

BIBLIOGRAPHIC NOTES

The following are some of the many articles and books that I have consulted. The list is by no means complete, but represents additional sources that are most relevant to the points made in this book. This book was written for the non-specialist and not for my colleagues, and so I have tried to simplify topics without oversimplifying them. A more complete and detailed account of the brain and music can be found in these readings, and in the readings cited in them. Some of the works cited below are written for the specialist researcher. I have used an asterisk (*) to indicate the more technical readings. Most of the marked entries are primary sources, and a few are graduate-level textbooks.

Introduction

Churchland, P. M. 1986. *Matter and Consciousness*. Cambridge: MIT Press.

In the passage on mankind's curiosity having solved many of the greatest scientific mysteries, I have borrowed liberally from the introduction to this excellent and inspiring work on the philosophy of mind.

*Cosmides, L., and J. Tooby. 1989. Evolutionary psychology and the generation of culture, Part I. Case study: A computational theory of social exchange. *Ethology and Sociobiology* 10: 51–97.

An excellent introduction to the field of evolutionary psychology by two leading scholars.

*Deaner, R. O., and C. L. Nunn. 1999. How quickly do brains catch up with bodies? A comparative method for detecting evolutionary lag. *Proceedings of Biological Sciences* 266 (1420):687–694.

A recent scholarly article on the topic of evolutionary lag, the notion that

our bodies and minds are at present equipped to deal with the world and living conditions as they were fifty thousand years ago, due to the amount of time it takes for adaptations to become encoded in the human genome.

Levitin, D. J. 2001. Paul Simon: The Grammy Interview. *Grammy* September, 42–46.

Source of the Paul Simon quote about listening for sound.

*Miller, G. F. 2000. Evolution of human music through sexual selection. In *The Origins of Music*, edited by N. L. Wallin, B. Merker, and S. Brown. Cambridge: MIT Press.

Written by another leader in the field of evolutionary psychology, this article discusses many of the ideas discussed in Chapter 9, which are mentioned only briefly in Chapter 1.

Pareles, J., and P. Romanowski, eds. 1983. *The Rolling Stone Encyclopedia of Rock & Roll*. New York: Summit Books.

Adam and the Ants get eight column inches plus a photo in this edition, U2—already well known with three albums and the hit “New Year’s Day”—get only four inches, and no photo.

*Pribram, K. H. 1980. Mind, brain, and consciousness: the organization of competence and conduct. In *The Psychobiology of Consciousness*, edited by J. M. D. Davidson, R.J. New York: Plenum.

*———. 1982. Brain mechanism in music: prolegomena for a theory of the meaning of meaning. In *Music, Mind, and Brain*, edited by M. Clynes. New York: Plenum.

Pribram taught his course from a collection of articles and notes that he had compiled. These were two of the papers that we read.

Sapolsky, R. M. 1998. *Why Zebras Don’t Get Ulcers*, 3rd ed. New York: Henry Holt and Company.

An excellent book and a fun read on the science of stress, and the reasons that modern humans suffer from stress; the idea of “evolutionary lag” that I introduce more fully in Chapter 9 is dealt with very well in this book.

*Shepard, R. N. 1987. Toward a Universal Law of Generalization for psychological science. *Science* 237 (4820):1317–1323.

*———. 1992. The perceptual organization of colors: an adaptation to regularities of the terrestrial world? In *The Adapted Mind: Evolutionary Psychology and the Generation of Culture*, edited by J. H. Barkow, L. Cosmides, and J. Tooby. New York: Oxford University Press.

*———. 1995. Mental universals: Toward a twenty-first century science of mind. In *The Science of the Mind: 2001 and Beyond*, edited by R. L. Solso and D. W. Massaro. New York: Oxford University Press.

Three papers by Shepard in which he discusses the evolution of mind.

Tooby, J., and L. Cosmides. 2002. Toward mapping the evolved functional organization of mind and brain. In *Foundations of Cognitive Psychology*, edited by D. J. Levitin. Cambridge: MIT Press.

Another paper by these two leaders in evolutionary psychology, perhaps the more general of the two papers I've listed here.

