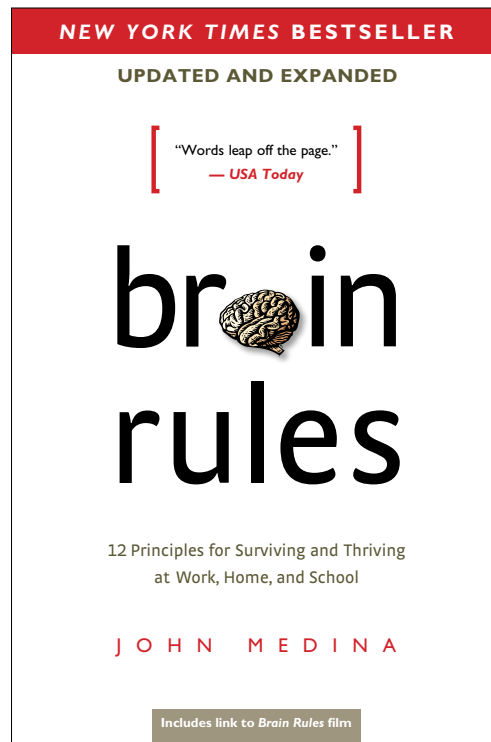


References



INTRODUCTION

Amazing children

Ramachandran, V.S., and S. Blakeslee. *Phantoms in the Brain: Probing the Mysteries of the Human Mind*. New York: HarperCollins, 1998. p. 191-193

Symbolic reasoning and dual representational theory

DeLoache, J.D. "Becoming Symbol-Minded." *Trends in Cognitive Sciences* 8, No. 2 (2004): 66 – 70.

DeLoache, J., et al. "Dual Representation and Young Children's Use of Scale Models." *Child Dev* 71, No. 2 (2000): 329-38.

Progress from tool-making, the 40,000 year “flowering”

Culotta, E., et al. “Paleolithic Technology and Human Evolution.” *Science* 291 (2001): 1748-53.

Out of Africa hypothesis

Stringer, C.B. “Human Evolution: Out of Ethiopia.” *Nature* 423 (2003): 692-95.

Stuedel, K.L. “Locomotor Energetics and Hominid Evolution.” *Evol Anthro* 3 (1994): 42-48.

Variability Selection Theory and climactic instability

Pickford, M. “Palaeoenvironments and Hominoid Evolution.” *Z. Morphol Anthro* 83, No. 2-3 (2002): 337 – 48.

Bobbe, R., et al. “Faunal Change, Environmental Variability and Late Pliocene Hominin Evolution.” *J. Human Evol* 42, No. 4 (2002): 475 – 97.

Balter, M. “Becoming Human.” *Science* 295 (2002): 1225.

Richard Potts (we adapted to variation itself)

Potts, R. “Environmental Hypotheses of Hominin Evolution.” *Am J Phys Anthro* 27, No. (suppl) (1998): 93-136.

Phineas Gage

Ratiu, P., et al. “The Tale of Phineas Gage, Digitally Remastered.” *J Neurotrauma* 21 No. 5 (2004): 637-43.

General anatomy

Nolte, J. *The Human Brain: An Introduction to Functional Anatomy, (4th Edition)* St. Louis MO: Mosby Press, 1999.

MacLean, P.D. *The Triune Brain in Evolution: Role in Paleocerebral Functions.* New York: Plenum Press, 1990.

Effects of World War I on brain anatomy

Horton, J., et al. "Anatomy of Primary Visual Cortex: A Revision of the Classic Holmes Map of the Visual Field Representation." Paper presented at the 1991 North American Neuro-Ophthalmology Society Annual Meeting, Minneapolis, MN, 1991.

Fishman, R.S. "Gordon Holmes, the Cortical Retina, and the Wounds of War. The Seventh Charles B. Snyder Lecture." *Doc Ophthalmol* 93, No. 1-2 (1997): 9-28.

Anatomical requirements for walking upright

Socket, M.D., et al. "Chimpanzee Locomotor Energetics and the Origin of Human Bipedalism." *PNAS* 104, No. 30 (2006): 12265-69.

Aiello, I., and C. Dean. *Human Evolutionary Anatomy.* New York: Academic Press, 1990.

Lewin, R. *Human Evolution: An Illustrated Introduction (4th Edition).* Malden, MA: Blackwell Science, Inc, 1999. p. 156 - 164

Cooperation may have been the key to our success

Dunbar, R.J. "The Social Brain Hypothesis." *Evol Anthro* 6 (1998): 178-90.

Lewin, R. *Human Evolution: An Illustrated Introduction (4th Edition)*. Malden, MA: Blackwell Science, Inc, 1999
p. 193

Theory of Mind

Premack, D., and A. Premack. *Original Intelligence Unlocking the Mystery of Who We Are*. New York: McGraw-Hill, 2003.
pp.. 1 – 28

Siegal, M., and R. Varley. “Neural Systems Involved in Theory of Mind.” *Nat Rev Neuro* 3 (2002): 463-71.

Theory of Mind and its role in our survival

Hobson, P. *The Cradle of Thought*. London, UK: Macmillan, Ltd, 2002.
p. 61 – 94

Lewin, R. *Human Evolution: An Illustrated Introduction (4th Edition)*. Malden, MA: Blackwell Science, Inc, 1999
p. 192 – 194

Humphrey, N. *The Inner Eye: Social Intelligence in Evolution* Oxford, UK: Oxford University Press, 2003.

EXERCISE CHAPTER*Jack LaLanne story and quotes*

Couch, A. “Jack Lalanne Remembered: Five of His Amazing Feats.” *Christian Science Monitor*. <http://www.csmonitor.com/USA/2011/0124/Jack-LaLanne-remembered-five-of-his-amazing-feats/Towing-70-boats-for-a-mile>.

Hughes, J., and D. Hughes. “Interview with Jack Lalanne.” *ShareGuide*. <http://www.shareguide.com/LaLanne.html>.

Migration due to climactic changes

Bobe, R., et al. “Faunal Change, Environmental Variability and Late Pliocene Hominid Evolution.” *J. Human Evol* 42, No. 4 (2002): 475-97.

H. erectus migrations

Howell, F.C. “Some Thoughts on the Study and Interpretation of the Human Fossil Record. In: Meikle We Et Al Eds. *Current Issues in Human Evolution*.” In *Current Issues in Human Evolution*, edited by W.E. Meikle et al. San Francisco: California Academy of Sciences, 1996.

Lewin, R. *Human Evolution: An Illustrated Introduction*. UK: Blackwell Publishing Ltd, 2005. p. 187-199

H. sapien migrations

Stringer, C. “Modern Human Origins: Progress and Prospects.” *Phil Trans R Soci Lond B* 357 (2002): 563-79.

Dalton, R. “Caveman DNA Hints at Map of Migration.” *Nature* 436 (2006): 162.

Bryson, B. *A Short History of Nearly Everything*. New York. Broadway Books 2003. p. 451-452

Tattersall, I. *The Human Odyssey: Four Million Years of Human Evolution*. New York: Prentice Hall, 1993.

Richard Wrangham and 10–20 km per day

Carmody, R.N., and R.W. Wrangham. “Cooking and the Human Commitment to a High-Quality Diet.” *Cold Spr Harb Symp Quant Bio* 74 (2009): 427-34.

Leonard, W.R., and M.L. Robertson. “Comparative Primate Energetics and Hominid Evolution.” *Am J Phys Anthropol* 102 (1997): 265-81

Mike Wallace interviewing Frank Lloyd Wright

ABC Television. “The Mike Wallace Interview: Frank Lloyd Wright (1957).” Harry Ransom Center, University of Texas at Austin. http://www.hrc.utexas.edu/multimedia/video/2008/wallace/wright_frank_lloyd.html.

Relationship between aging and activity

Kramer, A., et al. “Exercise, Cognition, and the Aging Brain.” *J. Appl Physiol* 101 (2006): 1237-42.

Stewart, K.J. “Physical Activity and Aging.” *Ann NY Acad Sci* 1055 (2005): 193-206.

Ory, M.G., and D.M Cox. “Forging Ahead: Linking Health and Behavior to Improve Quality of Life in Older People.” *Social Indicators Res* 33 (1994): 89-120.

Shaw, J. “The Deadliest Sin.” *Harvard Magazine*, March-April 2004.

Relationship between activity and staying mentally alert

Churchill, J.D., et al. “Exercise, Experience and the Aging Brain.” *Neurobiol Aging* 23 (2002): 941-55.

Cotman, C.W., and N.C. Berchtold. “Exercise: A Behavioral Intervention to Enhance Brain Health and Plasticity.” *Trends in Neuroscience* 25 (2002): 295-301.

Emry, C.F., et al. “Relationships among Age, Exercise, Health and Cognitive Function in a British Sample.” *Gerontology* 35 (1994): 378-85.

Clarkson-Smith, L., and A. Hartley. “Relationships among Age, Exercise, Health and Cognitive Function in a British Sample.” *Psychol Aging* 4 (1989): 183-89.

Dustman, R.E., et al. “Aerobic Exercise Training and Improved Neurophysiological Function of Older Adults.” *Neurobiol Aging* 5 (1984): 35-42

School aged children and exercise

Strong, W.B., et al. “Evidence Based Physical Activity for School-Age Youth.” *J. Pediatrics* 146 (2005): 732 - 37.

Taras, H. “Physical Activity and Student Performance at School.” *J. Sch Health* 75 (2005): 214 - 18.

Hillman, C., and S. Buck. “Physical Fitness and Cognitive Function in Healthy Pre-Adolescent Children.” Paper presented at the Annual meeting of the Society of Psychophysiological Research, Sante Fe, NM, 2004.

C.Summerford. “What Is the Impact of Exercise on Brain Function for Academic Learning?”. *Teaching Elementary Physical Education* 12 (2001): 6-8.

Dwyer, T., et al. “Relations of Academic Performance to Physical Activity and Fitness in Children.” *Pediatric Exerc Sci* 13 (2001): 225-37.

Kubota, K., et al. <http://nootropics.com/exercise/index.html>

Keays, J.J., and K.R. Allison. “The Effects of Regular Moderate to Vigorous Physical Activity on Student Outcomes: A Review.” *Can J. Public Health* 86 (1995): 62-65.

How much exercise you need

Tomporowski, P.D. “Effects of Acute Bouts of Exercise on Cognition.” *Acta Psychol (Amst)* 112 (2003): 297-324.

Exercise and dementia

Rovio, S., et al. “Physical Activity, Including Walking, and Cognitive Function in Older Women.” *Lancet Neurol* 4 (2005): 690-701.

Weuve, J., et al. “Physical Activity, Including Walking, and Cognitive Function in Older Women.” *JAMA* 292 (2004): 1454-61.

Exercise, Alzheimer’s disease and dementia

Rovio, S., et al. “Leisure-Time Physical Activity at Midlife and the Risk of Dementia and Alzheimer’s Disease.” *Lancet Neurology* 4 (2005): 705 – 11.

