

LIST OF DRAFT FIGURES AND VIDEOS

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Video 25.3 Close-up slow motion video clip of Bernard Lagat's asymmetrical head and neck motion when winning distance race at 2016 US Olympics Trials.

Video 25.4 Video clip showing typical examples of right/left facial asymmetry.

Chapter 26

Figure 26.1 Torsional-shift anatomical asymmetries between the right and left hemispheres shown in a bottom view, Figure 4.5 from page 126, of Gazzaniga, Michael S. et al. (2014). *Cognitive Neuroscience: The Biology of the Mind* (4th Ed.). New York: W. W. Norton & Company.

Figure 26.2 The Base of the Brain, Figure 196, page 337, torsional-shift anatomical asymmetries between the right and left hemispheres, Henry Gray (1858). *Gray's Anatomy*. Illustrated by Henry Vandyke Carter.

Figure 26.3 Photo of computer simulation of human brain concussion with intense sideways motion shown in frontal plane cross-section causing maximum tissue stretch in the central brain, from a TED Talk titled *Why Helmets don't prevent concussions – and what might* by David Camarillo, Ph.D. of Stanford University on April 24, 2016.

Figure 26.4 Photo of frontal plane cross-section of a normal human brain showing in color the major communication network wiring with the red central portion the principal connection between the right and left hemispheres.

Figure 26.5 Same photo as previous figure (but without network coloring) showing the corpus

callosum (circled in red), the physical portion of the brain that provides a fiber bundle connecting the two hemispheres.

Figure 26.6 A similar photo like the previous two figures, but of a retired NFL football player who suffered from CTE, his highly abnormal brain indicating extreme deterioration of the corpus callosum.

Figure 26.7 U. S. Patent Number US 8,732,868, issued by the U. S. Patent and Trademark Office on May 27, 2014, titled *Helmet and/or Helmet Liner with at least One Internal Flexibility Sipe with an Attachment to Control and Absorb the Impact of Torsional Or Shear Forces*.

VIDEO 26.1 Brief video clip showing the dorsolateral prefrontal cortex on the left hemisphere.

VIDEO 26.2 Human brain tissue stretch simulation, from a TED Talk titled *Why Helmets don't prevent concussions – and what might* by David Camarillo, Ph.D. of Stanford University was made April 24, 2016 (at www.ted.com).

VIDEO 26.3 The human brain's corpus callosum and CTE, from the same reference as VIDEO 26.1 above.

VIDEO 26.4 A slow motion video clip of the face of Dahne Schippers, an Olympic Champion 200m sprinter.

Chapter 27

Figure 27.1 Top view of Einstein's brain, showing asymmetrical hemispheres with the right shifted forward, from Figure 1 of Dean Falk, Frederick E. Lepore, and Adrienne Noe (2013). The cerebral cortex of Albert Einstein. *Brain* 136: page 1306.

Figure 27.2 Front view of Einstein's brain, showing asymmetrical hemispheres with the right shifted forward, from Figure 5 of Dean Falk, Frederick E. Lepore, and Adrienne Noe (2013). The cerebral cortex of Albert Einstein. *Brain* 136: page 1310.

Figure 27.3 The asymmetrically twisted body of wheel-chair-bound Steven Hawking from **Hawking** (2014), a PBS biography of his life.

Figures 27.4 A photo of Steven Hawking's college age asymmetrical standing posture, with higher right shoulder from **Hawking** (2014), a PBS biography of his life.

Figure 27.5 The asymmetrical eyes of Steven Hawking with larger left eye, from *Genius By Steven Hawking* (2016), a PBS series.

Figure 27.6 Alan Turing as a highly elite adult runner, finishing second in a 1946 three mile race, photo and page 444 of Andrew Hodges' *Alan Turing: The Enigma* (1983). Princeton and Oxford: Princeton University Press.

Chapter 29

Figure 29.1 Comparison of skeletons with naturally erect posture and poor posture, from Mary

Bond's *The New Rules of Posture: How to Sit, Stand, and Move* (2006) Healing Arts Press. And at: <http://www.washingtonpost.com/wp-dyn/content/graphic/2007/04/16/GR2007041600761.html>.

Figure 29.2 Figure 2A and 2B of Ron Hruska's Pelvic stability influences lower-extremity kinematics, in *Biomechanics*, June 1998, page 24, reprinted in Mary Lloyd Ireland's The female ACL: why is it more prone to injury? In *Orthop Clin N Am* 33 (2002). page 642.

Chapter 32

Figure 32.1 U. S. Patent Number US 9,030,335, issued by the U. S. Patent and Trademark Office on May 12, 2015, titled *Smartphone App-Controlled Configuration of Footwear Soles Using Sensors in the Smartphone and the Soles* by Frampton E. Ellis.

Chapter 34

Figure 34.1 U. S. Patent Number US 9,009,809, which issued by the USPTO on April 14, 2015, is titled *Computer or Microchip with a Secure System BIOS and a Secure Control Bus Connecting a Central Controller to Many Network-Connected Microprocessors and Volatile RAM*.

Chapter 36

Figure 36.1 Photo of identical twin young boys from **PBS** Ken Burns Presents *Cancer: the Emperor of All Maladies (2015)*, A Film by Barak Goodman.

Figure 36.2 Xray from “Brain Cancers Reveal Novel Genetic Disruption in DNA” (December 23, 15) in *The New York Times*.

Chapter 40

Figure 40.1 Cartoon on Vikings stretching before an attack, from Gary Larson (1985), *Valley of the Far Side*. Page 44, Kansas City: Andrews, McMeel, & Parker..

Chapter 43

Figure 43.1 Kevin Durant's basketball shoe showing substantial lack of lateral stability, from *The Offseason: Kevin Durant* (2014) on **HBO** (11/29/14).

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