Chapter 1

*Balzano, G. J. 1986. What are musical pitch and timbre? *Music Perception* 3 (3):297–314.

A scientific article on the issues involved in pitch and timbre research.

Berkeley, G. 1734/2004. *A Treatise Concerning the Principles of Human Knowledge*. Whitefish, Mont.: Kessinger Publishing Company.

The famous question—if a tree falls in the forest and no one is there to hear it, does it make a sound?—was first posed by the theologian and philosopher George Berkeley, bishop of Cloyne, in this work.

*Bharucha, J. J. 2002. Neural nets, temporal composites, and tonality. In *Foundations of Cognitive Psychology: Core Readings*, edited by D. J. Levitin. Cambridge: MIT Press.

Neural networks for chord recognition.

*Boulanger, R. 2000. *The C-Sound Book: Perspectives in Software Synthesis, Sound Design, Signal Processing, and Programming*. Cambridge: MIT Press.

An introduction to the most widely used software sound synthesis program/system. The best book I know of for people who want to learn to program computers to make music and create timbres of their own choosing.

Burns, E. M. 1999. Intervals, scales, and tuning. In *Psychology of Music*, edited by D. Deutsch. San Diego: Academic Press.

On the origin of scales, relationships among tones, nature of intervals and scales.

*Chowning, J. 1973. The synthesis of complex audio spectra by means of frequency modulation. *Journal of the Audio Engineering Society* 21:526–534.

FM synthesis, as eventually manifested in the Yamaha DX synthesizers, was first described in this professional journal.

Clayson, A. 2002. *Edgard Varèse*. London: Sanctuary Publishing, Ltd.

Source of the quotation “Music is organized sound.”

Dennett, Daniel C. 2005. Show me the science. *The New York Times*, August 28.

Source of the quotation “Heat is not made of tiny hot things.”

Doyle, P. 2005. *Echo & Reverb: Fabricating Space in Popular Music Recording, 1900–1960*. Middletown, Conn.

An expansive, scholarly survey of the recording industry's fascination with space and creating artificial ambiances.

Dwyer, T. 1971. *Composing with Tape Recorders: Musique Concrète*. New York: Oxford University Press.

For background information on the *musique concrète* of Schaeffer, Dhomon, Normandeau, and others.

*Grey, J. M. 1975. An exploration of musical timbre using computer-based techniques for analysis, synthesis, and perceptual scaling. Ph.D. Thesis, Music, Center for Computer Research in Music and Acoustics, Stanford University, Stanford, Calif.

The most influential paper on modern approaches to the study of timbre.

*Janata, P. 1997. Electrophysiological studies of auditory contexts. Dissertation Abstracts International: Section B: The Sciences and Engineering, University of Oregon.

Contains the experiments showing that the inferior colliculus of the barn owl restores the missing fundamental.

*Krumhansl, C. L. 1990. *Cognitive Foundations of Musical Pitch*. New York: Oxford University Press.

*———. 1991. Music psychology: Tonal structures in perception and memory. *Annual Review of Psychology* 42:277–303.

*———. 2000. Rhythm and pitch in music cognition. *Psychological Bulletin* 126 (1):159–179.

*———. 2002. Music: A link between cognition and emotion. *Current Directions in Psychological Science* 11 (2):45–50.

Krumhansl is one of the leading scientists working in music perception and cognition; these articles, and the monograph, provide foundations of the field, and in particular, the notion of tonal hierarchies, the dimensionality of pitch, and the mental representation of pitch.

*Kubovy, M. 1981. Integral and separable dimensions and the theory of indispensable attributes. In *Perceptual Organization*, edited by M. Kubovy and J. Pomerantz. Hillsdale, N.J.: Erlbaum.

Source for the notion of separable dimensions in music.

Levitin, D. J. 2002. Memory for musical attributes. In *Foundations of Cognitive Psychology: Core Readings*, edited by D. J. Levitin. Cambridge: MIT Press.

Source for the listing of eight different perceptual attributes of a sound.