Vergheze, J., et al. “Leisure Activities and the Risk of Dementia in the Elderly.” *N Engl J Med* 348 (2003): 2508 – 16.

Exercise and depression

Penninx, B.W., et al. “Exercise and Depressive Symptoms.” *J. Gerontology Series B: Psych Sci and Soc Sci* 57 (2002): 124- 32.

Babyak, M.A., et al. “Exercise Treatment for Major Depression: Maintenance of

Therapeutic Benefit at 10 Months.” *Psychosom Med* 62 (2000): 633-38.

North, T.C., et al. “Effect of Exercise on Depression.” *Exer and Sport Sci Rev* 18 (1990): 379 - 415.

Steven Blair comment

McArdle, W.D., et al. *Exercise Physiology, 6th Edition*. New York: Lippincott Williams & Wilkins, 2007.

Bio of Steven Blair: http://oaaction.org/news_events/Blair-Bio.pdf

Quote from Antronette Yancey

Nieghmond, P. “Exercise Helps Students in the Classroom.” Interview, National Public Radio, August 31, 2006. <http://www.npr.org/templates/story/story.php?storyId=5742152>.

Takeru “Tsunami” Kobayashi

Fagone, J. *Horsemen of the Esophagus: Competitive Eating and the Big Fat American Dream*. New York: Crown Publishers, 2006.

Records at:

www.ifoce.com

20% energy use

Raichle, M.E. “The Brain’s Dark Energy.” *Science* 314 (2006): 1249-50.

Bourre, J.M. “Effects of Nutrients (in Food) on the Structure and Function of the Nervous System: Update on Dietary Requirements for Brain. Part 2: Macronutrients.” *J Nutr Health Aging* 10 (2006): 386-99.

Various metabolic facts and figures for the brain

Blinkov, S.M., and I.L. Glezer. *The Human Brain in Figures and Tables: A Quantitative Handbooks*. New York: Plenum Press, 1968.

John McAdam's roads

Mokyr, J. *The British Industrial Revolution: An Economic Perspective*. UK: Westview Press, 1998.

Exercise, nitric oxide and angiogenesis (new blood vessels)

Green, D.J., et al. "Effect of Exercise Training on Endothelium-Derived Nitric Oxide Functions in Humans." *J. Physiol* 561 (2004): 1-25.

BDNF and exercise

Gomze-Pinilla, F., and C. Hillman. "The Influence of Exercise on Cognitive Abilities." *Compr Physiol* 3, No. 1 (2013): 403-28.

Beckenstein, P., et al. "Reviews: Bdnf and Memory Formation and Storage." *Neuroscientist* 14, No. 2 (2008): 147-56.

Vaynman, S.S., et al. "Exercise Differentially Regulates Synaptic Proteins Associated to the Function of BDNF." *Brain Res* 1070 (2006): 124-30.

Various health benefits of exercise (general review)

Snow-Harter, C., and R. Marcus. "Exercise, Bone Mineral Density and Osteoporosis." *Exer Sport Sci Rev* 19 (1991): 351-88.

Barnett, A., et al. "Community-Based Group Exercise Improves Balance and Reduces Falls in at-Risk Older People: A Randomised Controlled Trial." *Age and Aging* 32, No. 4 (2003): 407-14.

Blundell, J., et al. “Interactions among Physical Activity, Food Choice, and Appetite Control: Health Messages in Physical Activity and Diet. .” *Soc Study Hum Biol* 44 (2006): 135-48.

Molokhia, E.A., and A. Perkins. “Preventing Cancer.” *Prim Care* 35, No. 4 (2008): 609-23.

Manca, M. “Physical Activity Exercise and Cardiovascular Health.” *Brit J Sports Med* 40, No. 10 (2006): 820.

REFERENCES — BRAIN RULES BY JOHN MEDINA

SLEEP CHAPTER

Peter Tripp story; William Dement quote

Rolls, G. “The Men Who Didn’t Sleep: The Story of Peter Tripp and Randy Gardner.” In *Classic Case Studies in Psychology, 2nd Edition*. New York: Routledge Press, 2010. p. 70-72

Dement, W. *Some Must Watch While Some Must Sleep* New York: W.H. Freeman & Company, 1972. p. 8

Fatal Familial Insomnia

Harder, A., et al. “Early Age of Onset in Fatal Familial Insomnia. Two Novel Cases and Review of the Literature.” *J Neurol* 251, No. 16 (2004): 715-24.

Imran, M., and S. Mahmood. “An Overview of Prion Diseases.” *Virology* 8 (2011): 559.

Foster, R.G., and L. Kreitzman. *Rhythms of Life: The Biological Clocks That Control the Daily Lives of Every Living Thing*. Profile Books (London)

Brain active during sleep

Rechtschaffen, A. “Current Perspectives on the Function of Sleep.” *Perspectives in Biology and Medicine* 41 (1998): 359-90.

Smolensky, M., and L. Lamberg. *The Body Clock Guide to Better Health*. New York: Henry Holt & Co 2000. p. 71

William Dement dreaming quote

Dement, W. *Newsweek*, Nov 30 1959.

Contributions of Nathaniel Kleitman

Easton, J. “Nathaniel Kleitman, Phd, 1895-1999.” news release, August 16, 1999, <http://www.uchospitals.edu/news/1999/19990816-kleitman.html>.

Opponent process model of sleep (process C vs Process S)

Dijk, D.J. “Internal Rhythms in Humans.” *Semin Cell Dev Biol* 7 (1996): 831-36.

Foster, R.G., and L. Kreitzman. *Rhythms of Life: The Biological Clocks That Control the Daily Lives of Every Living Thing*. Profile Books (London)
p. 177 - 200

Mammoth Cave study of Kleitman

Jeffries, S. “The History of Sleep Science.” *The Guardian*, January 28 2011.

Early vs late chronotypes

Duffy, J. “Association of Intrinsic Circadian Period with Morningness-Eveningness, Usual Wake Time, and Circadian Phase.” *Behav Neurosci* 115 (2001): 895-99.

Foster, R.G., and L. Kreitzman. *Rhythms of Life: The Biological Clocks That Control the Daily Lives of Every Living Thing*. Yale University Press (New Haven, CT)
p. 187-88

Gale, G., and C. Martin. “Larks and Owls, and Health, Wealth, and Wisdom.” *British Med J*. 317 (1998): 1675-77.

Paine, S.J., et al. “The Epidemiology of Morningness/Eveningness: Influence of Age, Gender, Ethnicity, and Socioeconomic Factors in Adults (30–49 Years)” *J. Biol Rhythms* 21, No. 1 (2006): 68-76.

Lyndon Johnson's sleep habits

Jaret, P. "Famous Nappers: Celebrities and Politicians Who Could Sleep Anywhere." AARP, Last Modified 2012. <http://www.aarp.org/health/healthy-living/info-09-2012/famous-nappers-slideshow.html#slide3>.

"Should You Nap?". Southernbelle Magazine, Last Modified 2012. <http://southernbellemagazine.com/should-you-nap>.

Nap Zone studies

Dement, W.C., and C. Vaughan. *The Promise of Sleep*. New York: Random House, 2000. p. 372-376

Rosekind, M.R., et al. "Crew Factors in Flight Operations Ix: Effects of Planned Cockpit Rest on Crew Performance and Alertness in Long-Haul Operations." In *NASA Technical Memorandum 108839*. . Moffett Field, CA: NASA Ames Research Center, 1994.

Sleep behavior is individually experienced

Burns, E.R. "Biological Time and in Vivo Research: A Field Guide to Pitfalls." *Anat Rec* 261 (2000): 141-52.

Webb, W.B. "Individual Differences in Sleep Length." *Int Psych Clin* 7, No. 44-47 (1970).

Dement, W.C., and C. Vaughan. *The Promise of Sleep*. New York: Random House, 2000. p. 102-28

General comments on hazards of sleep loss

Dongen, H.P. Van, et al. "The Cumulative Cost of Additional Wakefulness; Dose-Response Effects on Neurobehavioral Functions and Sleep Physiology

from Chronic Sleep Restriction and Total Sleep Deprivation.” *Sleep Res* 26 (2003): 117-26.

Spiegel, K., et al. “Impact of Sleep Debt on Metabolic and Endocrine Function “. *Lancet* 354 (1999): 1435-39.

Pilcher, J.J., and AA.J. Huffcutt. “Effects of Sleep Deprivation on Performance: A Meta-Analysis.” *Sleep* 19, No. 4 (1996): 318-26.

Various performance deficiencies related to sleep loss

Benoit, O., et al. “Habitual Sleep Length and Patterns of Recovery Sleep after 24 Hour and 36 Hour Sleep Deprivation.” *Electroencephogr Clin Neurophysiol* 50, No. 477-485 (1980).

Dinges, D.F., et al. “Cumulative Sleepiness, Mood Disturbance, and Psychomotor Vigilance Performance Decrements During a Week of Sleep Restricted to 4-5 Hours Per Night.” *Sleep* 20, No. 267-277 (1997).

Passer, M.W., and R.E. Smith. *Psychology: Frontiers and Applications*. New York: McGraw-Hill, 2001. p. 193-94

Angus, R.G., and R.J. Heslegrave. “Effects of Sleep Loss on Sustained Cognitive Performance During a Command and Control Simulation.” *Behav Res Methods Instrum Comput* 17 (1985): 55-67.

Combined Arms Combat Developments Activity (CACDA). “Continuous Operations Study (CONOPS) Final Report.” Fort Leavenworth, KS: United States Army, 1987.

Mendeleyev story

Nelson, L. “While You Were Sleeping.” *Nature* 430 (2004): 477-85.

Benefits of sleep for learning: behavioral evidence for offline processing

Castro, J. “Sleep’s Secret Repairs.” *Scientific American Mind* 23, No. 2 (2012): 42-45.

Stickgold, R., and M.P. Walker. “Sleep-Dependent Memory Consolidation.” *Nat Neuro* 16, No. 2 (2013): 139-45.

Mednick, S.C., and S. Drummond. “Sleep: A Prescription for Insight?”. *Insomnia* 3 (2004): 26-28.

Wagner, U., et al. “Sleep Inspires Insight.” *Nature* 427 (2004): 352-55.

Sleep replay at night

Louie, K., and M.A. Wilson. “Temporally Structured Replay of Awake Hippocampal Ensemble Activity During Rapid Eye-Movement Sleep.” *Neuron* 29 (2001): 149–56.

Skaggs, W.E., and B.L. McNaughton. “Replay of Neuronal Firing Sequences in Rat Hippocampus During Sleep Following Spatial Experience.” *Science* 194 (1996): 1870–73.

Wilson, M.A., and B.L. McNaughton. “Dynamics of the Hippocampal Ensemble Code for Space.” *Science* 294 (1993): 1058–63.

Contributions of sleep to learning

Diekelmann, S., and J. Born. “The Memory Function of Sleep.” *Nat Rev Neuro* 11, No. 2 (2010): 114–26.

Toxic waste clean-up

L.Xie, et al. “Sleep Drives Metabolite Clearance from the Adult Brain.” *Science*

342 (2013): 373–377.

