

# **Welcome To Your Brain**

**by Sandra Aamodt and Sam Wang**

**References and further reading  
August 15, 2008**

**<http://welcometoyourbrain.com>**

## References and further reading

To delve more deeply into neuroscience, a good place to start is *Neuroscience: Exploring the Brain*, by Mark F. Bear, Barry W. Connors, and Michael A. Paradiso (Lippincott, Williams, and Wilkins) or *Neuroscience* by Dale Purves *et al.* (Sinauer and Associates). An advanced reference with a medical emphasis is *Principles of Neural Science* by Eric R. Kandel, James H. Schwartz, and Thomas M. Jessell (McGraw-Hill Medical). The magazine *Scientific American Mind* is an excellent way to keep up with recent discoveries.

For high school students, if you find this book interesting we encourage you to consider a career as a neuroscientist. Working neuroscientists often find it helpful to have some background in at least a few of the following areas: biology, chemistry, computer science, engineering, genetics, mathematics, physics, and psychology. Come on in, the water's fine!

The following references give more details about topics in the book and can be found at <http://welcometoyourbrain.com>.

### Chapter 1

- Editorial (2003) Brain myths. *Nature Neuroscience*, 6:99.  
M.S. Gazzaniga (1998, July) The split brain revisited. *Scientific American*, 279(7):50-55.  
D. Kahneman (2002, December 8) Maps of bounded rationality: a perspective on intuitive judgment and choice. Nobel Prize lecture.  
R. Sperry (1981, December 8) Some effects of disconnecting the cerebral hemispheres. Nobel Prize lecture.

### Chapter 2

- S. Baxendale (2004) Memories aren't made of this: amnesia at the movies. *British Medical Journal*, 329:1480-1483.  
E.R. Burroughs (1918) *Tarzan and the Jewels of Opar*. Chicago: A.C. McClurg.  
G. Parker (1901) *The Right of Way*. New York: Harper & Bros. Available at Arthur's Classic Novels, <http://arthursclassicnovels.com/arthurs/>

### Chapter 3

- L.C. Aiello, P. Wheeler (1995) The expensive-tissue hypothesis: the brain and the digestive system in human and primate. *Current Anthropology*, 36:199-221.  
K.C. Catania, D.C. Lyon, O.B. Mock, J.H. Kaas (1999) Cortical organization in shrews: evidence from five species. *Journal of Comparative Neurology*, 410:55-72.  
H.W. Davenport (1991) Early history of the concept of chemical transmission of the nerve impulse. *The Physiologist*, 34:129-190.  
O. Loewi (1960) An autobiographic sketch. *Perspectives in Biology and Medicine*, Autumn:3-25.  
G.B. Samuelsen, N. Bogdanović, H. Laursen, N. Graem, J.F. Larsen, B. Pakkenberg (2000) Total cell number in fetal brain. *Image Analysis and Stereology*, 19:35-38.

L. Sokoloff (1996) Cerebral metabolism and visualization of cerebral activity. In *Comprehensive Human Physiology, Vol. I* (pp. 579-602), ed. R. Greger, U. Windhorst. Berlin, Germany: Springer.

#### **Chapter 4**

- K. Cho (2001) Chronic 'jet lag' produces temporal lobe atrophy and spatial cognitive deficits. *Nature Neuroscience*, 4:567-568.
- J.L. Kavanau (1998) Vertebrates that never sleep: implications for sleep's basic function. *Brain Research Bulletin*, 46:269-279.
- S.B. Khalsa, M.E. Jewett, C. Cajochen, C.A. Czeisler (2003) A phase response curve to single bright light pulses in human subjects. *Journal of Physiology*, 549:945-952.
- E. Marder, D. Bucher (2001) Central pattern generators and the control of rhythmic movements. *Current Biology*, 11:R986-R996.
- S. Panda, J.B. Hogenesch, S.A. Kay (2002) Circadian rhythms from flies to human. *Nature*, 417:329-335.
- W.S. Pray (2000) The sleep-wake cycle and jet lag. *Communication*, 13-16.
- S.M. Reppert, D.R. Weaver (2001) Molecular analysis of mammalian circadian rhythms. *Annual Review of Physiology*, 63:647-676.
- L. Wetterberg (1994) Light and biological rhythms. *Journal of Internal Medicine*, 235:5-19.

#### **Chapter 5**

- L. Bordone, L. Guarente (2005) Calorie restriction, SIRT1 and metabolism: understanding longevity. *Nature Reviews: Molecular Cell Biology*, 6:298-305.
- R.D. Cone (2005) Anatomy and regulation of the central melanocortin system. *Nature Neuroscience*, 8:571-578.
- S.D. Hursting, J.A. Lavigne, D. Berrigan, S.N. Perkins, J.C. Barrett (2003) Calorie restriction, aging, and cancer prevention: mechanisms of action and applicability to humans. *Annual Review of Medicine*, 54:131-152.
- H. Münzberg, M.G. Myers Jr. (2005) Molecular and anatomical determinants of central leptin resistance. *Nature Neuroscience*, 8:566-570.

#### **Chapter 6**

- Interesting visual illusions that exploit the quirks of the brain's visual system can be found at <http://www.michaelbach.de/ot/index.html>.
- A. Amedi, N. Raz, P. Pianka, R. Malach, E. Zohary (2003) Early 'visual' cortex activation correlates with superior verbal memory performance in the blind. *Nature Neuroscience*, 6:758-766.
- A. Amedi, A. Floel, S. Knecht, E. Zohary, L.G. Cohen (2004) Transcranial magnetic stimulation of the occipital pole interferes with verbal processing in blind subjects. *Nature Neuroscience*, 7:1266-1270.
- I. Fine, A.R. Wade, A.A. Brewer, M.G. May, D.F. Goodman, G.M. Boynton, B.A. Wandell, D.I.A. MacLeod (2003) Long-term deprivation affects visual perception and cortex. *Nature Neuroscience*, 6:915-916.
- D.H. Hubel (1981, December 8) Evolution of ideas on the primary visual cortex, 1955-1978: a biased historical account. Nobel Prize lecture.

