chapter. It is now available with a CD-ROM.

## Pediatric Neurology

Fenichel, G.M., *Clinical Pediatric Neurology*, W. B. Saunders, Philadelphia, 2001.

This book is recommended for medical students and other novices by a highly experienced pediatric neurologist as a basic text with a clinical approach, using signs and symptoms.

## Neuropathology

### Robbin's Neuropathology

*Robbins and Cotran Pathologic Basis of Disease*, 7th ed., Kumar, V., Abbas, A.K., and Fausto, N., Eds, Elsevier Saunders, Philadelphia, 2005.

A complete source for information on all aspects of pathology for learners, including neuropathology. Purchase of the book includes a CD-ROM with interactive clinical cases, and access to the Web site.

*Robbins Basic Pathology*, 7th ed., Kumar, V., Cotran, R.S., and Robbins, S.L., Eds, Saunders, Philadelphia, 2003.

Not as complete as the other text (above).

## WEB SITES

Web sites should only be recommended to students *after* they have been critically evaluated by the teaching faculty. If keeping up with various teaching texts is difficult, a critical evaluation of the various Web resources is an impossible task for any one person. This is indeed a task to be shared with colleagues, and perhaps by a consortium of teachers and students.

Additional sources of reliable information on diseases are usually available on the disease-specific Web site maintained by an organization, usually with clear explanatory text on the disease and often accompanied by excellent illustrations.

The following sites have been visited by the author, and several of them are gateways to other sites — clearly not every one of the links has been viewed. Although some are intended for the general public, they may contain good illustrations or other links.

The usual www precaution prevails — look carefully at who created the Web site and when.

One additional piece of advice — a high-speed connection is a must for this exploration.

### Society for Neuroscience

http://web.sfn.org/

This is the official Web site for the Society for Neuroscience, a very large and vibrant organization with an annual meeting attended by more than 30,000 neuroscientists from all over the world.

The Society maintains an active educational branch, which is responsible for sponsoring a Brain Awareness Week aimed at the public at large and, particularly, at students in elementary and high schools. The following are examples of their publications.

### Searching for Answers: Families and Brain Disorders

This four-part DVD shows the human face of degenerative brain diseases. Researchers tell how they are working to find treatments and cures for Huntington''s disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), and Alzheimer's disease. Patients and families describe the powerful physical, emotional, and financial impact of these devastating disorders.

### Brain Facts

*Brain Facts* is a 52-page primer on the brain and nervous system, published by the Society for Neuroscience. It is a starting point for a general audience interested in neuroscience. This newly revised edition of *Brain Facts* is available in print and in pdf format. The new edition updates all sections and includes new information on brain development, addiction, neurological and psychiatric illnesses, and potential therapies.

### Digital Anatomist Project

http://www9.biostr.washington.edu/da.html

***Brain Atlas***: The material includes two-dimensional and three-dimensional views of the brain from cadaver sections, MRI scans, and computer reconstructions. Authored by John W. Sundsten.

***Neuroanatomy Interactive Syllabus***: This syllabus uses the images in the Atlas (above) and many others. It is organized into functional chapters suitable as a laboratory guide, with an instructive caption accompanying each image. It contains three-dimensional computer graphic reconstructions of brain material; MRI scans; tissue sections, some enhanced with pathways; gross brain specimens and dissections; and summary drawings. Chapters include Topography and Development, Vessels and Ventricles, Spinal Cord, Brainstem and Cranial Nerves, Sensory and Motor Systems, Cerebellum and Basal Ganglia, Eye Movements, Hypothalamus and Limbic System, Cortical Connections, and Forebrain and MRI Scan Serial Sections. Authored by John W. Sundsten and Kathleen A. Mulligan.

Institution: Digital Anatomist Project, Department of Biological Structure, University of Washington, Seattle.

Atlas was formerly available on CD-ROM (JAVA program running on Mac and PC platform).

### BrainSource

http://www.brainsource.com/

BrainSource is an informational Web site aimed at enriching professional, practical, and responsible applications of neuropsychological and neuroscientific knowledge. The Web site is presented by neuropsychologist Dennis P. Swiercinsky.

The site includes a broad and growing collection of information and resources about normal and injured brains, clinical and forensic neuropsychology, brain injury rehabilitation, creativity, memory and other brain processes, education, brain-body health, and other topics in brain science. BrainSource is also a guide to products, books, continuing education, and Internet resources in neuroscience.

This Web site originated in 1998 for promotion of clinical services and as a portal for dissemination of certain documents useful for attorneys, insurance profession-

als, students, families and persons with brain injury, rehabilitation specialists, and others working in the field of brain injury. The Web site is growing to expand content to broader areas of neuropsychological application.

### Diseases and Disorders

http://www.mic.ki.se/Diseases/C10.html
This site was created by the Karolinska Institute University Library and contains links pertaining to Nervous System Diseases. It is a convenient starting point for all sources of information about the brain. Not all the sites are necessarily scientifically certified.

### Neuroanatomy and Neuropathology on the Internet

http://www.neuropat.dote.hu
This site has been compiled and designed by Katalin Hegedus, Department of Neurology, University of Debrecen, Hungary. It is a source for other sites including neuroanatomy, neuropathology, and neuroradiology, and software (commercial and noncommercial) on the brain, and even includes quizzes.

### Hardin MD

http://www.lib.uiowa.edu/hardin/md/neuro.html
This site is a service of the Hardin Library for Health Sciences, University of Iowa. Hardin MD was first launched in 1996 as a source to find the best lists, or directories, of information in health and medicine. The name Hardin MD comes from *Hardin Meta Directory*, since the site was conceived as a "directory of directories." Providing links to high quality directory pages is still an important part of Hardin MD. In recent years, however, they have added other types of links: Just Plain Links pages have direct links to primary information in circumscribed subjects, and many of their pages have links to medical pictures.