Critical evaluation regarding offline processing

Siegel, J.M. “The REM Sleep-Memory Consolidation Hypothesis.” *Science* 294 (2005): 1058–1063.

STRESS CHAPTER*Seligman's dogs, learned helplessness*

Abramson, L.Y., M.E.P. Seligman, and J.D. Teasdale. "Learned Helplessness in Humans: Critique and Reformulation." *Journal of Abnormal Psychology* 87 (1978): 49–74.

Overmier, J.B., and M.E.P. Seligman. "Effects of Inescapable Shock Upon Subsequent Escape and Avoidance Responding." *J Com Physiol & Psych* 63 (1967): 28–33.

Gammel(n) concentration camp definition

Gutman, I. *Encyclopedia of the Holocaust, 3rd Ed.* New York: Macmillan, 1990.

Definition of stress (Jeansok Kim & David Diamond)

Kim, J.J., and D.M. Diamond. "The Stressed Hippocampus, Synaptic Plasticity and Lost Memories." *Nature Reviews Neuroscience* 3, No. 6 (2002): 452–462.

Stress response physiology

Schacter, Daniel L., Daniel T. Gilbert, and Daniel M. Wegner. In *Introducing Psychology, Second Edition*, 389–90. New York: Worth Publishers, 2013.
p. 470–471

Carlson, N.R. *Physiology of Behavior.* Boston, MA: Allyn & Bacon, 2007.
p. 601–606

Stress response necessary, but designed for short duration

Sapolsky, Robert. *Why Zebras Don't Get Ulcers, 3rd Edition.* New York: Owl Books, 2004. p. 10–16

Sterling, P. “Principles of Allostasis: Optimal Design, Predictive Regulation, Pathophysiology and Rational Therapeutics.” In *Allostasis, Homeostasis, and the Costs of Adaptation*, edited by J. Shulckin. Cambridge, MA: MIT Press, 2003.

Stress and cardiovascular issues

Dimsdale, J.E. “Psychological Stress and Cardiovascular Disease.” *J Am College Cardio* 51, No. 13 (2008): 1237-46.

May, M. *et al* “Does Psychological Distress Predict the Risk of Ischemic Stroke and Transient Ischemic Attack? The Caerphilly Study.” *Stroke* 33, No. 1 (2002): 7 - 12

Stress and immune response

Cohen, Sheldon, David A.J. Tyrrell, and Andrew P. Smith. “Psychological Stress and Susceptibility to the Common Cold.” *New England Journal of Medicine* 325 (1991): 606-12.

B.S. McEwen *et al*. “The Role of Adrenocorticoids as Modulators of Immune Function in Health and Disease: Neural, Endocrine and Immune Interactions.” *Brain Res Brain Res Rev* 23 (1997): 79-133.

Method acting experiment (UCLA)

Futterman, A.D. “Immunological and Physiological Changes Associated with Induced Positive and Negative Mood.” *Psychosom Med* 56 (1994): 499-511.

Stress and memory

Newcomer, J.W., *et al*. “Decreased Memory Performance in Healthy Humans Induced by Stress-Level Cortisol Treatment.” *Archives of General Psychiatry* 56, No. 6 (1999): 527-33.

Newcomer, J.W., S. Craft, T. Hershey, K. Askins, and M.E. Bardgett. "Glucocorticoid-Induced Impairment in Declarative Memory Performance in Adult Humans." *The Journal of Neuroscience* 14, No. 4 (1994): 2047-53.

Effects of chronic stress on learning, learned helplessness, and depression

Sandi, C. "Stress and Cognition." *Cog Sci* 4, No. 3 (2013): 245-61.

Fraser, K.P., and C.M. Tucker. "Individuation, Stress, and Problem Solving Abilities of College Students." *J Col Stu Dev* 38, No. 5 (1996): 461-67.

Sapolsky, Robert. *Why Zebras Don't Get Ulcers, 3rd Edition*. New York: Owl Books, 2004. p. 300-304

Prolonged stress, depression, and cortisol

Tafet, G.E., and R. Bernardini. "Psychoneuroendocrinological Links between Chronic Stress and Depression." *Prog Neuropsychopharmacol Biol Psychiatry* 27, No. 6 (2003): 893-903.

Austin, M., et al. "Cognitive Effects in Depression." *British J of Psychiatry* 178 (2001): 200.

Baum, A., and D. Polsusny. "Health Psychology: Mapping Biobehavioral Contributions to Health and Illness." *Annual Rev Psychol* 50 (1999): 137-63.

Stress, brain damage, and the hippocampus

Tata, D.A., and B.J. Anderson. "The Effects of Chronic Glucocorticoid Exposure on Dendritic Length, Synapse Numbers and Glial Volume in Animal Models: Implications for Hippocampal Volume Reductions in Depression." *Physiol Behav* 99, No. 2 (2010): 186-93.

Wooley, C.S., et al. “Exposure to Excess Glucocorticoids Alters Dendritic Morphology of Adult Hippocampal Pyramidal Neurons.” *Brain Res* 531, No. 1-2 (1990): 225 - 231.

Sapolsky, R., et al. “Prolonged Corticoid Exposure Reduces Hippocampal Neuron Number: Implications for Aging.” *J Neurosci* 5, No. 5 (1985): 1222-27.

Princess Diana car crash

Trueheart, C. “Diana’s Guard Can’t Recall Paris Crash.” *Washington Post*, September 20 1997.

BDNF story

Radecki, D.T., et al. “BDNF Protects against Stress-Induced Impairments in Spatial Learning and Memory and LTP.” *Hippocampus* 15, No. 246-253 (2005).

Hennigan, A., et al. “Neurotrophins and Their Receptors: Roles in Plasticity, Neurodegeneration and Neuroprotection.” *Biochem Soc Trans* 35, No. pt 2 (2007): 424-27.

Alonso, M., et al. “BDNF-Triggered Events in the Rat Hippocampus Are Required for Both Short and Long-Term Memory Formation.” *Hippocampus* 12, No. 551-560 (2002).

Schaaf, M.J., et al. “Corticosterone Effects on BDNF Expression in the Hippocampus. Implications for Memory Formation.” *Stress* 3 (2000): 201-08.

Resiliency

Masten, A.S. “Ordinary Magic; Resilience Processes in Development.” *Am Psych* 56 (2001): 227-38.

Masten, A.S., and J.D. Coatsworth. “The Development of Competence in

Favorable and Unfavorable Environments: Lessons from Research on Successful Children.” *Am Psych* 53, No. 205-220 (1998).

Werner, E.E., and R.S. Smith. *Vulnerable but Invincible: A Longitudinal Study of Resilient Children*. New York: McGraw Hill, 1982.

Allostatic load

McEwen, B. *The End of Stress as We Know It*. Washington, DC: Joseph Henry Press, 2002. p. 5 – 9

Marital stress affects academic performance

Mulholland, D.J., et al. “Academic Performance in Children of Divorce; Psychological Resilience and Vulnerability.” *Psychiatry* 54, No. 3 (1991): 268-80.

Amato, P.R. “Children of Divorce in the 1990’s: An Update of the Amato and Keith (1991) Meta-Analysis.” *J Fam Psych* 15 (2001): 355-70.

Barbara Whitehead quote

Whitehead, B. “Dan Quayle Was Right.” *The Atlantic Monthly*, April 1993.

Lisa Nowak

Curtis, H.P. “Lisa Nowak: Records Sealed in NASA Astronaut’s Love-Triangle Arrest.” *Orlando Sentinel*, January 18 2012.

Costs of stress to American business productivity

Brun, J.P., et al. “Assessing the Costs of Work Stress.” CGSST, January 2006. <http://www.cgsst.com/stock/eng/doc272-806.pdf>.

American Institute of Stress. “Job Stress.” (2004). www.stress.org/job.htm.

Sauter, S. et al “Stress...At Work.” Cincinnati: National Institute for Occupational Safety and Health (1999). Publication No. 99-101

Publications, IR Research. “Many Ways to Reduce Absenteeism, Cut Costs.” *Worklife Report* 10, No. 3 (1997): 14-15

Mindfulness training definitions and effects

Alter, D. “Stress in the Workplace: A Growing and Costly Epidemic.” *The Suit Magazine*, July 11, 2013. <http://www.thesuitmagazine.com/top-stories/22025-stress-in-the-workplace-a-growing-and-costly-epidemic.html>.

Kabat-Zinn, Jon. *Mindfulness for Beginners: Reclaiming the Present Moment--and Your :Ofe*. Louisville, CO: Sounds True, 2011.

Teasdale, J.D., Z.V. Seagal, and J.M.G. Williams. “Prevention of Relapse/ Recurrence in Major Depression by Mindfulness-Based Cognitive Therapy.” *Journal of Consulting and Clinical Psychology* 68 (2000): 615-23

Gottman and marital behavior

Gottman, J.M., and J.S. Gottman. *And Baby Makes Three: The Six-Step Plan for Preserving Marital Intimacy and Rekindling Romance after Baby Arrives*. New York: Three Rivers Press, 2007.

Gottman, J.M., and R.W. Levenson. “A Two-Factor Model for Predicting When a Couple Will Divorce: Exploratory Analyses Using 14-Year Longitudinal Data.” *Fam Proc* 41, No. 1 (2002): 83-96.

Gottman, J., and N. Silver. *The Seven Principles for Making Marriage Work*. New York: Three Rivers Press, 2000.

Gottman, J.M., and J. Declaire. *Raising an Emotionally Intelligent Child: The Heart of Parenting*. New York: Simon & Schuster, 1997. pp. 25, 139-140

Gottman and Shapiro

Shapiro, A., et al. “The Baby and the Marriage: Identifying Factors That Buffer against Decline in Marital Satisfaction after the First Baby Arrives. .” *J Fam Psych* 14, No. 1 (2000): 59-70.

Nine year old boy (criminal activity)

Harden, B. “A Runaway Situation in Seattle.” *Washington Post*, January 19 2007

Mulick, S. “Well-Known Runaway Semaj Booker Faces New Criminal Charges.” *The News Tribune*, Oct 19 2010.

WIRING CHAPTER*Michael Jordan's baseball failure*

Adams, S. *Michael Jordan (Sports Heroes and Legends Series)*. New York: Barnes & Noble Books (NY), 2003.

Ken Griffey's statistics and commentary

Baseball-reference.com. "Ken Griffey Statistics and History." Sports Reference LLC. <http://www.baseball-reference.com/players/g/griffkeo2.shtml>.

Gardner, D., and D. Wohl. "Here Are 13 Great Moments from Ken Griffey Jr.'s 13 Seattle Seasons." MLB.com <http://wapc.mlb.com/cutfour/2013/08/11/56640054/13-great-moments-from-ken-griffey-jrs-mariners-career>.

Eric Kandel

Kandel, E.R. *In Search of Memory: The Emergence of a New Science of Mind*. New York: W.W. Norton & Co, 2006.