- N. Lessard, M. Pare, F. Lepore, M. Lassonde (1998) Early-blind human subjects localize sound sources better than sighted subjects. *Nature*, 395:278-280.
- R.Q. Quiroga, L. Reddy, G. Kreiman, C. Koch, I. Fried (2005) Invariant visual representation by single neurons in the human brain. *Nature*, 435:1102-1107.
- R. Snowden, P. Thompson, T. Troscianko (2006) *Basic Vision: An Introduction to Visual Perception*. Oxford: Oxford University Press.

### Chapter 7

- A.J. Hudspeth (1997) How hearing happens. *Neuron*, 19:947-950.
- N. Suga (1990, June) Biosonar and neural computation in bats. *Scientific American*, 262(6): 60-68.
- W.A. Yost (2006) *Fundamentals of Hearing, Fifth Edition: An Introduction*. San Diego: Academic Press.

### Chapter 8

- L.B. Buck (2004) Unraveling the sense of smell. Nobel Prize lecture, 8 December 2004.
- J.M. Garcia-Moreno (2006) Reflejo fótico de estornudo o síndrome de estornudos heliooftálmicos incoercibles autosómico dominante. *Neurología*, 21:26-33.
- M. Hersch (2000) Loss of ability to sneeze in lateral medullary syndrome. *Neurology*, 54:520-527.
- S. Nonaka, T. Unno, Y. Ohta, S. Mori (1990) Sneeze-evoking region within the brainstem. *Brain Research*, 511:265-270.
- B.W. Whitman, R.J. Packer (1993) The photic sneeze reflex: literature review and discussion. *Neurology*, 43:868-871.
- G.Q. Zhao, Y. Zhang, M.A. Hoon, J. Chandrashekar, I. Erlenbach, N.J.P. Ryba, C.S. Zuker (2003) The receptors for mammalian sweet and umami taste. *Cell*, 115:255-266.

### Chapter 9

The quote on prediction has been ascribed to both Niels Bohr and Yogi Berra. We can't find evidence for who said it first.

- F. Benedetti, H.S. Mayberg, T.D. Wager, C.S. Stohler, J.-K. Zubieta (2005) Neurobiological mechanisms of the placebo effect. *Journal of Neuroscience*, 25:10390-10402.
- S.J. Blakemore, D.M. Wolpert, C.D. Frith (1998) Central cancellation of self-produced tickle sensation. *Nature Neuroscience*, 1:635-640.
- R.C. deCharms, F. Maeda, G.H. Glover, D. Ludlow, J.M. Pauly, D. Soneji, J.D. Gabrieli, S.C. Mackey (2005) Control over brain activation and pain learned by using real-time functional MRI. *Proceedings of the National Academy of Sciences USA*, 102:18626-18631.
- E. Ernst (2006) Acupuncture-a critical analysis. *Journal of Internal Medicine*, 259:125-137.
- E. Manheimer, A. White, B. Berman, K. Forys, E. Ernst (2005) Meta-analysis: acupuncture for low back pain. *Annals of Internal Medicine*, 142:651-663.
- L. Weiskrantz, J. Elliott, C. Darlington (1971) Preliminary observations on tickling oneself. *Nature*, 230:598-599.

## Chapter 10

- A. Bangerter, C. Heath (2004) The Mozart effect: tracking the evolution of a scientific legend. *British Journal of Social Psychology*, 43:605-623.
- J.T. Bruer (2002) Avoiding the pediatrician's error: how neuroscientists can help educators (and themselves). *Nature Neuroscience*, 5 supplement:1031-1033.
- Y.Kozorovitskiy, C.G. Gross, C. Kopil, L. Battaglia, M. McBreen, A.M. Stranahan, E. Gould (2005) Experience induces structural and biochemical changes in the adult primate brain. *Proceedings of the National Academy of Sciences USA*, 102:17478-17482.
- M.J. Meaney, M. Szyf (2005) Environmental programming of stress responses through DNA methylation: life at the interface between a dynamic environment and a fixed genome. *Dialogues in Clinical Neuroscience*, 7:103-123.
- F.H. Rauscher, G.L. Shaw, K.N. Ky (1993) Music and spatial task performance. *Nature*, 365:611.
- K.M. Steele, S. dalla Bella, I. Peretz, T. Dunlop, L.A. Dawe, G.K. Humphrey, R.A. Shannon, J.L. Kirby Jr., C.G. Olmstead (1999) Prelude or requiem for the 'Mozart effect'? *Nature*, 400:827-828.
- C.R. Pryce, D. Rüedi-Bettschen, A.C. Dettling and J. Feldon (2002) Early life stress: long-term physiological impact in rodents and primates. *News in Physiological Sciences*, 17:150-155.
- H. van Praag, G. Kempermann, F.H. Gage (2000) Neural consequences of environmental enrichment. *Nature Reviews: Neuroscience*, 1:191-198.
- I.C.G. Weaver, N. Cervoni, F.A. Champagne, A.C. D'Alessio, S. Sharma, J.R. Seckl, S. Dymov, M. Szyf, M.J. Meaney (2004) Epigenetic programming by maternal behavior. *Nature Neuroscience*, 7:847-854.
- I.C.G. Weaver, M.J. Meaney, M. Szyf (2006) Maternal care effects on the hippocampal transcriptome and anxiety-mediated behaviors in the offspring that are reversible in adulthood. *Proceedings of the National Academy of Sciences USA*, 103:3480-3485.