*McAdams, S., J. W. Beauchamp, and S. Meneguzzi. 1999. Discrimination of musical instrument sounds resynthesized with simplified spectrotemporal parameters. *Journal of the Acoustical Society of America* 105 (2):882–897.

McAdams, S., and E. Bigand. 1993. Introduction to auditory cognition. In *Thinking in Sound: The Cognitive Psychology of Audition*, edited by S. McAdams and E. Bigand. Oxford: Clarendon Press.

*McAdams, S., and J. Cunible. 1992. Perception of timbral analogies. *Philosophical Transactions of the Royal Society of London, B* 336:383–389.

*McAdams, S., S. Winsberg, S. Donnadiou, and G. De Soete. 1995. Perceptual scaling of synthesized musical timbres: Common dimensions, specificities, and latent subject classes. *Psychological Research/Psychologische Forschung* 58 (3):177–192.

McAdams is the leading researcher in the world studying timbre, and these four papers provide an overview of what we currently know about timbre perception.

Newton, I. 1730/1952. *Opticks: or, A Treatise of the Reflections, Refractions, Inflexions, and Colours of Light*. New York: Dover.

Source for Newton's observation that light waves are not themselves colored.

*Oxenham, A. J., J. G. W. Bernstein, and H. Penagos. 2004. Correct tonotopic representation is necessary for complex pitch perception. *Proceedings of the National Academy of Sciences* 101:1421–1425.

On tonotopic representations of pitch in the auditory system.

Palmer, S. E. 2000. *Vision: From Photons to Phenomenology*. Cambridge: MIT Press.

An excellent introduction to cognitive science and vision science, at the undergraduate level. Full disclosure: Palmer and I are collaborators, and I made some contributions to this book. Source for the different attributes of visual stimuli.

Pierce, J. R. 1992. *The Science of Musical Sound*, revised ed. San Francisco: W. H. Freeman.

Excellent source for the educated layperson who wants to understand the physics of sound, overtones, scales, etc. Full disclosure: Pierce was my teacher and friend when he was alive.

Rossing, T. D. 1990. *The Science of Sound*, 2nd ed. Reading, Mass.: Addison-Wesley Publishing.

Another excellent source for the physics of sound, overtones, scales, and so on, appropriate for undergraduates.

Schaeffer, Pierre. 1967. *La musique concrète*. Paris: Presses Universitaires de France.

———. 1968. *Traité des objets musicaux*. Paris: Le Seuil.

The principles of *musique concrète* are introduced in the first work, and Schaeffer's masterpiece on the theory of sound in the second. Unfortunately, no English translation yet exists.

- Schmeling, P. 2005. *Berklee Music Theory Book 1*. Boston: Berklee Press.
I learned music theory at Berklee College, and this is the first volume in their set. Suitable for self-teaching, this covers all the basics.
- *Schroeder, M. R. 1962. Natural sounding artificial reverberation. *Journal of the Audio Engineering Society* 10 (3):219–233.
The seminal article on the creation of artificial reverberation.
- Scorsese, Martin. 2005. *No Direction Home*. USA: Paramount.
Source of the reports of Bob Dylan being booed at the Newport Folk Festival.
- Sethares, W. A. 1997. *Tuning, Timbre, Spectrum, Scale*. London: Springer.
A rigorous introduction to the physics of music and musical sounds.
- *Shamma, S., and D. Klein. 2000. The case of the missing pitch templates: How harmonic templates emerge in the early auditory system. *Journal of the Acoustical Society of America* 107 (5):2631–2644.
- *Shamma, S. A. 2004. Topographic organization is essential for pitch perception. *Proceedings of the National Academy of Sciences* 101:1114–1115.
On tonotopic representations of pitch in the auditory system.
- *Smith, J. O., III. 1992. Physical modeling using digital waveguides. *Computer Music Journal* 16 (4):74–91.
The article that introduced wave guide synthesis.
- Surmani, A., K. F. Surmani, and M. Manus. 2004. *Essentials of Music Theory: A Complete Self-Study Course for All Musicians*. Van Nuys, Calif.: Alfred Publishing Company.
Another excellent self-teaching guide to music theory.
- Taylor, C. 1992. *Exploring Music: The Science and Technology of Tones and Tuning*. Bristol: Institute of Physics Publishing.
Another excellent college-level text on the physics of sound.
- Trehub, S. E. 2003. Musical predispositions in infancy. In *The Cognitive Neuroscience of Music*, edited by I. Perets and R. J. Zatorre. Oxford: Oxford University Press.
- *Västfjäll, D., P. Larsson, and M. Kleiner. 2002. Emotional and auditory virtual environments: Affect-based judgments of music reproduced with virtual reverberation times. *CyberPsychology & Behavior* 5 (1):19–32.
A recent scholarly article on the effect of reverberation on emotional response.