Internal brain rewiring in response to external experience

Lee, K.J., et al. "Motor Skill Training Induces Coordinated Strengthening and Weakening between Neighboring Synapses." *J Neurosci* 33, No. 23 (2013): 9794-99.

Lamprecht, R., and J. LeDoux. "Structural Plasticity and Memory." *Nat Rev Neurosci* (2004).

Geinsman, Y. "Associative Learning Elicits the Formation of Multiple-Synapse Boutons." *J Neurosci* 21 (2001): 5568-73.

Fikova, E., and C.L. Anderson. "Stimulation-Induced Changes in Dimensions of

Stalks of Dendritic Spines in the Dentate Molecular Layer.” *Exp Neurol* 74, No. 621-627 (1975).

Vincenzo Malacarne’s bird data

Rosenzweig, M.R. “Aspects of the Search for Neural Mechanisms of Memory.” *Ann Rev Psych* 47 (1996): 1-32.

Quoted from Malacarne, V. *J de Physique* 43: 73 (1793).

Charles Darwin’s bird data

Darwin, C. *The Variation of Animals and Plants under Domestication* New York: Judd & Co, 1868.

String player’s brains

Altenmuller, E. “Focal Dystonia: Advances in Brain Imaging and Understanding of Fine Motor Control in Musicians.” *Hand Clin* 19 (2003): 1-16.

Fantastic Voyage movie and book

Menville, D.A., and R. Reginald. *Things to Come: An Illustrated History of the Science Fiction Film*. . New York: Times Books, 1977. p. 133

Asimov, I. *Fantastic Voyage*. New York: Bantam: Reissue edition, 1988.

Connection changes related to developmental processes (pruning etc)

Sewell, E.R., et al. “Mapping Changes in the Human Cortex Throughout the Span of Life.” *Neuroscientist* 10, No. 4 (2004): 372-92.

Anderson, S.L. “Trajectories of Brain Development: Point of Vulnerability or Window of Opportunity.” *Neurosci & Biobehav Rev* 27 (2003): 3-18.

Ge, Y., et al. “Age-Related Total Gray Matter and White Matter Changes in Normal Adult Brain. Part II: Quantitative Magnetization Transfer Ratio Histogram Analysis.” *Am J of Neurorad* 23 (2002): 1334-41.

Sowell, E.R. et al. “Mapping Continued Brain Growth and Gray Matter Density Reduction in Dorsal Frontal Cortex: Inverse Relationships During Postadolescent Brain Maturation.” *J Neurosci* 21 (2001): 8819-29.

Huttenlocher, P.R., and A.S. Dabholkar. “Regional Differences in Synaptogenesis in Human Cerebral Cortex.” *J Comp Neurol* 387, No. 2 (1997): 167-78.

The Jennifer Aniston neuron and Quian Quiroga quote

Data

Quiroga, R.Q., et al. “Invariant Visual Representation by Single Neurons in the Human Brain “. *Nature* 435 (2005): 1102-07.

Quote

Martindale, D. “One Face, One Neuron.” *Scientific American* 293 (2005): 22-34.

George Ojemann’s work

Ojemann, G., et al. “Cortical Language Localization in Left, Dominant Hemisphere, an Electrical Stimulation Mapping Investigation in 117 Patients.” *J. Neurosurg* 109 (1989): 316-26.

Ojemann, G., and J. Schoenfield-McNeill. “Activity of Neurons in Human Temporal Cortex During Identification and Memory for Names and Words.” *J Neurosci* 109 (1999): 5674-82.

Electrical Stimulation Mapping and Conversation with Neil's Brain quote

Calvin, W.H., and G.A. Ojemann. *Conversations with Neil's Brain*. Reading, MA: Perseus Books 1994.

p. 1-17

Reading variability

Ojemann, G. "Some Brain Mechanisms for Reading. ." In *Brain and Reading*, edited by C. von Euler. New York: Macmillan, 1989.

Theory of Mind test (IRI)

Davis, M. "Measuring Individual Differences in Empathy: Evidence for a Multidimensional Approach." *J. Pers. Soc. Psych* 44 (1983): 113-26.

ATTENTION CHAPTER*Ten-minute rule*

McKeachie, W. *Teaching Tips: Strategies, Research and Theory for College and University Teachers, 10th Edition*. New York, Boston: Houghton Mifflin Co, 1999. p. 69-71 (and references therein)

Jared Diamond and New Guineans

Diamond, J. *Guns, Germs and Steel: The Fates of Human Societies*. New York: W.W. Norton & Co, 1999. p. 13 – 32

Cultural (Asian) differences in context, foreground and background

Chin, G.J. “Asian/American Views.” *Science* 311 (2006): 305.

Relationship between learning, attention, and interest

Shirey, L.L. “Importance, Interest and Selective Attention.” In *The Role of Interest in Learning and Development* edited by K.A. et al Renninger. Hillsdale, NJ: Lawrence Erlbaum Assoc, 1992. p. 281-296

Ad for Sauza Conmemorativo tequila

“Life Is Harsh.” 1995 <http://www.delcampe.net/page/item/id,227086086,var,Life-is-harsh-1995-Sauza-Conmemorativo-Tequila-Magazine-Print-Ad-Free-Worldwide-Shipping,language,G.html#description>.

Oliver Sacks and stroke patient

Sacks, O. *The Man Who Mistook His Wife for a Hat*. New York: Touchstone Press, 1998. p. 77

Hemispheric spotlights

Mesulam, M.M. “Spatial Attention and Neglect: Parietal, Frontal and Cingulate Contributions to the Mental Representation and Attentional Targeting of Salient Extrapersonal Events.” *Philos Trans R Soc Lond B Biol Sci* 354, No. 1387 (1999): 1325 - 46.

Gitelman, D.R., et al. “A Large-Scale Distributed Network for Covert Spatial Attention: Further Anatomical Delineation Based on Stringent Behavioural and Cognitive Control.” *Brain* 122, No. s.6 (1999): 1093-106.

Enns, J.T., and A. Kingstone. “Hemispheric Coordination of Spatial Attention.” *Adv Psychol* 123 (1997): 197 – 231.

Michael Posner’s bio and “Trinity Model” network theory

Mayr, U., et al. *Developing Individuality in the Human Brain: A Tribute to Michael I. Posner*. Washington, DC: American Psych Assoc, 2005.

Raz, A., and J. Buhle. “Typologies of Attentional Networks “. *Nature Rev Neuro* 7 (2006): 367-79.

Volkswagen car commercial

Bosman, J. “Crashes in VW Ads Stressing Safety Are Upsetting to Some Viewers.” *New York Times*, April 24, 2006.

Emotional content, dopamine and attention

A. Nieoullon, and A. Coquere. “Dopamine: A Key Regulator to Adapt Action, Emotion, Motivation and Cognition.” *Curr Opin Neurol Suppl* 2 (2003): S3-S9.

LaBar, K.S., and R. Cabeza. “Cognitive Neuroscience of Emotional Memory.” *Nature Rev Neuro* 7 (2006): 54-64.

McGaugh, J.L. “The Amygdala Modulates the Consolidation of Memories of Emotionally Arousing Experiences “. *Ann Rev Neurosci* 27 (2004): 1-28.

Meaning before details, gist before specifics (the questions)

LeDoux, J. *Synaptic Self: How Our Brains Become Who We Are* Viking Press New York: Viking Press, 2002. p. 320-321

Turk-Browne, N., et al. “Linking Implicit and Explicit Memory: Common Encoding Factors and Shared Representations.” *Neuron* 49 (2006): 917 – 27.

Adolphs, R., et al. “Amygdala Damage Impairs Emotional Memory for Gist but Not for Details of Complex Stimuli.”. *Nature Neurosci* 8 (2005): 512-18.

Squire, L., and E. Kandel. *Memory*. Scientific American Press, 1999. p. 78

Macintosh commercial

Friedman, T. “Apple’s 1984: The Introduction of the Macintosh in the Cultural History of Personal Computers.” October, 1997. <http://web.archive.org/web/19991005015117/http://www.duke.edu/%7Etlove/mac.htm>.

John Bransford quote

Committee on Developments in the Science of Learning with additional material from the Committee on Learning Research and Educational Practice, National Research Council. *How People Learn: Brain, Mind, Experience, and School: Expanded Edition (2nd Edition)*. Washington, DC: National Academies Press, 2000. p. 36

The brain can't multi-task (brain biology, effects of interruptions, length of time, error rates)

Rubinstein, J.S., et al. "Executive Control of Cognitive Processes in Task Switching." *J Exp Psych* 27 (2001): 763 - 71.

Yeung, N., et al. "Between-Task Competition and Cognitive Control in Task Switching." *J Neurosci* 26 (2006): 1429-38.

Crone, E.A., et al. "Neural Evidence for Dissociable Components of Task-Switching." *Cereb Cortex* 16 (2006): 475-86.

Braver, T.S., et al. "Neural Mechanisms of Transient and Sustained Cognitive Control During Task Switching." *Neuron* 39 (2003): 713-26.

Ramsey, N.F., et al. "Neurophysiological Factors in Human Information Processing Capacity." *Brain* 127 (2003): 517-25.

Cole, W., et al. "The Multitasking Generation ". *Time* 167 (2006): 50-53.

Czerwinski, M., et al. "Instant Messaging and Interruption: Influence of Task Type on Performance." *Proceedings of OZCHI* 356 (2000): 361.

Monsell, S., and J. Driver. *Attention and Performance Xviii: Control of Cognitive Processes*. Cambridge, MA: MIT Press, 2000.

Work of Ophir et al, including quote

Ophir, E., et al. "Cognitive Control in Media Multitaskers." *PNAS* 106 (2009): 15583-87.

Gorlick, A. "Media Multitaskers Pay Mental Price, Stanford Study Shows." *Stanford News*, August 24, 2009.

Executive network in more detail

Lo, C.C., and X.J. wang. “Cortico-Basal Ganglia Circuit Mechanism for a Decision Threshold in Reaction Time Tasks.” *Nat Neuro* 9 (2006): 956-63.

Goldberg, E. *The Executive Brain: Frontal Lobes and the Civilized Mind*. Oxford, UK: Oxford University Press, 2001.

Posner, M.I., and M.K. Rothbart. “Developing Mechanisms of Self-Regulation.” *Dev & Psychopath* 12 (2000): 427-41

Cell phone distractions

Strayer, D.L., et al. “A Comparison of the Cell Phone Driver and the Drunk Driver.” *Hum Factors* 48, No. 2 (2006): 381-91.

Strayer, D.L., et al. “What Do Drivers Fail to See When Conversing on a Cell Phone? .” *Proc of the Hum Fac and Erg Soci* 48th Annual Mtg (2004): 221-2217.

Redelmeier, D.A., and R.J. Tibshirani. “Association between Cellular telephone Calls and Motor Vehicle Collisions.” *NEJM* 336 (1997): 453-58

Dingus, T.A., et al. *The 100-Car Naturalistic Driving Study: Phase II – Results of the 100-Car Field Experiment*. Vol. DOT HS 810 593, Washington, DC: National Highway Traffic Safety Administration, 2006. (and references therein)

Mondo Cane movie

Birch, M.C. “Mondo Cane.” IMDb. <http://www.imdb.com/title/tt0057318/>.