## Chapter 11

- R. Hull, J. Vaid (2007) Bilingual language lateralization: a meta-analytic tale of two hemispheres. *Neuropsychologia*, 45:1987-2008.
- K.H. Kim, N.R. Relkin, K.M. Lee, J. Hirsch (1997) Distinct cortical areas associated with native and second languages. *Nature*, 388:171-174.
- S. Koelsch (2005) Neural substrates of processing syntax and semantics in music. *Current Opinion in Neurobiology*, 15:207-212.
- P. Marler (1991) Song-learning behavior: the interface with neuroethology. *Trends in Neurosciences*, 14:199-206.
- E.L. Newport (2004) Maturational constraints on language learning. *Cognitive Science*, 14:11-28.
- A.D. Patel (2003) Language, music, syntax and the brain. *Nature Neuroscience*, 6:674-681.
- J.R. Saffran, G.J. Griepentrog (2001) Absolute pitch in infant auditory learning: evidence for developmental reorganization. *Developmental Psychology*, 37:74-85.

L. J. Trainor (2005) Are there critical periods for musical development? *Developmental Psychobiology*, 46:262-278.

## **Chapter 12**

B.J. Casey, A. Galvan, T.A. Hare (2005) Changes in cerebral functional organization during cognitive development. *Current Opinion in Neurobiology*, 15:239-244.

N. Gogtay, J.N. Giedd, L. Lusk, K.M. Hayashi, D. Greenstein, A.C. Vaituzis, T.F. Nugent III, D.H. Herman, L.S. Clasen, A.W. Toga, J.L. Rapoport, P.M. Thompson (2004) Dynamic mapping of human cortical development during childhood through early adulthood. *Proceedings of the National Academy of Sciences USA*, 101:8174-8179.

C.S. Green, D. Bavelier (2003) Action video game modifies visual selective attention. *Nature*, 423:534-537.

C.S. Green, D. Bavelier (2006) Enumeration versus multiple object tracking: the case of action video game players. *Cognition*, 101:217-245.

G. Miller (2006) The thick and thin of brainpower: developmental timing linked to IQ. *Science*, 311:1851.

P. Shaw, D. Greenstein, J. Lerch, L. Clasen, R. Lenroot, N. Gogtay, A. Evans, J. Rapoport, J. Giedd (2006) Intellectual ability and cortical development in children and adolescents. *Nature*, 440:676-679.

C.L. Sisk, D.L. Foster (2004) The neural basis of puberty and adolescence. *Nature Neuroscience*, 10:1040-1047.

D. van Essen, E.E. Marder, S.F. Heinemann (2007) The adolescent brain. *Society for Neuroscience Brain Briefings*.

## **Chapter 13**

K.S. LaBar, R. Cabeza (2006) Cognitive neuroscience of emotional memory. *Nature Reviews: Neuroscience*, 7:54-64.

J. LeDoux (1998) *The emotional brain: the mysterious underpinnings of emotional life*. New York: Simon and Schuster.

S. Maren, G.J. Quirk (2004) Neuronal signalling of fear memory. *Nature Reviews: Neuroscience*, 5:944-952.

M. Naveh-Benjamin (1990) The acquisition and retention of knowledge: exploring mutual benefits to memory research and the educational setting. *Applied Cognitive Psychology*, 4:295-320.

D. Rohrer, H. Pashler (2007) Increasing retention without increasing study time. *Current Directions in Psychological Science*, 16:183-186.

D.L. Schacter (1996) *Searching for memory: the brain, the mind, and the past*. New York: Basic Books.

T.J. Shors (2006) Stressful experience and learning across the lifespan. *Annual Review of Psychology*, 57:55-85.

## **Chapter 14**

R.L. Buckner (2004) Memory and executive function in aging and AD: multiple factors that cause decline and reserve factors that compensate. *Neuron*, 44:195-208.

S.N. Burke, C.A. Barnes (2006) Neural plasticity in the ageing brain. *Nature*, 7:30-40.

- S. Colcombe and A.F. Kramer (2003) Fitness effects on the cognitive function of older adults: a meta-analytic study. *Psychological Science*, 14:125-130.
- M.G. Dik, D.J.H. Deeg, M. Visser, C. Jonker (2003) Early life physical activity and cognition at old age. *Journal of Clinical and Experimental Neuropsychology*, 25:643-653.
- C. Gross (2000) Neurogenesis in the adult brain: death of a dogma. *Nature Reviews: Neuroscience*, 1:67-73.
- A.S. Khachaturian, C.D. Corcoran, L.S. Mayer, P.P. Zandi, J.C.S. Breitner (2004) Apolipoprotein E  $\epsilon$ 4 count affects age at onset of Alzheimer disease, but not lifetime susceptibility: the Cache County study. *Archives of General Psychiatry*, 61:518-524.
- A.F. Kramer, K.I. Erickson, S. J. Colcombe (2006) Exercise, cognition, and the aging brain. *Journal of Applied Physiology*, 101:1237-1242.
- J. Lindsay, D. Laurin, R. Verreault, R. Hébert, B. Helliwell, G.B. Hill, I. McDowell (2002) Risk factors for Alzheimer's disease: a prospective analysis from the Canadian Study of Health and Aging. *American Journal of Epidemiology*, 166:445-453.
- M. Mather, L.L. Carstensen (2005) Aging and motivated cognition: the positivity effect in attention and memory. *Trends in Cognitive Sciences*, 9:496-502.
- K.N. Ochsner, J.J. Gross (2005) The cognitive control of emotion. *Trends in Cognitive Sciences*, 9:242-249.
- S.L. Willis, S.L. Tennstedt, M. Marsiske, K. Ball, J. Elias, K. Mann Koepke, J.N. Morris, G.W. Rebok, F.W. Unverzagt, A.M. Stoddard, E. Wright (2006) Long-term effects of cognitive training on everyday functional outcomes in older adults. *Journal of the American Medical Association*, 296:2805-2814.

