
Errata to: How Mechanics Shaped the Modern World

15

David H. Allen

Errata to:
D. H. Allen, *How Mechanics Shaped the Modern World*,
DOI [10.1007/978-3-319-01701-3](https://doi.org/10.1007/978-3-319-01701-3)

Image credits are supplied as follows (they had been left out of the front matter):

Figure Credits

Chapter 1

Fig. 1.1 Painting of a Giant Deer from Lascaux showing dots representing lunar calendar, photo by HTO accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Lascaux,_Megaloceros.JPG (released to public domain by the author)

Fig. 1.3 Front and back views of Narmer's Palette, photo by Captmondo accessed in January, 2013 at http://en.wikipedia.org/wiki/File:NarmerPalette_ROM-gamma.jpg (released to public domain by the author)

Fig. 1.5 Snefru's Meidum pyramid, photo by Neithsabes accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Meidoum_pyramide_003.JPG (released to public domain by the author)

Fig. 1.7 Snefru's Red pyramid, photo by Ivrienen accessed in January, 2013 at [http://commons.wikimedia.org/wiki/File:Snofrus_Red_Pyramid_in_Dahshur_\(2\).jpg](http://commons.wikimedia.org/wiki/File:Snofrus_Red_Pyramid_in_Dahshur_(2).jpg) {{CC-BY-3.0}}

The online version of the original book can be found under DOI [10.1007/978-3-319-01701-3](https://doi.org/10.1007/978-3-319-01701-3)

D. H. Allen (✉)
Civil Engineering Department, Texas A&M University, College Station, TX, USA
e-mail: dallen@pavesci.com

Fig. 1.16 Sketch Map of East Valley of the Kings, drawing by James Baikie accessed in January, 2013 at [http://en.wikipedia.org/wiki/File:East_Valley_of_the_Kings_Sketch_Map_\(Topo\).png](http://en.wikipedia.org/wiki/File:East_Valley_of_the_Kings_Sketch_Map_(Topo).png) (released to public domain by the author)

Fig. 1.17 Giovanni Battista Belzoni, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Belzoni1.jpg> {{PD-1923}}

Fig. 1.18 Bust of Akhenaten from the Cairo Museum, photo by qwelk accessed in January, 2013 at <http://commons.wikimedia.org/wiki/File:Akenaton.jpg> (photo released to public domain by the author)

Fig. 1.19 Howard Carter examining King Tut's Sarcophogus, published by *The New York Times* in 1923 http://upload.wikimedia.org/wikipedia/commons/c/c9/Tuts_Tomb_Opened.JPG {{PD-US}}

Fig. 1.20 Mummy of King Tut, photo accessed in January, 2013 at <http://it.bing.com/images/search?q=King+Tut+photos+Wikimedia&view=detail&id=DB7990ADF9DCAE52898ED0286A3CEA42F3FD6E68&first=91> {{PD-1923}}

Fig. 1.22 Ginger—a naturally mummified body, photo by Ernest Alfred Wallis Budge accessed at [http://en.wikipedia.org/wiki/File:Ginger_\(mummy\)_1920.png](http://en.wikipedia.org/wiki/File:Ginger_(mummy)_1920.png) {{PD-1923}}

Fig. 1.24 Granite head of statue of Amenhotep III (1370 BCE) discovered at the Temple of Mut in Karnak by Giovanni Belzoni and Henry Beechey in 1817, now in the British Museum, photo by Jon Bodsworth accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Granite_head_of_Amenhotep_III.jpg (released to public domain by the author)

Fig. 1.30 Sixteenth century engraving of the Hanging Gardens of Babylon by Maarten van Heemskerck, drawing accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Heemskerck-hanginggardens.jpg> {{PD-1923}}

Fig. 1.31 Sixteenth century image of the Temple of Artemis by Maarten van Heemskerck, drawing accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Temple_of_Artemis.jpg {{PD-1923}}

Fig. 1.32 Sixteenth century rendition of the statue of Zeus at Olympia by Maarten van Heemskerck, photo accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Statue_of_Zeus.jpg {{PD-1923}}

Fig. 1.33 Mausoleum of Halicarnassus today, photo taken by Monsieurdl accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:MausoleumHALICARNASSUS.JPG> (photo released to public domain by the author)

Fig. 1.34 1880 depiction of the Colossus of Rhodes, drawing accessed in January, 2013 at [http://en.wikipedia.org/wiki/File:Colosse_de_Rhodes_\(Barclay\).jpg](http://en.wikipedia.org/wiki/File:Colosse_de_Rhodes_(Barclay).jpg) {{PD-1923}}

Fig. 1.35 1909 drawing of the Lighthouse of Alexandria by H. Thiersch, drawing accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Lighthouse_-_Thiersch.gif {{PD-1923}}

Chapter 2

Fig. 2.2 Bust of Pericles, Vatican Museum, photo by Jastrow accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Pericles_Pio-Clementino_Inv269.jpg (photo released to public domain by the author)