MEMORY CHAPTER*ENCODING**Kim Peek*

Peek, F. *The Real Rain Man*. Salt Lake City, UT: Harkness Publishing, 1996.

Treffert, D. A., and D.D. Christensen. "Inside the Mind of a Savant." *Scientific American* (Dec, 2005): 108-13.

Four steps of memory

Squire L and Kandel E. *Memory: From Mind to Molecules*. New York: Scientific American Library, 1999. p. 72 - 76

Many types of memory systems

Richmond, Jenny and Charles A. Nelson "Accounting for Change in Declarative Memory: A Cognitive Neuroscience Perspective." *Dev Rev* 27, No.3 (2007): 349 - 373.

The work of Hermann Ebbinghaus

Boneau, C.A. "Hermann Ebbinghaus: On the Road to Progress or Down the Garden Path?". In *Portraits of Pioneers in Psychology (Volume 3)*, edited by G.A. Kimble and M. Wertheimer. Mahway, NJ: Lawrence Erlbaum, 1998.

Ebbinghaus, H.(H.A. Ruger & C.E. Bussenius, translators). *Uber Das Gedachtnis Untersuchungun Zure Experimentatellen Psychologie*. New York: Dover, 1964. (Original work published in 1885)

Blind piano player “Tom”

Ramachandran, V.S., and S. Blakeslee. *Phantoms in the Brain*. New York: William Morrow, 1998. p.192-93

Stroke patient and perception of written vowels

Caramazza, A., et al. “Separable Processing of Consonants and Vowels.” *Nature* 403 (2000): 428-30.

Brain as a blender and the binding problem

Livingston, M., and D. Hubel. “Segregation of Form, Color, Movement and Depth: Anatomy, Physiology and Perception “. *Science* 240 (1988): 740-49.

Robertson, L.C. “Binding, Spatial Attention and Perceptual Awareness “. *Nat Rev Neuro* 4, No. 2 (2003): 93-102.

Automatic vs effortful processing

Mangels, J.A. “Strategic Processing and Memory for Temporal Order in Patients with Frontal Lobe Lesions.” *Neuropsych* 11 (1997): 207-21.

Hasher, L., and R.T. Zacks. “Automatic and Effortful Processes in Memory.” *J. of Exp Psychol: General* 108, No. 3 (1979): 356-88.

Hasher, L., and R.T. Zacks. “Automatic Processing of Fundamental Information: The Case of Frequency of Occurrence.” *Am Psych* 39 (1984): 1372-88.

Levels of processing

Craik FIM & Lockhart RS (1972) Levels of processing: a framework for memory research *J. of Verbal Learning and Verbal Behavior* 11: 671 – 684

Association of robust memory recall with elaborate encoding

Gardiner, J.M., et al. “Maintenance Rehearsal Affects Knowing, Not Remembering; Elaborative Rehearsal Affects Remembering, Not Knowing.” *Psychon Bulletin & Rev* 1, No. 1 (1994): 107-10.

Wong, L. “Processes in Working Memory.” In *Essential Study Skills, 8th Edition*, 155-56. Stamford, CT: Cengage Learning, 2014.

Shape of letters in a word vs the meaning of the word (can combine with elaboration)

Craik, F.I.M., and E. Tulving. “Depth of Processing and the Retention of Words in Episodic Memory.” *J. of Exp Psychol: General* 104 (1975): 268-94.

Squire and Kandel quote about elaboration

Squire, L., and E. Kandel. *Memory*. New York: Scientific American Press, 1999. p. 71

Context and state-specific learning (including scuba diving experiment)

Godden Daniel R. and Baddeley Alan D. “Context-dependent Memory in Two Natural Environments: on land and under water.” *British J. of Psych* 66 (1975) : 325 - 332

Smith, Steve S. and Vela, Edward. “Environmental Context Dependent Memory: a Review and Meta-analysis.” *Psych Bul & Rev* 8 (2001): 203 – 220.

Miles C. and Hardman, E. “State-dependent Memory Produced by Aerobic Exercise.” *Ergonomics* 41(1998): 20 - 28

Rezayof, A., et al. “Ethanol State-dependent memory: Involvement of Dorsal Hippocampal Muscarinic and Nicotinic Receptors.” *Neurobio Learning & Memory* 89 (2008): 441 – 447.

Brain stores information in the same places initially recruited to encode it

Squire, L., and E. Kandel. *Memory*. New York: Scientific American Press, 1999. p. 72

LeDoux, J. *Synaptic Self: How Our Brains Become Who We Are*. New York: Viking Press, 2002. p. 107

The power of examples in learning (including pattern-matching)

Palmere, M., et al. "Elaboration and Recall of Main Ideas in Prose". *J. Educ Psychol* 75 (1983): 898-907.

The first few seconds of learning is everything (why intros are so important)

Squire, L., and E. Kandel. *Memory*. New York: Scientific American Press, 1999. p. 70-71

WORKING MEMORY

Old loading dock metaphor

Passer, M.W, and R.E. Smith. *Psychology: The Science of Mind and Behavior (4th Edition)*. New York: McGraw-Hill 2007. p. 278

Reisberg, D. *Cognition: Exploring the Science of Mind*. New York: W. W. Norton 1997. p. 139

Short-term memory introduction

Baddeley, A. "Is Working Memory Still Working?". *Am Psych* 56 (2001): 851-64.

Derakshan, N., and M.W. Eysenck. “Introduction to the Special Issue: Emotional States, Attention, and Working Memory.” *Cog & Emot* 24, No. 2 (2010): 189-99.

Miguel Najdorf

Schultz, D. *Fischer, Kasparov and the Others*. Highland Beach, FL: Chessdon Publishing, 2004. p.74

Structure of working memory

Baddeley, Alan “Working Memory: Theories, Models and Controversies”. *Annu Rev. Psychol* (2012) 63: 1 – 129.

Story of H.M.

Corkin, S. “Lasting Consequences of Bilateral Medial Temporal Lobectomy: Clinical Course and Experimental Findings in H.M.”. *Semin Neurol* 4 (1984): 249-59.

Scoville, W.B., and B. Milner. “Loss of Recent Memory after Bilateral Hippocampal Lesions.” *J. of Neurology, Neurosurgery and Psychiatry* 20 (1957): 11-21.

LONG-TERM MEMORY

Consolidation and reconsolidation of memory traces

Forcato, C. “Reconsolidation of Declarative Memory in Humans.” *Learn Mem* 14, No. 4 (2007): 295-303.

Semantic and episodic memories

Gluck, MA, Mercado, E & Myers CE. *Learning and Memory, from Brain to Behavior*. New York: Worth Publishers (2008). pp. 84 - 88

Various models of retrieval

Passer, M.W, and R.E. Smith. *Psychology: The Science of Mind and Behavior (4th Edition)*. New York: McGraw-Hill 2007. p. 295

Schacter, D. *The Seven Sins of Memory: How the Mind Forgets and Remembers*. New York: Houghton Mifflin Co 2001. p. 15-17

Reproductive vs reconstructive retrieval strategies

Squire L. and Kandel E. *Memory: From Mind to Molecules*. New York: Scientific American Library, 1999. pp. 74 – 75.

Retrieval an unstable process

Schacter, D.L., and T. Curran. “Memory without Remembering and Remembering without Memory: Implicit and False Memories.” In *Cognitive Neuroscience: A Reader*, edited by M.S. Gazzaniga. Malden, MA: Blackwell, 2000.

Daniel Offer’s data

Offer, D., et al. “The Altering of Reported Experiences.” *J. of Child & Adol Psych* 33, No. 6 (2000): 735-42.

Seven pieces of information for less than 30 seconds

Miller, G.A. “The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information.” *Psychol Rev* 63 (1956): 81-97.

Anthony Wagner’s anti-cramming experiment

Wagner, A.D. *et al* “Building memories: Remembering and Forgetting of Verbal Experiences as Predicted by Brain Activity.” *Science* 281, (1998): 1188-1191.

Dan Schacter's comment about anti-cramming

Schacter, D. *The Seven Sins of Memory: How the Mind Forgets and Remembers*. New York: Houghton Mifflin Co 2001. p. 48

Long-term potentiation

Nicoll, R.A., and K.W. Roche. "Long-Term Potentiation: Peeling the Onion." *Neuropharmacology* 74 (2013): 18-22.

Malenka, R.C. "The Long-Term Potential of LTP." *Nat Rev Neuro* 4 (2003): 923-26.

Dudke, S.M., and R.D. Fields. "Gene Expression in Hippocampal Long-Term Potentiation." *The Neuroscientist* 5 (1999): 275-79.

H.M. quote

Corkin, S. "What's New with the Amnesic Patient H.M.?" *Nat Rev Neuro* 3 (2002): 157-58.

System consolidation takes years

Dudai, Y. "The Neurobiology of Consolidations, or How Stable Is the Engram?" *Ann Rev Psychol* 55 (2004): 51-86.

Frankland, P.W., and B. Bontempi. "The Organization of Recent and Remote Memories ". *Nat Rev Neuro* 6 (2005): 119-30.

Manns, J.R., et al. "Semantic Memory and the Human Hippocampus ". *Neuron* 38 (2003): 127-33.

LeDoux, J. *Synaptic Self: Hwo Our Brains Become Who We Are*. New York: Viking Press, 2002. p. 107

Neural substrates involved in memory formation

Eichenbaum, H. “Hippocampus; Cognitive Processes and Neural Representations That Underlie Declarative Memory.” *Neuron* 44, No. 109-120 (2004).

Morris, R.G., et al. “Elements of a Neurobiological Theory of the Hippocampus: The Role of Activity-Dependent Synaptic Plasticity in Memory.” *Philos. Trans. R. Soc. Lond. B. Biol Sci.* 358 (2003): 773-86.

Eichenbaum, H. “A Cortical-Hippocampal System for Declarative Memory.” *Nat Rev Neuro* 1 (2000): 41-50.

Solomon Shereshevskii and Alexander Luria

Squire, L., and E. Kandel. *Memory*. New York: Scientific American Press, 1999. p. 72-76

Luria, A.R. *The Mind of a Mnemonist: A Little Book About a Vast Memory* Cambridge, MA: Harvard Univ Press, 1987.

Dan Schacter’s seven types of forgetting

Schacter, D. *The Seven Sins of Memory: How the Mind Forgets and Remembers*. New York: Houghton Mifflin Co 2001.

SENSORY INTEGRATION CHAPTER*Synesthesia*

Cytowic, R.E. *Synesthesia: A Union of the Senses (2nd Ed)*. Cambridge, MA: MIT Press, 2002.

Hubbard, E.M., and V.S. Ramachandran. “Neurocognitive Mechanisms of Synesthesia.” *Neuron* 48 (2005): 509-20

Gross, V. Vision & Cognition Laboratory, Boston University. <http://www.bu.edu/synesthesia/faq/>.