### Specific Sites

- Loyola University, Chicago, Stritch School of Medicine
  http://www.meddean.luc.edu/lumen/MedEd/Neuro/index.htm
- Harvard, The Whole Brain Imaging Atlas
  http://www.med.harvard.edu/AANLIB/home.html

### The Brain from Top to Bottom

http://www.thebrain.mcgill.ca/flash/index_d.html
This site is designed to let users choose the content that matches their level of knowledge. For every topic and subtopic covered on this site, you can choose from three different levels of explanation — beginner, intermediate, or advanced. The major topics include anatomy and function, memory, sensory and motor systems, pain and pleasure, emotion, evolution; other subject areas are under development.

This site focuses on five major levels of organization — social, psychological, neurological, cellular, and molecular. On each page of this site, you can click to move among these five levels and learn what role each plays in the subject under discussion.

### The Neurologic Exam — Online

http://medstat.med.utah.edu/neurologicexam/home_exam.html
This includes both an adult and pediatric neurological examination, with video and sound. In addition, there are four neurologic cases on this site, with possibly more to come.

### The Dana Foundation

http://www.dana.org/
The Dana Foundation is a private philanthropic organization with a special interest in brain science, immunology, and arts education. It was founded in 1950.

The Dana Alliance is a nonprofit organization of more than 200 pre-eminent scientists dedicated to advancing education about the progress and promise of brain research.

The Brain Center of this site is a gateway to the latest research on the human brain. The Brain Information and Brain Web sections access links to validated sites related to more than 25 brain disorders.

### Neuroscience for Kids

http://faculty.washington.edu/chudler/neurok.html
**Neuroscience for Kids** was created for all students and teachers who would like to learn about the nervous system. The site contains a wide variety of resources, including images — not only for kids. Sections include exploring the brain, Internet neuroscience resources, neuroscience in the news, and reference to books, magazines articles, and newspaper articles about the brain.

Neuroscience for Kids is maintained by Eric H. Chudler and supported by a Science Education Partnership Award (R25 RR12312) from the National Center for Research Resources.

### Television Series

http://www.pbs.org/wnet/brain/index.html
***The Secret Life of the Brain***, a David Grubin Production, reveals the fascinating processes involved in brain development across a lifetime. This five-part series, which was

shown nationally on PBS in the winter of 2002, informs viewers of exciting new information in the brain sciences, introduces the foremost researchers in the field, and utilizes dynamic visual imagery and compelling human stories to help a general audience understand otherwise difficult scientific concepts.

The material includes History of the Brain, 3-D Brain Anatomy, Mind Illusions, and Scanning the Brain. Episodes include: The Baby's Brain, The Child's Brain, The Teenage Brain, The Adult Brain, The Aging Brain.

The Secret Life of the Brain is a co-production of Thirteen/WNET New York and David Grubin Productions, © 2001 Educational Broadcasting Corporation and David Grubin Productions, Inc.

## VIDEOTAPES (BY THE AUTHOR)

These edited videotape presentations are on the skull and the brain as the material would be shown to students in the gross anatomy laboratory. They have been prepared with the same teaching orientation as this atlas and are particularly useful for self-study or small groups. These videotapes of actual specimens are particularly useful for students who have limited or no access to brain specimens. The videotapes are fully narrated and each lasts for about 20–25 minutes.

The videotapes are handled by Health Sciences Consortium, a non-profit publishing cooperative for instructional media. They may now be requested in DVD format.

### Interior of the Skull

This program includes a detailed look at the bones of the skull, the cranial fossa, and the various foramina for the cranial nerves and other structures. Included are views of the meninges and venous sinuses.

### The Gross Anatomy of the Human Brain Series

Part I: The Hemispheres
A presentation on the hemispheres, the functional areas of the cerebral cortex, including the basal ganglia.

Part II: Diencephalon, Brainstem, and Cerebellum
A detailed look at the brainstem, with a focus on the cranial nerves and a functional presentation of the cerebellum.

Part III: Cerebrovascular System and Cerebrospinal Fluid
A presentation of these two subjects.

Part IV: The Limbic System
A quite detailed presentation on the various aspects of the limbic system, with much explanation and special dissections.

**NOTE**: It is suggested that these videotapes be purchased by the library or by an institutional (or departmental) media or instructional resource center.

Information regarding the purchase of these and other videotapes may be obtained from: Health Sciences Consortium, 201 Silver Cedar Ct., Chapel Hill, NC, 27514-1517. Phone: (919) 942-8731. Fax: (919) 942-3689.

## CD-ROMS

Numerous CDs are appearing on the market, and their evaluation by the teaching faculty is critical before recommending them to learners. In addition, several of the newer textbooks and atlases now have an accompanying CD-ROM. It is indeed a difficult task to obtain and review all the CDs now available and perhaps one that can be shared with students after they have completed their program of study on the nervous system.

A listing of the CD-ROMs available can be viewed on the Web site Neuroanatomy and Neuropathology on the Internet (above) — see http://www.neuropat.dote.hu/software.htm.

The following has been reviewed:

### Brainstorm: Interactive Neuroanatomy

By Gary Coppa and Elizabeth Tancred, Stanford University
A highly interactive and well-integrated cross-linked presentation of the anatomy and some functional aspects of the nervous system.
Published by Mosby, 11830 Westline Industrial Drive, P.O. BOX 46908, St. Louis, MO, 63146-9934.