### **Chapter 15**

- R.W. Byrne (1997) Machiavellian intelligence. *Evolutionary Anthropology*, 5:172-180.
- R. Coloma, J.M. Lluís-Font, A. Andrés-Pueyo (2005) The generational intelligence gains are caused by decreasing variance in the lower half of the distribution: supporting evidence for the nutrition hypothesis. *Intelligence*, 33:83-91.
- W.T. Dickens, J.R. Flynn (2001) Heritability estimates versus large environmental effects: the IQ paradox resolved. *Psychological Review*, 108:346-369.
- S.L. Gilbert, W.B. Dobyns, B.T. Lahn (2005) Genetic links between brain development and brain evolution. *Nature Reviews: Genetics*, 5:581-590.
- R. Plomin, S.M. Kosslyn (2001) Genes, brain and cognition. *Nature Neuroscience*, 4:1153-1155.

### **Chapter 16**

- R. Adolphs (2003) Cognitive neuroscience of human social behaviour. *Nature Reviews: Neuroscience*, 4:165-178.
- A.J. Calder, A.D. Lawrence, A.W. Young (2001) Neuropsychology of fear and loathing. *Nature Reviews: Neuroscience*, 2:352-363.
- A.R. Damasio, D. Tranel, H. Damasio (1990) Individuals with sociopathic behavior caused by frontal damage fail to respond automatically to social stimuli. *Behavioural Brain Research*, 41:81-94.

- A.R. Damasio, T.J. Grabowski, A. Bechara, H. Damasio, L.L.B. Ponto, J. Parvizi, R.D. Hichwa (2000). Subcortical and cortical brain activity during the feeling of self-generated emotions. *Nature Neuroscience*, 3:1049-1056.
- J. Greene (2003) From neural 'is' to moral 'ought': what are the moral implications of neuroscientific moral psychology? *Nature Reviews: Neuroscience*, 4:847-850.
- M.L. Kringelbach (2005) The human orbitofrontal cortex: linking reward to hedonic experience. *Nature Reviews: Neuroscience*, 6:691-702.
- D. Mobbs, M.D. Greicius, E. Abdel-Azim, V. Menon, A.L. Reiss (2003) Humor modulates the mesolimbic reward centers. *Neuron*, 40:1041-1048.
- D. Mobbs, C.C. Hagan, E. Azim, V. Menon, A.L. Reiss (2005) Personality predicts activity in reward and emotional regions associated with humor. *Proceedings of the National Academy of Sciences USA*, 102:16502-16506.
- K.N. Ochsner, J.J. Gross (2005), *op. cit.* (see Chapter 14).
- E.A. Phelps, J.E. LeDoux (2005) Contributions of the amygdala to emotion processing: from animal models to human behavior. *Neuron*, 48:175-187.
- B. Wild, F.A. Rodden, W. Grodd, W. Ruch (2003) Neural correlates of laughter and humour. *Brain*, 126:2121-2138.

### **Chapter 17**

- A. Garakani, S.J. Mathew, D.S. Charney (2006) Neurobiology of anxiety disorders and implications for treatment. *Mount Sinai Journal of Medicine*, 73:941-949.
- M. Gerardi, B.O. Rothbaum, K. Ressler, M. Heekin, A. Rizzo (2008) Virtual reality exposure therapy using a virtual Iraq: case report. *Journal of Traumatic Stress*, 21:209-213.
- C. Gross, R. Hen (2004) The developmental origins of anxiety. *Nature Reviews: Neuroscience*, 5:545-552.
- S. Halpern (2008, May 19) Virtual Iraq: using simulation to treat a new generation of traumatized veterans. *New Yorker*.
- S.D. Hollon, M.O. Stewart, D. Strunk (2006) Enduring effects for cognitive behavior therapy in the treatment of depression and anxiety. *Annual Review of Physiology*, 57:285-315.
- E.D. Leonardo, R. Hen (2006) Genetics of affective and anxiety disorders. *Annual Review of Physiology*, 57:117-37.
- T. Sharot, E.A. Martorella, M.R. Delgado, E.A. Phelps (2007) How personal experience modulates the neural circuitry of memories of September 11. *Proceedings of the National Academy of Sciences USA*, 104:389-394.

### **Chapter 18**

- D.G. Blanchflower, A.J. Oswald (2004) Money, sex and happiness: an empirical study. *Scandinavian Journal of Economics*, 106:393-415.
- K.W. Brown, R.M. Ryan (2003) The benefits of being present: mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84:822-848.
- E. Diener, S. Oishi, R.E. Lucas (2003) Personality, culture, and subjective well-being: emotional and cognitive evaluations of life. *Annual Review of Physiology*, 54:403-425.



- E. Diener, R.E. Lucas, C.N. Scollon (2006) Beyond the hedonic treadmill: revising the adaptation theory of well-being. *American Psychologist*, May-June:305-314.
- R.A. Emmons, M.E. McCullough (2003) Counting blessings versus burdens: an experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, 84:377-389.
- D. Gilbert (2006) *Stumbling on happiness*. New York: Knopf.
- C.B. Holroyd, M.G.H. Coles (2002) The neural basis of human error processing: reinforcement learning, dopamine, and the error-related negativity. *Psychological Review*, 109:649-709.
- R.E. Lucas, A.E. Clark, Y. Georgellis, E. Diener (2003) Reexamining adaptation and the set point model of happiness: reactions to changes in marital status. *Journal of Personality and Social Psychology*, 84:527-539.
- P. Redgrave, K. Gurney (2006) The short-latency dopamine signal: a role in discovering novel actions? *Nature Reviews: Neuroscience*, 7:967-975.
- W. Schultz (2006) Behavioral theories and the neurophysiology of reward. *Annual Review of Physiology*, 57:87-115.
- M.E.P. Seligman (2002) *Authentic happiness: using the new positive psychology to realize your potential for lasting fulfillment*. New York: Free Press.
- P. Taylor, C.Funk, P. Craighill (2006) Are we happy yet? *Pew Research Center: A Social Trends Report*, 1-41.