Day, S. “Types of Synesthesia.” <http://home.comcast.net/~sean.day/html/types.htm>.

McGurk Effect

McGurk, H., and J. MacDonald. “Hearing Lips and Seeing Voices.” *Nature* 264 (1976): 746-48.

Greek thoughts about the brain

Gross, C.G. “Aristotle on the Brain.” *The Neuroscientist* 1, No. 4 (1995): 245-50.

Models of sensory integration, underlying processes

Fellemena, D.J., and D.C. Van Essen. “Distributed Hierarchical Processing in the Primate Cerebral Cortex.” *Cereb Cortex* 1 (1991): 1-47.

Kayser, C., et al. “Integration of Touch and Sound in Auditory Cortex.” *Neuron* 48 (2005): 373-84.

Gardner, E.P., and J.H. Martin. “Coding of Sensory Information.” In *Principles of*

Neural Science, 4th Edition, edited by E.R Kandel et al. New York: McGraw Hill, 2000. p. 412-418

Role of thalamus in sensory processing

Jones, E.G. *The Thalamus Revisited*. Cambridge, UK: Cambridge University Press, 2006.

Gardner, E.P., and J.H. Martin. “Coding of Sensory Information.” In *Principles of Neural Science, 4th Edition*, edited by E.R Kandel et al. New York: McGraw Hill, 2000. p. 425-429

Association cortex defined

Goldman-Rakic, P.S. “Topography of Cognition: Parallel Distributed Networks in Primate Association Cortex.” *Ann Rev of Neurosci* 11 (1988): 137-56.

Bottom-up vs top-down processing

Passer, M.W, and R.E. Smith. *Psychology: The Science of Mind and Behavior (4th Edition)*. New York: McGraw-Hill 2007. p. 157-159

Somerset Maugham quote

Maugham, W. Somerset. “Quotations by Author: W. Somerset Maugham.” http://www.quotationspage.com/quotes/W._Somerset_Maugham.

Smell neurobiology

Gottfried, J.A., et al. “Remembrance of Odors Past: Human Olfactory Cortex in Cross-Modal Recognition Memory.” *Neuron* 42 (2004): 687-95.

Pairing two senses boosts one

Najjar, L.J. *The Effects of Multimedia and Elaborative Encoding on Learning* GIT-GVU-95-29. Atlanta, Georgia: Georgia Institute of Technology, 1997.

Kayser, C., et al. “Integration of Touch and Sound in Auditory Cortex.” *Neuron* 48 (2005): 378-84.

Newell, F.N., et al. “Cross-Modal Perception of Actively Explored Objects
“ Paper presented at the Max Planck Institute for Biological Cybernetics, Tübingen, Germany, 2002.

Forster, B., et al. “Redundant Target Effect and Intersensory Facilitation from Visual- Tactile Interactions in Simple Reaction Time.” *Exp Brain Res* 143 (2002): 480-87.

Harrington, L.K., and C.K. Peck. “Spatial Disparity Affects Visual- Auditory Interactions in Human Sensorimotor Processing.” *Exp Brain Res* 122 (1998): 247-52.

Lovelace, C.T., et al. “An Irrelevant Light Enhances Auditory Detection in Humans: A Psychophysical Analysis of Multisensory Integration in Stimulus Detection “. *Brain Res Cogn Brain Res* 17, No. 447-453 (2003).

V. van Wassenhoven, et al. “Visual Speech Speeds up the Neural Processing Auditory Speech “. *PNAS* 102 (2005): 1181-86.

Richard Mayer’s work

Mayer, R.E. “Multimedia Learning: Are We Asking the Right Questions?”. *Educ Psych* 32, No. 1 (1997): 1-19.

Stability at 20 years

Read, J.D., and R.H. Barnsley. "Remember Dick and Jane? Memory for Elementary School Readers." *Canadian J. of Behav Sci* 9 (1977): 361-70.

Principle of elaboration

Pressley, M., et al. "Generation and Precision of Elaboration: Effects on Intentional and Incidental Learning." *J. of Exp Psych: Learn & Cogn* 13 (1987): 291-300.

Nelson, D.L. "Remembering Pictures and Words: Appearance, Significance, and Name." In *Levels of Processing in Human Memory*, edited by L.S. Cermak and F.I.M. Craik. Mahway, NJ: Lawrence Erlbaum, 1979.

Solomon Shereshevskii's synesthesia

Luria, A.R. *The Mind of a Mnemonist: A Little Book About a Vast Memory* Cambridge, MA: Harvard Univ Press, 1987.
pp. 31, 82

Smell is powerful all by itself

Cu, S., and J.J. Downes. "Long Live Proust: The Odour- Cued Autobiographical Memory Bump." *Cognition* 75 (2000): B41-50.

Maylor, E.A., et al. "Preserved Olfactory Cuing of Autobiographical Memories in Old Age." *J. Gerontol B Psychol Sci Soc Sci* 57 (2002): 41-46.

Herz, R.S. "Emotion Experienced During Encoding Enhances Odor Retrieval Cue Effectiveness." *Am J Psychol* 110 (1997): 489-505.

Herz, R.S. "Are Odors the Best Cues to Memory? A Cross-Modal Comparison of Associative Memory Stimuli." *Ann NY Acad Sci* 855 (1998): 670-74.

Herz, R.S., and G.C. Cupchik. “The Emotional Distinctiveness of Odor-Evoked Memories.” *Chem Senses* 20 (1995): 517-28.

Rasch, B., et al. “Odor Cues During Slow-Wave Sleep Prompt Declarative Memory Consolidation.” *Science* 315 (2007): 1426-29.

Carter, R. *Mapping the Mind*. Berkeley, CA University of California Press, 1999.

Wilson, D.A., and R.J. Stevenson. *Learning to Smell*. Baltimore, MD: Johns Hopkins University Press, 1999.

Richard Mayer’s book

Mayer, R.E. *Multi-Media Learning*. Cambridge, UK: Cambridge University Press, 2001.

Judith Viorst quote

Viorst, J. *Love and Guilt and the Meaning of Life, Etc.* Palmer, AK: Fireside, 1987.

Scent of chocolate experiment

Lempert, P. “Sensory Branding Possibly the Most Effective Marketing Tool Yet?”. *Extreme Retail* 23, No. XR23 (August 2005).

Quotes from Eric Spangenberg

Tischler, L. “Smells Like Brand Spirit.” *Fast Company*, August 2005.

Using smell in the marketplace

Mattila, A.S., and J. Wirtz. “Congruency of Scent and Music as a Driver of in-Store Evaluations and Behavior.” *Journal of Retailing* 77, No. 2 (2001): 273-89.

Spangenberg, E.R., et al. “It’s Beginning to Smell (and Sound) a Lot Like Christmas: The Interactive Effects of Ambient Scent and Music in a Retail Setting.” *J of Bus Res* 58, No. 11 (2005): 1583-89.

Hermann, A. “The Power of Simplicity: Processing Fluency and the Effects of Olfactory Cues on Retail Sales.” *J Retail* 89, No. 1 (2013): 30-43.

VISION CHAPTER*Eyes and other senses*

Morrot, G., F. Brochet, and D. Dubourdieu. “The Color of Odors.” *Brain Language* 79 (2001): 309 - 20.

Gottfried, Jay A., and Raymond J. Dolan. “The Nose Smells What the Eye Sees: Crossmodal Visual Facilitation of Human Olfactory Perception.” *Neuron* 39 (2003): 375 - 86.

The anatomy of how vision works

Carlson, N.R. *Physiology of Behavior (Ninth Edition)* New York: Pearson, 2007. p. 168-209

Wolfe, Jeremy M et al. *Sensation and Perception*, Sunderland MA: Sinauer Associates, Inc, 2006. p. 76-154

Robertson, L.C. “Binding, Spatial Attention and Perceptual Awareness.” *Nat Rev Neurosci* 4 (2003): 93-102.

Purves, Dale. In *Neuroscience Fourth Edition*, edited by Dale Purves et al, 750-51. Sunderland, Massachusetts: Sinauer Associates, Inc., 2008. p. 262-271

The retinal “movie” tracks

Roska, B., et al. “Parallel Processing in Retinal Ganglion Cells: How Integration of Space-Time Patterns of Excitation and Inhibition Form the Spiking Output.” *J. Neurophys* 95 (2006): 3810-22.

Fried, S.I., et al. “Directional Selectivity Is Formed at Multiple Levels by Laterally Offset Inhibition in the Rabbit Retina”. *Neuron* 46 (2005): 117-27.

Akinetopsia and L.M.

Zihl, J., et al. “Selective Disturbance of Movement Vision after Bilateral Brain Damage “. *Brain* 106 (1983): 313-40.

Rizzo, M., et al. “Motion and Shape Perception in Cerebral Akinetopsia.” *Brain* 118, No. 5 (1995): 1105-27.

Ventral and dorsal streams

Schacter, Daniel L., Daniel T. Gilbert, and Daniel M. Wegner. “Introducing Psychology.” 91 - 127. New York: Worth Publishers, 2013.

Association cortex

Goldman-Rakic, P.S. “Topography of Cognition: Parallel Distributed Networks in Primate Association Cortex.” *Ann Rev of Neurosci* 11 (1988): 137-56.

Blind spots

Breitmeyer, Bruno G. In *Blindspots: The Many Ways We Cannot See*, 20 - 21. Oxford, UK: Oxford University Press, 2010.

Charles Bonnet Syndrome

Ramachandran, V.S., and S. Blakeslee. *Phantoms in the Brain*. New York: William Morrow, 1998.
p. 72

Plummer, C. “Of Roman Chariots and Goats in Overcoats: The Syndrome of Charles Bonnet “. *J. Clin Neurosci* 14, No. 8 (2007): 709-14.

Menkhaus, S., et al. “Charles-Bonnet Syndrome.” *Ophthalmologie* 100 (2003): 736-39.

Brain interpolates information from both eyes

Poggio, G.F., and T. Poggio. “The Analysis of Stereopsis.” *Ann Rev Neurosci* 7 (1984): 379-412.

Half the brain is devoted to visual processing

“MIT Research - Brain Processing of Visual Information.” Massachusetts Institute of Technology, web.mit.edu/newsoffice/1996/visualprocessing.html.

Phantom limb therapy

Ramachandran, V.S., and D. Rogers-Ramachandran. “Synaesthesia in Phantom Limbs Induced with Mirrors.” *Proc Biol Sci.* 263 (1996): 377-86.

Kim, S.Y., and Y.Y.Kim. “Mirror Therapy for Phantom Limb Pain.” *Korean J. Pain* 25, No. 4 (2012): 272-74.

Definition of recognition memory

Eichenbaum, H., et al. “The Medial Temporal Lobe and Recognition Memory.” *Ann Rev Neurosci* 30, No. 123-152 (2007).

Characteristics of visual working memory

Narain, C. “Total Recall.” *Nat Neurosci* 9, No. 3 (2006): 302.

Xu, Y., and M.M. Chun. “Dissociable Neural Mechanisms Supporting Visual Short-Term Memory for Objects.” *Nature* 440 (2006): 91-95.