Chapter 2

- *Bregman, A. S. 1990. *Auditory Scene Analysis*. Cambridge: MIT Press.
The definitive work on general auditory grouping principles.

Clarke, E. F. 1999. Rhythm and timing in music. In *The Psychology of Music*, edited by D. Deutsch. San Diego: Academic Press.

An undergraduate-level article on the psychology of time perception in music, and the source for the Eric Clarke quote.

*Ehrenfels, C. von. 1890/1988. On "Gestalt qualities." In *Foundations of Gestalt Theory*, edited by B. Smith. Munich: Philosophia Verlag.

On the founding of Gestalt psychology and the Gestalt psychologists' interest in melody.

Elias, L. J., and D. M. Saucier. 2006. *Neuropsychology: Clinical and Experimental Foundations*. Boston: Pearson.

Textbook for introducing fundamental concepts of neuroanatomy and the functions of different brain regions.

*Fishman, Y. I., D. H. Reser, J. C. Arezzo, and M. Steinschneider. 2000. Complex tone processing in primary auditory cortex of the awake monkey. I. Neural ensemble correlates of roughness. *Journal of the Acoustical Society of America* 108:235–246.

The physiological basis of consonance and dissonance perception.

Gilmore, Mikal. 2005. Lennon lives forever: Twenty-five years after his death, his music and message endure. *Rolling Stone*, December 15.

Source of the John Lennon quote.

Helmholtz, H. L. F. 1885/1954. *On the Sensations of Tone*, 2nd revised ed. New York: Dover.

Unconscious inference.

Lerdahl, Fred. 1983. *A Generative Theory of Tonal Music*. Cambridge: MIT Press.

The most influential statement of auditory grouping principles in music.

*Levitin, D. J., and P. R. Cook. 1996. Memory for musical tempo: Additional evidence that auditory memory is absolute. *Perception and Psychophysics* 58:927–935.

This is the article mentioned in the text, in which Cook and I asked people to sing their favorite rock songs, and they reproduced the tempo with very high accuracy.

Luce, R. D. 1993. *Sound and Hearing: A Conceptual Introduction*. Hillsdale, N.J.: Erlbaum.

Textbook on the ear and hearing, including physiology of the ear, loudness, pitch perception, etc.

*Mesulam, M.-M. 1985. *Principles of Behavioral Neurology*. Philadelphia: F. A. Davis Company.

Advanced, graduate textbook for introducing fundamental concepts of neuroanatomy and the functions of different brain regions.

Moore, B. C. J. 1982. *An Introduction to the Psychology of Hearing*, 2nd ed. London: Academic Press.

———. 2003. *An Introduction to the Psychology of Hearing*, 5th ed. Amsterdam: Academic Press.

Textbooks on the ear and hearing, including physiology of the ear, loudness, pitch perception, etc.

Palmer, S. E. 2002. Organizing objects and scenes. In *Foundations of Cognitive Psychology: Core readings*, edited by D. J. Levitin. Cambridge: MIT Press.

On the Gestalt principles of visual grouping.

Stevens, S. S., and F. Warshofsky. 1965. *Sound and Hearing*, edited by R. Dubos, H. Margenau, C. P. Snow. Life Science Library. New York: Time Incorporated.

A good introduction to the principles of hearing and auditory perception for the general reader.