## Chapter 19

The concept that a species-wide trait such as variability can have an evolutionary advantage is controversial because it goes against the standard view that selection occurs only at the level of individuals. However, theoretical modeling suggests that group selection is possible for complex traits, such as personality, that are determined by many genes. For a current view see [http://en.wikipedia.org/wiki/Group\\_selection](http://en.wikipedia.org/wiki/Group_selection).

- R.P. Ebstein (2006) The molecular genetic architecture of human personality: beyond self-report questionnaires. *Molecular Psychiatry*, 11:427-445.
- S.D. Gosling, S.Vazire (2002) Are we barking up the right tree? Evaluating a comparative approach to personality. *Journal of Research in Personality*, 36:607-614.
- B. Hare, I. Plyusnina, N. Ignacio, O. Schepina, A. Stepika, R. Wrangham, L.Trut (2005) Social cognitive evolution in captive foxes is a correlated by-product of experimental domestication. *Current Biology*, 15:226-230.
- J.A. Mather, R.C. Anderson (1993) Personalities of octopuses (*Octopus rubescens*). *Journal of Comparative Psychology*, 107:336-340.
- C. Siebert (2006, January 22) The animal self. *New York Times*.
- L. Trut (1999) Early canid domestication: the farm-fox experiment. *American Scientist* 87:160-169.

## Chapter 20

- T. Esch, G.B. Stefano (2005) The neurobiology of love. *Neuroendocrinology Letters*, 26:176-192.
- H. Fisher, A. Aron, L.L. Brown (2005) Romantic love: an fMRI study of a neural mechanism for mate choice. *Journal of Comparative Neurology*, 493:58-62.

- S. Hamann, R.A. Herman, C.L. Nolan, K. Wallen (2004) Men and women differ in amygdala response to visual sexual stimuli. *Nature Neuroscience*, 7:411-416.
- G. Holstege, J.R. Georgiadis, A.M.J. Paans, L.C. Meiners, F.H.C.E. van der Graaf, A.A.T. Simone Reinders (2003) Brain activation during human male ejaculation. *Journal of Neuroscience*, 23:9185-9193.
- T.R. Insel (2003) Is social attachment an addictive disorder? *Physiology and Behavior*, 79:351-357.
- E.B. Keverne, J.P. Curley (2004) Vasopressin, oxytocin and social behaviour. *Current Opinion in Neurobiology*, 14:777-783.
- M. Kosfeld, M. Heinrichs, P.J. Zak, U. Fischbacher, E. Fehr (2005) Oxytocin increases trust in humans. *Nature*, 435:673-676.
- M.M. Moore (1985) Nonverbal courtship patterns in women: context and consequences. *Ethology and Sociobiology*, 6:237-247
- J.A. Morris, C.L. Jordan, S.M. Breedlove (2004) Sexual differentiation of the vertebrate nervous system. *Nature Neuroscience*, 7:1034-1039.
- B.S. Mustanski, M.L. Chivers, J.M. Bailey (2002) A critical review of recent biological research on human sexual orientation. *Annual Review of Sex Research*, 12:89-140.
- L.J. Young, Z. Wang (2004) The neurobiology of pair bonding. *Nature Neuroscience*, 7:1048-1054.

## Chapter 21

- R.F. Baumeister, E. Bratslavsky, M. Muraven, D.M. Tice (1998) Ego depletion: is the active self a limited resource? *Journal of Personality and Social Psychology*, 74:1252-1265.
- W.D. Casebeer (2003) Moral cognition and its neural constituents. *Nature Reviews: Neuroscience*, 4:841-846.
- R. Feynman (1975) *Los Alamos from below: reminiscences 1943-1945*. University of California at Santa Barbara Public Lecture..
- M.T. Gailliot, R.F. Baumeister, C.M. DeWall, J.K. Maner, E. Ashby Plant, D.M. Tice, L.E. Brewer, B.J. Schmeichel (2007) Self-control relies on glucose as a limited energy source: willpower is more than a metaphor. *Journal of Personality and Social Psychology*, 92:325-336.
- P.W. Glimcher (2002) Decisions, decisions, decisions: choosing a biological science of choice. *Neuron*, 36:323-332.
- D. Kahneman, A. Tversky (1982) On the study of statistical intuitions. *Cognition*, 11:123-141.
- B. Kast (2001) Decisions, decisions.... *Nature*, 411:126-128.
- J. Moll, R. Zahn, R. de Oliveira-Souza, F. Krueger, J. Grafman (2005) The neural basis of human moral cognition. *Nature Reviews: Neuroscience*, 6:799-809.
- B. Schwartz (2004) *The paradox of choice: why more is less*. New York: Ecco.
- K.D. Vohs, T.F. Heatherton (2000) Self-regulatory failure: a resource-depletion approach. *Psychological Science*, 11:249-254.

## Chapter 22

- M.J. Burish, H.Y. Kueh, S.S.-H. Wang (2004) Brain architecture and social complexity in modern and ancient birds. *Brain, Behavior and Evolution*, 63:107-124.

- J. Duncan (2005) Frontal lobe function and general intelligence: why it matters. *Cortex*, 41:215-217.
- N.J. Emery, N.S. Clayton (2004) The mentality of crows: convergent evolution of intelligence in corvids and apes. *Science*, 306:1903-1907.
- G. Fiorito, P. Scotto (1992) Observational learning in *Octopus vulgaris*. *Science*, 256:545-547.
- J.M. Fuster (2005) The cortical substrate of general intelligence. *Cortex*, 41:228-229.
- K.H. Harrison, P.R. Hof, S.S.-H. Wang (2002) Scaling laws in the mammalian neocortex: does form provide clues to function? *Journal of Neurocytology*, 31:289-298.
- J.H. Kaas (2000) Why is brain size so important: design problems and solutions as neocortex gets bigger or smaller. *Brain and Mind*, 1:7-23.
- D. Posthuma, E.J.C. de Geus, W.F.C. Baaré, H.E. Hulshoff Pol, R.S. Kahn, D.I. Boomsma (2002) The association between brain volume and intelligence is of genetic origin. *Nature Neuroscience*, 5:83-84.
- A.A.S. Weir, J. Chappell, A. Kacelnik (2002) Shaping of hooks in New Caledonian crows. *Science*, 297:981.