Target features, lifetime-related changes

Schmidt, J., et al. “More Target Features in Visual Working Memory Leads to

Poorer Search Guidance: Evidence from Contralateral Delay Activity.” *J. Vision* 14, No. 3 (2014): 10.1167/14.3.8.

Park, D.C., et al. “Working Memory for Complex Scenes: Age Differences in Frontal and Hippocampal Activations.” *J Cog Neurosci* 15, No. 8 (2003): 1122-34.

Pictorial superiority effect, relevance to presentations

Nelson, D.L., V.S. Reed, and J.R. Walling. “The Pictorial Superiority Effect.” *Journal of Experimental Psychology: Human Learning and Memory* 2 (1976): 523 - 28.

Dwyer FM. *Strategies for Improving Visual Learning*. State College, Pa: Learning Services; 1978;1 20.

Stenberg, G. “Conceptual and Perceptual Factors in the Picture Superiority Effect.” *Eur J. of Cog Psych* 18, No. 6 (2006): 813-47.

Hoffman, C.D., and S.A. Dick. “A Developmental Investigation of Recognition Memory.” *Child Dev* 47 (1976): 794-99.

Mayer, R.E., and J.K. Gallini. “When Is an Illustration Worth Ten Thousand Words?”. *J Educ Psychol* 82 (1990): 715-26.

Standing, L., et al. “Perception and Memory for Pictures - Single-Trial Learning of 2,500 Visual Stimuli.” *Psychon Sci* 19 (1970): 73-74.

Nickerson, R.S. “A Note on Long-Term Recognition Memory for Pictorial Material.” *Psychon Sci* 11, No. 2 (1968): 58.

Text less efficient than pictures

Pelli, D.G., B. Farell, and D.C. Moore. “The Remarkable Inefficiency of Word Recognition.” *Nature* 423 (2005): 752 - 56.

McBride, D.M., and A.B. Doshier. “A Comparison of Conscious and Automatic Memory Processes for Picture and Word Stimuli: A Process Dissociation Analysis.” *Cons Cogn* 11, No. 3 (2002): 423-60.

Baby and mobile

Gopnik, A., et al. *The Scientist in the Crib*. New York: William Morrow, 2000.
p. 72

Infant visual processing

Gopnik, A., et al. *The Scientist in the Crib*. New York: William Morrow, 2000.
p. 60-88

Boomen, C. van den, et al. “Keep Your Eyes on Development: The Behavioral and Neurophysiological Development of Visual Mechanisms Underlying Form Processing.” *Fron Psych: Child & Neurodev Psych* doi:10.3389

Smell genes mutating

Gilad, Y., et al. “Human Specific Loss of Olfactory Receptor Genes.” *PNAS* 100 (2003): 3324-27.

Gilad, Y., et al. “Loss of Olfactory Receptor Genes Coincides with the Acquisition of Full Trichromatic Vision in Primates.” *PLoS Biol* 2 (2004): E5.

Donald in Mathmagic Land

Movies, New York Times. “Donald in Mathmagic Land (1959).” New York Times. <http://www.nytimes.com/movies/movie/67849/Donald-in-Mathmagic-Land/details>.

USA Today

Prichard, P.S. *The Making of McPaper: The inside Story of USA Today*. Kansas City, MO: Andrews McMeel Pub, 1987.

Print advertisement, pictures vs text

Pieters, R., and M. Wedel. “Attention Capture and Transfer in Advertising: Brand, Pictorial, and Text-Size Effects.” *J. of Marketing* 68, No. 2 (2004): 36-50.

MUSIC CHAPTER

Henry Dryer clip - excerpt from the documentary Alive Inside

Rossato-Bennett, M. "Alive Inside: A Story of Music and Memory." *Music & Memory*. <https://musicandmemory.org/>.

Ravi Shankar quote

Gross, T. "Ravi Shankar: Remembering a Master of the Sitar." <http://www.npr.org/2012/12/14/167193821/ravi-shankar-remembering-a-master-of-the-sitar>.

Definition of music we will use

Cross, I. "Music, Mind and Evolution." *Psych Mus* 29 (2001): 95-102.

The chapter of Seth Horowitz

Horowitz, S. *The Universal Sense: How Hearing Shapes the Mind*. New York: Bloomsbury 2012. p. 132

35,000 year old flute

Wilford, J.N. "Flutes Offer Clues to Stone-Age Music." *New York Times*, June 24 2009.

Steven Pinker's objections

Pinker, S. *How the Mind Works (1st Ed)*. New York: Penguin books, 1997. p. 524-528

Ray Vizcarra losing his job

Branson-Potts, H. "Layoffs Claim L.A. Band Teacher Who Turned Novices into Champions." *Los Angeles Times*, October 9 2012.

Cautions about interpreting music exposure and improvements in other cognitive domains (including r-values)

Crnece, R., et al. “The Cognitive and Academic Benefits of Music to Children: Facts and Fiction.” *Educ Psych* 26, No. 4 (2006): 579-94.

Levitin, D.J. “What Does It Mean to Be Musical?”. *Neuron* 73 (2012): 633-37.

Schellenberg, E.G. “Music and Nonmusical Abilities: Introduction.” *Mus Percep* 29, No. 2 (2011): 129-32.

Mozart Effect

Rauscher, F.H., et al. “Musical and Spatial Task Performance.” *Nature* 365 (1993): 611.

Chabris, C.F. “Prelude or Requiem for the ‘Mozart Effect?’”. *Nature* 400, No. 826-827 (1999).

Governor of Georgia

Sack, K. “Georgia’s Governor Seeks Musical Start for Babies.” *New York Times*, January 15 1998.

Auditory stream segregation studies

Chandrasekaran, B., and N. Kraus. “Music, Noise-Exclusion and Learning.” *Mus Percept* 27, No. 4 (2010): 297-306.

Music lessons boosts motor skills, language processing, nonverbal reasoning

Register, D. “The Effects of an Early Intervention Music Curriculum on Prereading/Writing.” *J Mus Thera* 38, No. 3 (2001): 239-48

Parbery-Clark, A., et al. 2009. “Practicing a musical instrument in childhood is associated with enhanced verbal ability and nonverbal reasoning.” *PLoS One* 3:e3566.

Music and working memory

Moreno, S., and M. Besson. 2006. “Musical training and language-related brain electrical activity in children.” *Psychophys* 43 (287-291).

Coch, D., and E. George. “Neural and Behavioral Evidence of Working Memory Differences in Musicians and Non-Musicians.” http://www.dartmouth.edu/~readingbrains/George_Psychonomic_5101.pdf

Executive function a better predictor of college success

Baumeister, R., and J. Tierney. 2011. *Willpower: Rediscovering the Greatest Human Strength*. New York: Penguin Press. p. 11

Kraus and Chandrasekaran quote

Kraus, N., and B. Chandrasekaran. 2010. “Music training for the development of auditory skill.” *Nat Rev Neurosci* 11:599-605.

Overlapping domains between music and language

Patel, A.D. 2008. *Music, Language and the Brain*. Oxford, UK: Oxford University Press. p. 239-299, p. 377-385

Congenital amusia

Peretz, I., et al. “Congenital Amusia: A Disorder of Fine-Grained Pitch Discrimination.” *Neuron* 33 (2002): 185-91.

Geshwind, N. 1984. “The brain of a learning-disabled individual.” *Ann Dyslexia* 34:319-327.

Tagalog studies

Thompson, W.F., et al. 2004. “Decoding speech prosody: do music lessons help?” *Emotion* 4:46-64.

Ten years of training

Strait, D. L., et al. 2009. “Musical experience and neural efficiency – effects of training on subcortical processing of vocal expressions of emotion.” *Eur J Neurosci* 29 (3):661-666.

Music and empathy

Rabinowitch, T.C, et al. 2012. “Long-term musical group interaction has a positive influence on empathy in children.” *Psych Music* 0305735612440609.

Rabinowitch quote

Kennelly, S. “Does Playing Music Boost Kids’ Empathy?” Greater Good: the science of a meaningful life. http://greatergood.berkeley.edu/article/item/does_playing_music_boost_kids_empathy.

Infants and music (active vs passive group)

Trainor, L.J., et al. 2012. “Becoming musically enculturated: effects of music classes for infants on brain and behavior.” *Ann NY Acad Sci* 1252:129-138.

Infant Behavior Questionnaire

Mireault, G., et al. 2012. “Infant human perception from 3 to 6 months and attachment at one year.” *Inf Behav Dev* 35 (4):797-802.

Study with MacArthur-Bates inventory

Gerry, D., et al. “Active Music Classes in Infancy Enhance Musical, Communicative and Social Development.” *Dev Sci* 15, No. 3 (2012): 398-407.

Music boosts vocabulary

Watanabe, D., et al. 2005. “The effect of early musical training on adult motor performance: evidence for a sensitive period in motor learning.” *Exp Brain Res* 176 (332-340).

William Congreve quote

Congreve, W. “The Mourning Bride. Act I.Sc.1.” <http://www.bartleby.com/100/212.1.html>.

Enjoyment arousal

Thompson, W.F., et al. “Arousal, Mood, and the Mozart Effect.” *Psychol Sci* 12, No. 3 (2001): 248-51.

Music and cortisol

Trappe, H.J. “The Effects of Music on the Cardiovascular System and Cardiovascular Health.” *Heart* 96, No. 23 (2010): 1868-71.

Prairie voles and oxytocin

Young, L.J., and Z. Wang. “The Neurobiology of Pair-Bonding.” *Nat Neurosci* 7 (2004): 1048-54.

Music and oxytocin

Grape, C., et al. “Does Singing Promote Well-Being? An Empirical Study of Professional and Amateur Singers During a Singing Lesson.” *Integ Physiol Behav Sci* 38, No. 1 (2003): 65-74.

Dan Levitin quote

Ben-Achour, S. “A Pachyderm’s Ditty Prompts an Elephantine Debate.” NPR. <http://www.npr.org/2012/08/26/159998889/a-pachyderms-ditty-prompts-an-elephantine-debate>.

Historical references to music and the healing arts

Pratt, R.R., and R.W. Jones. “Music and Medicine: A Partnership in History.” In *Music in Medicine*, edited by R. Spinge and R. Droh. Basel (Switzerland): Editiones Roche, 1985. p. 307-318

ABC News –Gabrielle Giffords, Oliver Sacks’ quote

Moisse, K., et al. “Gabby Giffords: Finding Words through Song.” ABC News. http://abcnews.go.com/Health/w_MindBodyNews/gabby-giffords-finding-voice-music-therapy/story?id=14903987#.UKal3I6hAlJ.

Music and language recovery

Sarkamo, T., et al. “Music Listening Enhances Cognitive Recovery and Mood after Middle Cerebral Artery Stroke.” *Brain* No. 866-876 (2008).

Sarkamo, T., and D. Soto. “Music Listening after Stroke: Beneficial Effects and Potential Neural Mechanisms.” *Ann NY Acad Sci* 1252 (2012): 266-81.