*Tramo, M. J., P. A. Cariani, B. Delgutte, and L. D. Braida. 2003. Neurobiology of harmony perception. In *The Cognitive Neuroscience of Music*, edited by I. Peretz and R. J. Zatorre. New York: Oxford University Press.

The physiological basis of consonance and dissonance perception.

Yost, W. A. 1994. *Fundamentals of Hearing: An Introduction*, 3rd ed. San Diego: Academic Press, Inc.

Textbook on hearing, pitch, and loudness perception.

Zimbardo, P. G., and R. J. Gerrig. 2002. Perception. In *Foundations of Cognitive Psychology*, edited by D. J. Levitin. Cambridge: MIT Press.

The Gestalt principles of grouping.

Chapter 3

Bregman, A. S. 1990. *Auditory Scene Analysis*. Cambridge: MIT Press.

Streaming by timbre and other auditory grouping principles. My analogy about the eardrum as a pillowcase stretched over a bucket borrows liberally from a different analogy Bregman proposes in this book.

*Chomsky, N. 1957. *Syntactic Structures*. The Hague, Netherlands: Mouton.

About the innateness of a language capacity in the human brain.

Crick, F. H. C. 1995. *The Astonishing Hypothesis: The Scientific Search for the Soul*. New York: Touchstone/Simon & Schuster.

The idea that all of human behavior can be explained by the activity of the brain and neurons.

Dennett, D. C. 1991. *Consciousness Explained*. Boston: Little, Brown and Company.

On the illusions of conscious experience, and brains updating information.

———. 2002. Can machines think? In *Foundations of Cognitive Psychology: Core Readings*, edited by D. J. Levitin. Cambridge: MIT Press.

———. 2002. Where am I? In *Foundations of Cognitive Psychology: Core Readings*, edited by D. J. Levitin. Cambridge: MIT Press.

These two articles address foundational issues of the brain as computer and the philosophical idea of *functionalism*; "Can Machines Think?" also summarizes the Turing test for intelligence, and its strengths and weaknesses.

*Friston, K. J. 2005. Models of brain function in neuroimaging. *Annual Review of Psychology* 56:57–87.

A technical overview on research methods for the analysis of brain imaging data by one of the inventors of SPM, a widely used statistical package for fMRI data.

Gazzaniga, M. S., R. B. Ivry, and G. Mangun. 1998. *Cognitive Neuroscience*. New York: Norton.

Functional divisions of the brain; basic divisions into lobes, major anatomical landmarks; undergraduate text.

Gertz, S. D., and R. Tadmor. 1996. *Liebman's Neuroanatomy Made Easy and Understandable*, 5th ed. Gaithersburg, Md.: Aspen.

An introduction to neuroanatomy and major brain regions.

Gregory, R. L. 1986. *Odd Perceptions*. London: Routledge.

On perception as inference.

*Griffiths, T. D., S. Uppenkamp, I. Johnsrude, O. Josephs, and R. D. Patterson. 2001. Encoding of the temporal regularity of sound in the human brainstem. *Nature Neuroscience* 4 (6):633–637.

*Griffiths, T. D., and J. D. Warren. 2002. The planum temporale as a computational hub. *Trends in Neuroscience* 25 (7):348–353.

Recent work on sound processing in the brain from Griffiths, one of the most esteemed researchers of the current generation of brain scientists studying auditory processes.

*Hickok, G., B. Buchsbaum, C. Humphries, and T. Muftuler. 2003. Auditory-motor interaction revealed by fMRI: Speech, music, and working memory in area Spt. *Journal of Cognitive Neuroscience* 15 (5):673–682.

A primary source for music activation in a brain region at the posterior Sylvian fissure at the parietal-temporal boundary.

*Janata, P., J. L. Birk, J. D. Van Horn, M. Leman, B. Tillmann, and J. J. Bharucha. 2002. The cortical topography of tonal structures underlying Western music. *Science* 298:2167–2170.

*Janata, P., and S. T. Grafton. 2003. Swinging in the brain: Shared neural substrates for behaviors related to sequencing and music. *Nature Neuroscience* 6 (7):682–687.