### Chapter 23

- A.D. Ekstrom, M.J. Kahana, J.B. Caplan, T.A. Fields, E.A. Isham, E.L. Newman, I. Fried (2003) Cellular networks underlying human spatial navigation. *Nature*, 425:184-188.
- E. Loftus, K. Ketchum (1994) *The Myth of Repressed Memory: False Memories and Allegations of Sexual Abuse*. New York: St. Martin's Press.
- E.A. Maguire, D.G. Gadian, I.S. Johnsrude, C.D. Good, J. Ashburner, R.S.J. Frackowiak, C.D. Frith (2000) Navigation-related structural change in the hippocampi of taxi drivers. *Proceedings of the National Academy of Sciences USA*, 97:4398-4403.
- R.J. McNally (2003) *Remembering Trauma*. Cambridge, Mass.: Belknap Press of Harvard University Press.
- B. Milner, L.R. Squire, E.R. Kandel (1998) Cognitive neuroscience and the study of memory. *Neuron*, 20:445-468.
- L.R. Squire (1986) Mechanisms of memory. *Science*, 232:1612-1619.
- C. Van Petten (2004) Relationship between hippocampal volume and memory ability in healthy individuals across the lifespan: review and meta-analysis. *Neuropsychologia*, 42:1394-1413.

### Chapter 24

- Autism Genome Project Consortium (2007) Mapping autism risk loci using genetic linkage and chromosomal rearrangements. *Nature Genetics* 39:319-328.
- J.N. Constantino, R.D. Todd (2003) Autistic traits in the general population: a twin study. *Archives of General Psychiatry*, 60:524-530.
- E. DiCicco-Bloom, C. Lord, L. Zwaigenbaum, E. Courchesne, S.R. Dager, C. Schmitz, R.T. Schultz, J. Crawley, L.J. Young (2006) The developmental neurobiology of autism spectrum disorder. *Journal of Neuroscience*, 26:6897-6906.
- R. Muhle, S.V. Trentacoste, I. Rapin (2004) The genetics of autism. *Pediatrics*, 113:e472-e486.
- S. Wang (2008, April 16) Autism myth lives on. *USA Today*.

## Chapter 25

- Editorial (2005) Separating science from stereotype. *Nature Neuroscience*, 8:253.
- B.A. Barres (2006) Commentary: Does gender matter? *Nature*, 442:133-136.
- M.S. McGlone, J. Aronson (2006) Stereotype threat, identity salience, and spatial reasoning. *Journal of Applied Developmental Psychology*, 27:486-493.
- D. Voyer, S. Voyer, M.P. Bryden (1995) Magnitude of sex differences in spatial abilities: a meta-analysis and consideration of critical variables. *Psychological Bulletin*, 117:250-270.
- S.C. Wheeler, R.E. Petty (2001) The effects of stereotype activation on behavior: a review of possible mechanisms. *Psychological Bulletin*, 127:797-826.

## Chapter 26

- S.W. Anderson, A. Bechara, H. Damasio, D. Tranel, A.R. Damasio (1999) Impairment of social and moral behavior related to early damage in human prefrontal cortex. *Nature Neuroscience*, 2:1032-1037.
- J.M. Burns, R.H. Swerdlow (2003) Right orbitofrontal tumor with pedophilia symptom and constructional apraxia sign. *Archives of Neurology*, 60:437-440.
- N. Eastman, C. Campbell (2006) Neuroscience and legal determination of criminal responsibility. *Nature Reviews: Neuroscience*, 7:311-318.
- J. Greene, J. Cohen (2004) For the law, neuroscience changes nothing and everything. *Philosophical Transactions of the Royal Society of London B*, 359:1775-1785.
- R.C. Gur (2005) Brain maturation and its relevance to understanding criminal culpability of juveniles. *Current Psychiatry Reports*, 7:292-296.
- J.-D. Haynes, G. Rees (2005) Predicting the stream of consciousness from activity in human visual cortex. *Current Biology*, 15:1301-1307.
- G. Kreiman, I. Fried, C. Koch (2002) Single-neuron correlates of subjective vision in the human medial temporal lobe. *Proceedings of the National Academy of Sciences USA*, 99:8378-8383.
- B. Libet (2004) *Mind time: the temporal factor in consciousness*. Cambridge, Mass.; London: Harvard University Press.
- J. Moll, R. Zahn, R. de Oliveira-Souza, F. Krueger, J. Grafman (2005) The neural basis of human moral cognition. *Nature Reviews: Neuroscience*, 6:799-809.
- G. Rees, G. Kreiman, C. Koch (2002) Neural correlates of consciousness in humans. *Nature Reviews: Neuroscience*, 3:261-270.
- C. Sergent, S. Baillet, S. Dehaene (2005) Timing of the brain events underlying access to consciousness during the attentional blink. *Nature Neuroscience*, 8:1391-1400.

## Chapter 27

- J.S. Ballon, D. Feifel (2006) A systematic review of modafinil: potential clinical uses and mechanisms of action. *Journal of Clinical Psychiatry*, 67:554-566.
- J.A. Caldwell Jr., N.K. Smythe III, J.L. Caldwell, K.K. Hall, D.N. Norman, B.F. Prazinko, A. Estrada, P.A. Johnson, J.S. Crowley, M.E. Brock (1999) The effects of modafinil on aviator performance during 40 hours of continuous wakefulness: a UH-60 helicopter simulator study. U.S. Army Aeromedical Research Laboratory report 99-17.