Music and motor skills

Altenmuller, E.J., et al. “Neural Reorganization Underlies Improvement in Stroke-Induced Motor Dysfunction by Music-Supported Therapy.” *Ann NY Acad Sci* 1169 (2009): 395-405.

Bradt, J., et al. “Music Therapy for Acquired Brain Injury.” *Coch Datab Syst Rev* 7, No. 7 (2010): CD006787.

Music and premature infants

Standley, J.M., et al. “The Effect of Music Reinforcement for Non-Nutritive Sucking on Nipple Feeding of Premature Infants.” *Pediatric Nursing* 36, No. 3 (2010): 138-45.

The Arousal and Mood Hypothesis

Thompson, W.F., et al. “Arousal, Mood, and the Mozart Effect.” *Psychol Sci* 12, No. 3 (2001): 248-51.

GENDER CHAPTER*“The man was a hot dog” finding*

Hellman, M.E., et al. “Penalties for Success: Reactions to Women Who Succeed at Male Gender- Typed Tasks.” *J. Appl Psych* 89, No. 3 (2004): 416-27.

Sex chromosome biology

Cotinot, C., et al. “Molecular Genetics of Sex Determination.” *Semin Reprod Med* 20, No. 3 (2002): 157-68.

Check, E. “The X-Factor.” *Nature* 434 (2005): 266-267

David C. Page and SRY

Page, D. C. “Sex Reversal: Deletion Mapping the Male-Determining Function of the Human Y Chromosome.” *Cold Spring Harbor Symposia on Quantitative Biology* 51 (1986): 229-35.

Lesch, B.J., and D.C. Page. “Genetics of Germ Cell Development.” *Nat Rev Genet* 13, No. 11 (2012): 781-94.

Trivedi, B. “Profile of David C. Page.” *PNAS* 103, No. 8 (2006): 2471-73.

CIA estimates of diversity

Central Intelligence Agency. “The World Factbook.” www.cia.gov/library/publications/the-world-factbook/index.html.

X and 1,500 genes

Ross, M.T., et al. “The DNA Sequence of the Human X-Chromosome.” *Nature* 434 (2005): 325-27.

Skuse, D. H. “Sexual Dimorphism in Cognition and Behaviour: The Role of X-Linked Genes.” *Eur J Endocrin* 155 (2006): S99-S106.

Physical differences in neuroanatomy

Bao, A., and D.F. Swaab. “Sex Differences in the Brain, Behavior, and Neuropsychiatric Disorders.” *The Neuroscientist* 16, No. 5 (2013): 550-65.

Goldstein, J.M., et al. “Normal Sexual Dimorphism of the Adult Human Brain Assessed by in Vivo Magnetic Resonance Imaging.” *Cereb Cortex* 11 (2001): 490-97.

Serotonin biochemical regulation

Nishizawa, S., et al. “Differences between Males and Females in Rates of Serotonin Synthesis in Human Brain.” *PNAS* 94 (1997): 5308-13.

Larry Summer’s comment

Barres, Ben (2005) “Arrogance imperils plans for a change at Harvard.” *Nature* 434: 697

Quotes from Aristotle and Martin Luther

Aristotle (translation by A. Platt) *De Generatione Animalium*. Oxford, UK: Clarendon Press, 1910.

Starr, T. *The Natural Inferiority of Women: Outrageous Pronouncements by Misguided Males*. New York: Poseidon Press, 1991.

Differences in mental retardation rates: males are higher

Ingalls, Robert P. “The Prevalence of Mental Retardation.” Adapted from *Mental Retardation: The Changing Outlook*, edited by Robert P. Ingalls. New York: John Wiley & Sons, Inc, 1982.

Differences in type and severity of psychiatric disorders (and source of Thomas Insel quote)

Holden, C. “Sex and the Suffering Brain.” *Science* 308 (2005): 1574.

Larry Cahill’s work on stress processing and memory formation

Cahill, L., et al. “Sex-Related Hemispheric Lateralization of Amygdala Function in Emotionally Influenced Memory: An Fmri Investigation.” *Learn Mem* 11, No. 3 (2004): 261-66.

Cahill, L., et al. “The Influence of Sex Versus Sex- Related Traits on Long-Term Memory for Gist and Detail from an Emotional Story.” *Conscious Cogn* 13, No. 2 (2004): 391-400.

Andreano, J.M., and L. Cahill. “Sex Influences on the Neurobiology of Learning and Memory.” *Learn & Mem* 16 (2009): 248-66.

Other research showing psychosocial differences in response to stress

Wang, J., et al. “Gender Difference in Neural Response to Psychological Stress.” *Soc Cog & Affect Neurosci* 2, No. 3 (2007): 227-39.

Stephen J. Gould’s quote

Angier, N. “At the Science Museum with -- Stephen Jay Gould; an Evolving Celebrity.” *New York Times*, February 11 1993.

Autobiographical event (differences in memory)

Her, R.S., and G.C. Cupchick. “Women Recall More Emotional Autobiographical Events Than Men in Timed Tests.” *Chem. Senses* 17 (1992): 519-28.

Differences in verbal processing

Witelson, S.F., et al. “Women Have Greater Density of Neurons in Posterior Temporal Cortex.” *J. Neurosci* 15 (1995): 3418-28.

McGlone, J. “Sex Differences in Human Brain Organization: A Critical Survey.” *Behav Brain Sci* 3 (1980): 215-27.

Kimura, D. *Sex and Cognition*. Cambridge, MA: MIT Press, 2000
p. 91 – 105

Deborah Tannen’s research

Tannen, D. “The Display of (Gendered) Identities in Talk at Work.” In *Reinventing Identities: The Gendered Self in Discourse*, edited by M Bucholtz et al. Oxford, UK: Oxford University Press, 1999.

Tannen, D. “Conversational Patterns across Gender, Class, and Ethnicity: Implications for Classroom Discourse.” In *Encyclopedia of Language and Education, Vol. 3, Oral Discourse and Education*, edited by B. Davies and D. Corson. Dordrecht, The Netherlands: Kluwer, 1997.

Tannen, D. “Researching Gender-Related Patterns in Classroom Discourse”. *TESOL Quarterly* 20, No. 2 (1996): 341-44.

Tannen, D. *He Said, She Said: Exploring the Different Ways Men and Women Communicate*. New York: Barnes & Noble Audio, 2008.
Lecture 2 (Track #9)

Tannen’s story and quote

Tannen, D. *You Just Don’t Understand*. New York: Harper Paperback, 2007
p. 15

EXPLORATION CHAPTER

Babies born with a deep desire to explore; some scientists call it a “drive”

Deci, E.L., and R.M. Ryan. “Intrinsic Motivation and Self-Determination in Human Behavior.” In *Perspectives in Social Psychology*, edited by E. Aronson. New York: Plenum Press, 1985.

p. 3 – 39

Premack, D., and A. Premack. *Modules: The New Infant in Original Intelligence* New York: McGraw-Hill, 2003.

p. 1 - 36

Gopnik, A., and A. Meltzoff. *Words, Thoughts and Theories*. Cambridge, MA: MIT Press, 1997.

Meltzoff’s imitation research

Meltzoff, A.N., and M.K. Moore. “Newborn Infants Imitate Adult Facial Gestures.” *Child Dev* 54, No. 702-709 (1983).

Meltzoff, A.N. “Infants’ Causal Learning: Intervention, Observation, Imitation (A. Gopnik & L. Schulz, Eds).” In *Causal Learning: Psychology, Philosophy and Computation*, edited by A. Gopnik and L. Schulz. Oxford, UK: Oxford University Press, 2007. p. 37 - 47

Baby’s and self-correcting hypothesis testing

Topal, J., et al. “Infants’ Perseverative Search Errors Are Induced by Pragmatic Misinterpretation.” *Science* 321 (2008): 1831-34.

Spelke, E.S., and E.L. Newport. “Nativism, Empiricism, and the Development of Knowledge.” In *Handbook of Child Psychology in W. Damon, Vol 1, Theoretical Models of Human Development* edited by R.M. Lerner. New York: Wiley, 1998.

Rake experiment

Gopnik, A., et al. *The Scientist in the Crib*. New York: William Morrow, 2000.
p. 87

Object permanence

Meltzoff, AN (2007) Infants' causal learning: intervention, observation, imitation. In *Causal Learning: Psychology, Philosophy and Computation* (A. Gopnik & L. Schulz, Eds) Oxford: Oxford University Press pp. 37 – 47

Bates, E. et al (1980) Perceptual aspects of tool using in infancy. *Infant Behav & Dev* 3: 127–140.

Toddler's creed: Many variations.

Goldie, S.F. "Please Teach My Toddler to Share (Desperate Mom)." Last Modified March 13, 2012. http://community.babycenter.com/post/a32155217/please_teach_my_toddler_to_share_desperate_mom.

Terrible twos

Repacholi, B.M., and A. Gopnik. "Early Reasoning About Desires: Evidence from 14 and 18 Month Olds." *Dev Psych* 33 (1997): 12-21.

Viewpoint changing

Meltzoff, A.N., et al. "Toddlers' Understanding of Intentions, Desires, and Emotions: Explorations of the Dark Ages." In *Developing Theories of Intention: Social Understanding and Self Control*, edited by P.D. Zelazo et al. Mahwah, NJ: Lawrence Erlbaum, 1999.

Astington, J.W., and M.J. Edward. "The Development of Theory of Mind in Early Childhood." In *Encyclo Early Child Dev*, edited by P.D. Zelazo, 2011.

Mirror neurons

Iacoboni, M. “Imitation, Empathy and Mirror Neurons.” *Ann Rev Psych* 60 (2009): 653-70.

Rizzolati, G., L. Fogassi, and V. Gallese. “Mirrors in the Mind.” *Scientific American* (November 2006): 54-61.

Brain regions involved in error-detection

Kelin, T.A., et al. “Genetically Determined Differences in Learning from Errors.” *Science* 318 (2007): 1642-45.

Magno, E., et al. “The Anterior Cingulate and Error Avoidance.” *J Neurosci* 26, No. 18 (2006): 4769-73.

Adult brains can grow new brain cells, new connections

Ming, G.L., and H. Song. “Adult Neurogenesis in the Mammalian Brain: Significant Answers and Significant Questions.” *Neuron* 70, No. 4 (2011): 687-702.

Goyal, M.S., et al. “Aerobic Glycolysis in the Human Brain Is Associated with Development and Neotenus Gene Expression.” *Cell Metabolism* 19, No. 1 (2014): 49-57.

Spalding, K.L., et al. “Dynamics of Hippocampal Neurogenesis in Adult Humans.” *Cell* 153 (2013): 1219-27.

Google – rise and fall of 20 Percent Time

Medirata B, as told to Julie Bick. “The Google Way: Give Engineers Room.” *New York Times* (October 21, 2007)

Tate, R. “Google Couldn’t Kill 20 Percent Time Even If It Wanted To.” *Wired*, Aug 21, 2013. <http://www.wired.com/2013/08/20-percent-time-will-never-die/>.