*Johnsrude, I. S., V. B. Penhune, and R. J. Zatorre. 2000. Functional specificity in the right human auditory cortex for perceiving pitch direction. *Brain Res Cogn Brain Res* 123:155–163.

*Knosche, T. R., C. Neuhaus, J. Haueisen, K. Alter, B. Maess, O. Witte, and A. D. Friederici. 2005. Perception of phrase structure in music. *Human Brain Mapping* 24 (4):259–273.

*Koelsch, S., E. Kasper, D. Sammler, K. Schulze, T. Gunter, and A. D. Friederici. 2004. Music, language and meaning: brain signatures of semantic processing. *Nature Neuroscience* 7 (3):302–307.

*Koelsch, S., E. Schröger, and T. C. Gunter. 2002. Music matters: Preattentive musicality of the human brain. *Psychophysiology* 39 (1):38–48.

*Kuriki, S., N. Isahai, T. Hasimoto, F. Takeuchi, and Y. Hirata. 2000. Music and language: Brain activities in processing melody and words. Paper read at 12th International Conference on Biomagnetism.

Primary sources on the neuroanatomy of music perception and cognition.

Levitin, D. J. 1996. High-fidelity music: Imagine listening from inside the guitar. *The New York Times*, December 15.

———. 1996. The modern art of studio recording. *Audio*, September, 46–52.
On modern recording techniques and the illusions they create.

———. 2002. Experimental design in psychological research. In *Foundations of Cognitive Psychology: Core Readings*, edited by D. J. Levitin. Cambridge: MIT Press.
On experimental design and what is a “good” experiment.

*Levitin, D. J., and V. Menon. 2003. Musical structure is processed in “language” areas of the brain: A possible role for Brodmann Area 47 in temporal coherence. *NeuroImage* 20 (4):2142–2152.

The first research article using fMRI to show that temporal structure and temporal coherence in music is processed in the same brain region that does so for spoken and signed languages.

*McClelland, J. L., D. E. Rumelhart, and G. E. Hinton. 2002. The appeal of parallel distributed processing. In *Foundations of Cognitive Psychology: Core Readings*, edited by D. J. Levitin. Cambridge: MIT Press.

The brain as a parallel processing machine.

Palmer, S. 2002. Visual awareness. In *Foundations of Cognitive Psychology: Core Readings*, edited by D. J. Levitin. Cambridge: MIT Press.

The philosophical foundations of modern cognitive science, dualism, and materialism.

*Parsons, L. M. 2001. Exploring the functional neuroanatomy of music performance, perception, and comprehension. In I. Peretz and R. J. Zatorre, Eds., *Biological Foundations of Music*, Annals of the New York Academy of Sciences, Vol. 930, pp. 211–230.

*Patel, A. D., and E. Balaban. 2004. Human auditory cortical dynamics during perception of long acoustic sequences: Phase tracking of carrier frequency by the auditory steady-state response. *Cerebral Cortex* 14 (1):35–46.

*Patel, A. D. 2003. Language, music, syntax, and the brain. *Nature Neuroscience* 6 (7):674–681.

*Patel, A. D., and E. Balaban. 2000. Temporal patterns of human cortical activity reflect tone sequence structure. *Nature* 404:80–84.

*Peretz, I. 2000. Music cognition in the brain of the majority: Autonomy and fractionation of the music recognition system. In *The Handbook of Cognitive Neuropsychology*, edited by B. Rapp. Hove, U.K.: Psychology Press.

*Peretz, I. 2000. Music perception and recognition. In *The Handbook of Cognitive Neuropsychology*, edited by B. Rapp. Hove, U.K.: Psychology Press.

*Peretz, I., and M. Coltheart. 2003. Modularity of music processing. *Nature Neuroscience* 6 (7):688–691.

*Peretz, I., and L. Gagnon. 1999. Dissociation between recognition and emotional judgements for melodies. *Neurocase* 5:21–30.

*Peretz, I., and R. J. Zatorre, eds. 2003. *The Cognitive Neuroscience of Music*. New York: Oxford.