- R.H. Hahnloser, A.A. Kozhevnikov, M.S. Fee (2003) An ultra-sparse code underlies the generation of neural sequences in a songbird. *Nature*, 419:65-70.
- M. Jouvet (1967, February) The states of sleep. *Scientific American*, 216(2):62-72.
- K. Louie, M.A. Wilson (2001) Temporally structure replay of awake hippocampal ensemble activity during rapid eye movement sleep. *Neuron*, 29:145-156.
- R.R.Provine (2005) Yawning. *American Scientist*, 532-539.
- Y. Sekiguchi, K. Arai, S. Kohshima (2006) Sleep in continuously active dolphins, and two additional communications by Gnone *et al.* and Lyamin *et al.* *Nature*, 441:809-811.
- R. Stickgold, J.A. Hobson, R. Fosse, M. Fosse (2001) Sleep, learning, and dreams: off-line memory reprocessing. *Science*, 294:1052-1057.
- R.P. Vertes (2004) Memory consolidation of sleep: dream or reality. *Neuron*, 44:135-148.

## Chapter 28

- S. Arzy, M. Idel, T. Landis, O. Blanke (2005) Why have revelations occurred on mountains? Linking mystical experiences and cognitive neuroscience. *Medical Hypotheses*, 65:841-845.
- S. Arzy, M. Seeck, S. Ortigue, L. Spinelli, O. Blanke (2006) Induction of an illusory shadow person. *Nature*, 443:287.
- M. Barinaga (2003) Studying the well-trained mind. *Science*, 302:44-46.
- M. Beauregard, V. Paquette (2006) Neural correlates of a mystical experience in Carmelite nuns. *Neuroscience Letters*, 405:186-190.
- O. Blanke, S. Ortigue, T. Landis, M. Seeck (2002) Stimulating illusory own-body perceptions. *Nature*, 419:269-270.
- P. Brugger, M. Regard, T. Landis, O. Oelz (1999) Hallucinatory experiences in extreme-altitude climbers. *Neuropsychiatry, Neuropsychology, and Behavioral Neurology*, 12:67-71.
- K. Dewhurst, A.W. Beard (1970) Sudden religious conversions in temporal lobe epilepsy. *British Journal of Psychiatry*, 117:497-507.
- R.I.M. Dunbar (2003) The social brain: mind, language, and society in evolutionary perspective. *Annual Review of Anthropology*, 32:163-181.
- J. Geirland (2006, February) Buddha on the brain. *Wired*, 14.02.
- A. Lutz, L.L. Greischar, N.B. Rawlings, M. Ricard, R.J. Davidson (2004) Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *Proceedings of the National Academy of Sciences USA*, 101:16369-16373.
- A. Newberg, A. Alavi, M. Baime, M. Pourdehnad, J. Santanna, E. d'Aquili (2001) The measurement of regional blood flow during the complex cognitive task of meditation: a preliminary SPECT study. *Psychiatry Research: Neuroimaging Section*, 106:113-122.
- J.L. Saver, J. Rabin (1997) The neural substrates of religious experience. *Journal of Neuropsychiatry and Clinical Neurosciences*, 9:498-510.
- M. Siegal, R. Varley (2002) Neural systems involved in 'theory of mind.' *Nature Reviews: Neuroscience*, 3:463-471.

## Chapter 29

- J.P. Mohr, D.W. Choi, J.C. Grotta, B. Weir, P.A. Wolf, eds. (2004) *Stroke: Pathophysiology, Diagnosis, and Management*, 4th edition. Oxford: Churchill Livingstone.
- (2003) Know stroke: know the signs, act in time. National Institutes of Neurological Disorders and Stroke publication. Brochure available at <http://www.stroke.ninds.nih.gov/>.
- Medline stroke resource: <http://www.nlm.nih.gov/medlineplus/stroke.html>
- (2005, March-April) Brain attack: a look at stroke prevention and treatment. *FDA Consumer Magazine*. Available online at [http://www.fda.gov/fdac/features/2005/205\\_stroke.html](http://www.fda.gov/fdac/features/2005/205_stroke.html).

## Chapter 30

- J. Chick (1999) Can light or moderate drinking benefit mental health? *European Addiction Research*, 5:74-81.
- G.B. Jensen, B. Pakkenberg (1993) Do alcoholics drink their neurons away? *Lancet*, 342:1201-1204.
- P.J. Kenny, A. Markou (2006) Nicotine self-administration acutely activates brain reward systems and induces a long-lasting increase in reward sensitivity. *Neuropsychopharmacology*, 31:1203-1211.
- M.A. King, B.E. Hunter, D.W. Walker (1988) Alterations and recovery of dendritic spine density in rat hippocampus following long-term ethanol ingestion. *Brain Research*, 459:381-385.
- A. Klein (2007) Staving off dementia: marijuana's active ingredient may help stall Alzheimer's disease. *Scientific American Mind*, April/May:14-15.
- M. Kubota, S. Nakazaki, S. Hirai, N. Saeki, A. Yamaura, T. Kusaka (2001) Alcohol consumption and frontal lobe shrinkage: study of 1432 non-alcoholic subjects. *Journal of Neurology, Neurosurgery, and Psychiatry*, 71:104-106.
- E.T.K. Leonardi, E.C. Azmitia (1994) MDMA (Ecstasy) inhibition of MAO Type A and Type B: comparisons with fenfluramine and fluoxetine (Prozac). *Neuropsychopharmacology*, 10:231-238.
- L. Letenneur (2004) Risk of dementia and alcohol and wine consumption: a review of recent results. *Biological Research*, 37:189-193.
- K.J. Mukamal, A. Ascherio, M.A. Mittleman, K.M. Conigrave, C.A. Camargo Jr., I. Kawachi, M.J. Stampfer, W.C. Willett, E.B. Rimm (2005) Alcohol and risk for ischemic stroke in men: the role of drinking patterns and usual beverage. *Annals of Internal Medicine*, 142:11-19.
- E.J. Nestler (2005) Is there a common molecular pathway for addiction? *Nature Neuroscience*, 8:1445-1449.
- R.A. Nicoll, B.E. Alger (2004, December) The brain's own marijuana. *Scientific American*, 291(12): 68-75.
- K. Nixon, F.T. Crews (2004) Temporally specific burst in cell proliferation increases hippocampal neurogenesis in protracted abstinence from alcohol. *Journal of Neuroscience*, 24:9714-9722.