Fig. 2.4 Depiction of Thales of Miletus, drawing accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Thales.jpg> {{PD-1923}}

Fig. 2.6 Depiction of Democritus, drawing accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Democritus2.jpg> {{PD-1923}}

Fig. 2.7 Bust of Aristotle, National Museum of Rome, photo by Jastrow accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Aristotle_Altemps_Inv8575.jpg (photo released to public domain by the author)

Fig. 2.8 Photograph of one of the oldest surviving fragments of Euclid's *elements*, photo accessed in May, 2013 at <http://www.math.ubc.ca/~cass/Euclid/papyrus/ta.jpg> {{PD-1923}}

Fig. 2.9 Tenth century AD Greek copy of Aristarchus' second century BCE calculations of the relative sizes of the Sun, Moon and the Earth, Library of Congress Vatican Exhibit, photo accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Aristarchus_working.jpg {{PD-1923}}

Fig. 2.10 Modern Portrait of Archimedes by Domenico Fetti, Gemäldegalerie Alte Meister, Dresden, photo accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Domenico-Fetti_Archimedes_1620.jpg {{PD-1923}}

Fig. 2.15 The Archimedes Palimpsest, showing the original text of Archimedes on the *right*, and the overwritten text on the *left*, typical pages from the Archimedes Palimpsest, *source* <http://www.archimedespalimpsest.net>, approved for reproduction by Walters Museum Curator Walter Noel under Creative Commons License {{CC-BY-SA-3.0}}

Fig. 2.16 Painting depicting Cicero discovering Archimedes' tomb by Benjamin West (1797), photo accessed in January, 2013 at <http://www.wikipaintings.org/en/benjamin-west/cicero-and-the-magistrates-discovering-the-tomb-of-archimedes> {{PD-1923}}

Fig. 2.17 Depiction of Eratosthenes, drawing accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Portrait_of_Eratosthenes.png {{PD-1923}}

Fig. 2.19 Image of Claudius Ptolemy, drawing accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Ptolemaeus.jpg> {{PD-1923}}

Fig. 2.22 Depiction of the story of the Trojan horse in the art of ancient Gandhara, British Museum, accessed in January, 2013 at <http://commons.wikimedia.org/wiki/File:IndoGreeksTrojanHorse.jpg> (photo released to public domain by the author)

Fig. 2.23 Photograph of Frank Calvert, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Frank_calvert_portrait.png {{PD-1923}}

Fig. 2.24 Photograph of Heinrich Schliemann, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/1/15/Heinrich_Schliemann.jpg {{PD-1923}}

Fig. 2.25 Plan of ancient Troy, drawing by Bibi Saint-Pol accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/c/c1/Plan_Troy-Hisarlik-en.svg (released to public domain by the author)

Fig. 2.26 Photograph of Kyriakos Pittakis, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Kyriakos_Pittakis.jpg {{PD-1923}}

Fig. 2.27 Photograph taken circa 1884 of the Lion's Gate at Mycenae, accessed in February, 2013 at http://commons.wikimedia.org/wiki/File:Mykene_Loewentor_mit_Doerpfeld_und_Schliemann.jpg {{PD-1923}}

Fig. 2.28 Photograph of the Mask of Agamemnon, Athens Museum, photo by User:Mountain accessed in January, 2013 at

http://upload.wikimedia.org/wikipedia/commons/1/1c/Golden_mask_of_Agamemnon.jpg (photo released to public domain by the author)

Chapter 3

Fig. 3.4 Depiction of the Roman roads in Italy by Agamemnus, drawing accessed in January, 2013 at http://en.wikipedia.org/w/index.php?title=File:The_Ancient_Roads_of_Italy_and_Sicily_nopng.svg&page=1 (drawing released to public domain by the author)

Fig. 3.5 A depiction of a Roman road, drawing accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Via_Munita.png {{PD-1923}}

Fig. 3.6 Via Appia, photo by Radislav Botev accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Via_Appia_Antica_Rome_2006.jpg (approved by the author for any use under {{CC-BY-SA-2.5-PL}})

Fig. 3.7 Nineteenth century depiction of the temple of Jupiter Optimus Maximus in Roman times, drawing accessed in January, 2013 at http://en.wikipedia.org/wiki/File:City_of_Rome_during_time_of_republic.jpg {{PD-1923}}

Fig. 3.9 1873 depiction of the Roman Coliseum, drawing accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Coliseum_at_Rome_I.jpg {{PD-1923}}

Fig. 3.13 Photograph of Hadrian's wall, photo taken by Adam Cuerden accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Milecastle_39_on_Hadrian%27s_Wall.jpg (photo released to public domain by the author)

Fig. 3.16 Centaur raping a nymph by Laurent Marqueste (1848–1920) in the Tuileries, photo taken by Jastrow accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Centaur_nymph_Marqueste_Tuileries.jpg (photo released to public domain by the author)

Fig. 3.19 Segovia Aqueduct, photo by Jebulon accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Aqueduct_Segovia_dusk.jpg {{CC-BY-1.0}}