Primary sources on the neuroanatomy of music perception and cognition.

Pinker, S. 1997. *How The Mind Works*. New York: W. W. Norton.

Pinker claims here that music is an evolutionary accident.

*Posner, M. I. 1980. Orienting of attention. *Quarterly Journal of Experimental Psychology* 32:3–25.

The Posner Cueing Paradigm.

Posner, M. I., and D. J. Levitin. 1997. Imaging the future. In *The Science of the Mind: The 21st Century*. Cambridge: MIT Press.

A more complete explanation of the bias that Posner and I have against simple “mental cartography” for its own sake.

Ramachandran, V. S. 2004. *A Brief Tour of Human Consciousness: From Impostor Poodles to Purple Numbers*. New York: Pi Press.

Consciousness and our naive intuitions about it.

*Rock, I. 1983. *The Logic of Perception*. Cambridge: MIT Press.

Perception as a logical process and as constructive.

*Schmahmann, J. D., ed. 1997. *The Cerebellum and Cognition*. San Diego: Academic Press.

On the cerebellum’s role in emotional regulation.

Searle, J. R. 2002. Minds, brains, and programs. In *Foundations of Cognitive Psychology: Core Readings*, edited by D. J. Levitin. Cambridge: MIT Press.

The brain as a computer; this is one of the most discussed, argued, and cited articles in modern philosophy of mind.

- *Sergent, J. 1993. Mapping the musician brain. *Human Brain Mapping* 1:20–38.
One of the first neuroimaging reports of music and the brain, still widely cited and referred to.
- Shepard, R. N. 1990. *Mind Sights: Original Visual Illusions, Ambiguities, and Other Anomalies, with a Commentary on the Play of Mind in Perception and Art*. New York: W. H. Freeman.
Source of the “Turning the Tables” illusion.
- *Steinke, W. R., and L. L. Cuddy. 2001. Dissociations among functional subsystems governing melody recognition after right hemisphere damage. *Cognitive Neuroscience* 18 (5):411–437.
- *Tillmann, B., P. Janata, and J. J. Bharucha. 2003. Activation of the inferior frontal cortex in musical priming. *Cognitive Brain Research* 16:145–161.
Primary sources on the neuroanatomy of music perception and cognition.
- *Warren, R. M. 1970. Perceptual restoration of missing speech sounds. *Science*, January 23, 392–393.
Source of the example of auditory “filling in” or perceptual completion.
- Weinberger, N. M. 2004. Music and the Brain. *Scientific American* (November 2004):89–95.
- *Zatorre, R. J., and P. Belin. 2001. Spectral and temporal processing in human auditory cortex. *Cerebral Cortex* 11:946–953.
- *Zatorre, R. J., P. Belin, and V. B. Penhune. 2002. Structure and function of auditory cortex: Music and speech. *Trends in Cognitive Sciences* 6 (1):37–46.
Primary sources on the neuroanatomy of music perception and cognition.

Chapter 4

- *Bartlett, F. C. 1932. *Remembering: A Study in Experimental and Social Psychology*. London: Cambridge University Press.
On schemas.
- *Bavelier, D., C. Brozinsky, A. Tomann, T. Mitchell, H. Neville, and G. Liu. 2001. Impact of early deafness and early exposure to sign language on the cerebral organization for motion processing. *The Journal of Neuroscience* 21 (22):8931–8942.
- *Bavelier, D., D. P. Corina, and H. J. Neville. 1998. Brain and language: A perspective from sign language. *Neuron* 21:275–278.
The neuroanatomy of sign language.
- *Bever, T. G., and Chiarell, R. J. 1974. Cerebral dominance in musicians and non-musicians. *Science* 185 (4150):537–539.
A seminal paper on hemispheric specialization for music.

*Bharucha, J. J. 1987. Music cognition and perceptual facilitation—a connectionist framework. *Music Perception* 5 (1):1–30.

*———. 1991. Pitch, harmony, and neural nets: A psychological perspective. In *Music and Connectionism*, edited by P. M. Todd and D. G. Loy. Cambridge: MIT Press.