- A. Pfefferbaum, E.V. Sullivan, M.J. Rosenbloom, D.H. Mathalon, K.O. Lim (1998) A controlled study of cortical gray matter and ventricular changes in alcoholic men over a 5-year interval. *Archives of General Psychiatry*, 55:905-912.
- E.V. Sullivan, M.J. Rosenbloom, K.O. Lim, A. Pfefferbaum (2000) Longitudinal changes in cognition, gait, and balance in abstinent and relapsed alcoholic men: relationships to changes in brain structure. *Neuropsychology*, 14:178-188.

### Chapter 31

- Editorial (2006) Is this the bionic man? *Nature*, 442:109.
- W.S. Anderson, F.A. Lenz (2006) Surgery Insight: deep brain stimulation for movement disorders. *Nature Clinical Practice Neurology*, 2:310-320.
- B.-P. Bejjani, P. Damier, I. Arnulf, L. Thivard, A.-M. Bonnet, D. Dormont, P. Cornu, B. Pidoux, Y. Samson, Y. Agid (1999) Transient acute depression induced by high-frequency deep-brain stimulation. *New England Journal of Medicine*, 340:1476-1480.
- A.-L. Benabid, P. Pollak, D. Gao, D. Hoffmann, P. Limousin, E. Gay, I. Payen, A. Benazzouz (1996). Chronic electrical stimulation of the ventralis intermedius nucleus of the thalamus as a treatment of movement disorders. *Journal of Neurosurgery*, 84:203-214.
- A. Berney, M. Panisset, A.F. Sadikot, A. Ptito, A. Dagher, M. Fraraccio, G. Savard, M. Pell, C. Benkelfat (2007) Mood stability during acute stimulator challenge in Parkinson's disease patients under long-term treatment with subthalamic deep brain stimulation. *Movement Disorders* 22:1093-1096.
- M.S. George, Z. Nahas, D.E. Bohning, F.A. Kozel, B. Anderson, J.-H. Chae, M. Lomarev, S. Denslow, X. Li, C. Mu (2002) Vagus nerve stimulation therapy: a research update. *Neurology* 59:S56-S61.
- L.R. Hochberg, M.D. Serruya, G.M. Friehs, J.A. Mukand, M. Saleh, A.H. Caplan, A. Branner, D. Chen, R.D. Penn, J.P. Donoghue (2006) Neuronal ensemble control of prosthetic devices by a human with tetraplegia. *Nature*, 442:164-171.
- G. Kleiner-Fisman, J. Herzog, D.N. Fisman, F. Tamma, K.E. Lyons, R. Pahwa, A.E. Lang, G. Deuschl (2006) Subthalamic nucleus deep brain stimulation: summary and meta-analysis of outcomes. *Movement Disorders*, 21 Suppl. 14:S290-S304.
- P. Krack, A. Batir, N. Van Blercom, S. Chabardes, V. Fraix, C. Ardouin, A. Koudsie, P.D. Limousin, A. Benazzouz, J.F. LeBas, A.-L. Benabid, P. Pollak (2003) Five-year follow-up of bilateral stimulation of the subthalamic nucleus in advanced Parkinson's disease. *New England Journal of Medicine*, 349:1925-1934.
- J. Kulisevsky, M.L. Berthier, A. Gironell, B. Pascual-Sedano, J. Molet, P. Parés (2002) Mania following deep brain stimulation for Parkinson's disease. *Neurology*, 59:1421-1424.
- P. Limousin, P. Krack, P. Pollack, A. Benazzouz, C. Ardouin, D. Hoffmann, A.-L. Benabid, A.-L. (1998). Electrical stimulation of the subthalamic nucleus in advanced Parkinson's disease. *New England Journal of Medicine*, 339:1105-1111.
- H.S. Mayberg, A.M. Lozano, V. Voon, H.E. McNeely, D. Seminowicz, C. Hamani, J.M. Schwalb, S.H. Kennedy (2005) Deep brain stimulation for treatment-resistant depression. *Neuron*, 45:651-660.

## **Afterword**

- S. Aamodt, S. Wang (2007, November 8) Exercise on the brain. *New York Times*.  
<http://www.nytimes.com/2007/11/08/opinion/08aamodt.html>
- S. Aamodt, S. Wang (2008, April 2) Tighten your belt, strengthen your mind. *New York Times*. <http://www.nytimes.com/2008/04/02/opinion/02aamodt.html>
- A.R.A. Conway, M.J. Kane, R.W. Engle (2003) Working memory capacity and its relation to general intelligence. *Trends in Cognitive Science*, 7:547-552.
- E. Dahlin, A.S. Neely, A. Larsson, L. Bäckman, L. Nyberg (2008) Transfer of learning after updating training mediated by the striatum. *Science*, 320:1510-1512.
- J.R. Gray, C.F. Chabris, T.S. Braver (2003) Neural mechanisms of general fluid intelligence. *Nature Neuroscience*, 6:316-322.
- S.M. Jaeggi, M. Buschkuhl, J. Jonides, W.J. Perrig (2008) Improving fluid intelligence with training on working memory. *Proceedings of the National Academy of Sciences USA*, 105:6829-6833.
- M.J. Kane, R.W. Engle (2002) The role of prefrontal cortex in working-memory capacity, executive attention and general fluid intelligence: an individual-differences perspective. *Psychonomic Bulletin and Review*, 9: 637-671.