*Bharucha, J. J., and P. M. Todd. 1989. Modeling the perception of tonal structure with neural nets. *Computer Music Journal* 13 (4):44–53.

*Bharucha, J. J. 1992. Tonality and learnability. In *Cognitive Bases of Musical Communication*, edited by M. R. Jones and S. Holleran. Washington, D.C: American Psychological Association.

On musical schemas.

*Binder, J., and C. J. Price. 2001. Functional neuroimaging of language. In *Handbook of Functional Neuroimaging of Cognition*, edited by A. Cabeza and A. Kingston.

*Binder, J. R., E. Liebenthal, E. T. Possing, D. A. Medler, and B. D. Ward. 2004. Neural correlates of sensory and decision processes in auditory object identification. *Nature Neuroscience* 7 (3):295–301.

*Bookheimer, S. Y. 2002. Functional MRI of language: New approaches to understanding the cortical organization of semantic processing. *Annual Review of Neuroscience* 25:151–188.

The functional neuroanatomy of speech.

Cook, P. R. 2005. The deceptive cadence as a parlor trick. Princeton, N.J., Montreal, Que., November 30.

Personal communication from Perry Cook, who described the deceptive cadence this way in an e-mail to me.

*Cowan, W. M., T. C. Südhof, and C. F. Stevens, eds. 2001. *Synapses*. Baltimore: Johns Hopkins University Press.

In-depth information on synapses, the synaptic cleft, and synaptic transmission.

*Dibben, N. 1999. The perception of structural stability in atonal music: the influence of salience, stability, horizontal motion, pitch commonality, and dissonance. *Music Perception* 16 (3):265–24.

On atonal music, such as that by Schönberg described in this chapter.

*Franceries, X., B. Doyon, N. Chauveau, B. Rigaud, P. Celsis, and J.-P. Morucci. 2003. Solution of Poisson's equation in a volume conductor using resistor mesh models: Application to event related potential imaging. *Journal of Applied Physics* 93 (6):3578–3588.

The inverse Poisson problem of localization with EEG.

Fromkin, V., and R. Rodman. 1993. *An Introduction to Language*, 5th ed. Fort Worth, Tex.: Harcourt Brace Jovanovich College Publishers.

The basics of psycholinguistics, phonemes, word formation.

*Gazzaniga, M. S. 2000. *The New Cognitive Neurosciences*, 2nd ed. Cambridge: MIT Press.

Foundations of neuroscience.

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*Jones, M. R., and M. Boltz. 1989. Dynamic attending and responses to time. *Psychological Review* 96:459–491.

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*———. 1999. The dynamics of attending: How people track time-varying events. *Psychological Review* 106 (1):119–159.

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*Tallal, P., S. L. Miller, G. Bedi, G. Byma, X. Wang, S. S. Nagarajan, C. Schreiner, W. M. Jenkins, and M. M. Merzenich. 1996. Language comprehension in language-learning impaired children improved with acoustically modified speech. *Science* 271:81–84.

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Chapter 7

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*Chi, Micheline T. H., Robert Glaser, and Marshall J. Farr, eds. 1988. *The Nature of Expertise*. Hillsdale, N.J.: Lawrence Erlbaum Associates.

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*Elbert, T., C. Pantev, C. Wienbruch, B. Rockstroh, and E. Taub. 1995. Increased cortical representation of the fingers of the left hand in string players. *Science* 270 (5234):305–307.

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*Ericsson, K. A., and J. Smith, eds. 1991. *Toward a General Theory of Expertise: Prospects and Limits*. New York: Cambridge University Press.

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*Gobet, F., P. C. R. Lane, S. Croker, P. C. H. Cheng, G. Jones, I. Oliver, J. M. Pine. 2001. Chunking mechanisms in human learning. *Trends in Cognitive Sciences* 5:236–243.

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*Hayes, J. R. 1985. Three problems in teaching general skills. In *Thinking and Learning Skills: Research and Open Questions*, edited by S. F. Chipman, J. W. Segal, and R. Glaser. Hillsdale, N.J.: Erlbaum.

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