Fig. 3.20 Ruins of the Barbegal Watermill, photo by Maarjaara accessed in December, 2012 at http://en.wikipedia.org/wiki/File:Barbegal_mill_02.jpg {{CC-BY-2.0}}

Chapter 4

Fig. 4.1 Photograph of the Hagia Sophia, photo by Gokhan accessed in February, 2013 at http://commons.wikimedia.org/wiki/File:Hagia_Sophia_weekend.jpg (photo released to public domain by the author)

Fig. 4.3 Depiction of the relation between the Sun and Earth drawn by Tau'olunga, showing the solstices (at the extremities) and the equinoxes of the Earth, accessed in February, 2013 at http://en.wikipedia.org/wiki/File:North_season.jpg (photo released to public domain by the author)

Fig. 4.4 Portrait of Bede on the *left*, portrait accessed in January, 2013 at http://en.wikipedia.org/wiki/File:The_Venerable_Bede_translates_John_1902.jpg {{PD-ART-LIFE-70}}, His Tomb on the *right*, photo by Robin Widdison accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Bede.jpg> (photo released to public domain by the author)

Fig. 4.5 Painting by Charles de Steuben depicting the Battle of Tours, Palace of Versailles, painting accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Steuben_-_Bataille_de_Poitiers.png {{PD-1923}}

Fig. 4.8 Sculpture of St. Denis at the left portico of Notre Dame Cathedral, Paris, photo by Urban accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Saintdenis.gif> (photo released to public domain by the author)

Fig. 4.12 Early Flying Buttress (c. 1170) attached to the Choir of the Cathedral of St. Remi in Reims, photo by Ragatt2000 accessed in January, 2013 at http://en.wikipedia.org/wiki/File:St_Remi_choir_from_south_east.jpg (photo released to public domain by the author)

Fig. 4.13 Multi-tiered Flying Buttresses attached to Bourges Cathedral, photo by sybarite48 accessed in December, 2012 at [http://en.wikipedia.org/wiki/File:Cath%C3%A9drale_de_Bourges_\(Cher\).jpg](http://en.wikipedia.org/wiki/File:Cath%C3%A9drale_de_Bourges_(Cher).jpg) {{CC-BY-2.0}}

Fig. 4.15 Photo of Beauvais Cathedral, photo by Sokojan accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Beauv_kated_od_VJV_DSCN4393.JPG (photo released to public domain by the author)

Fig. 4.18 Image of Muhamed ibn MūsāAl-Kwārizmī on a Russian Stamp, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Abu_Abdullah_Muhammad_bin_Musa_al-Khwarizmi_edit.png (this work is not an object of copyright according to Part IV of Civil Code No. 230-FZ of the Russian Federation of December 18, 2006)

Fig. 4.19 A Page from *Aljebr*, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Image-Al-Kit%C4%81b_al-mu%E1%B8%ABta%E1%B9%A3ar_f%C4%AB_%E1%B8%A5is%C4%81b_al-%C4%9Fabr_wa-l-muq%C4%81bala.jpg {{PD-1923}}

Fig. 4.20 Portrait of Leonardo do Pisa by an unknown artist, accessed in January, 2013 at <http://upload.wikimedia.org/wikipedia/commons/a/a2/Fibonacci.jpg> {{PD-1923}}

Fig. 4.21 A page from Leonardo do Pisa's book *Liber Abaci* showing the Fibonacci numbers in the right-hand column, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Liber_abbaci_magliab_f124r.jpg {{PD-1923}}

Fig. 4.22 The Tomb of Robert Grosseteste in Lincoln Cathedral, photo by Agicus accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Grosseteste_Chapel.jpg (photo released to public domain by the author)

Fig. 4.23 Sketch of Roger Bacon, accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Roger_Bacon.jpeg?uselang=fr {{PD-1923}}

Fig. 4.24 Sketch of William of Ockham from a 1341 manuscript, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:William_of_Ockham_-_Logica_-_1341.jpg {{PD-1923}}

Fig. 4.25 Portrait of Dante by Giotto, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Dante-alighieri.jpg> {{PD-1923}}

Fig. 4.29 Depiction of torture rack, drawing accessed in January, 2013 at <http://commons.wikimedia.org/wiki/File:Streckbett.jpg> {{PD-1923}}

Chapter 5

Fig. 5.1 A possible self-portrait of Giotto, Basilica of Santa Croce, Florence, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Giotto_face_restored.jpg {{PD-1923}}

Fig. 5.2 Cimabue's Maestà, Uffizi Gallery, Florence, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/9/9f/Cimabue_033.jpg {{PD-1923}}

Fig. 5.3 Giotto's Lamentation (The Mourning of Christ), Scrovegni Chapel, accessed in January, 2013 at [http://upload.wikimedia.org/wikipedia/commons/4/40/Giotto_-_Scrovegni_-_36_-_Lamentation_\(The_Mourning_of_Christ\).jpg](http://upload.wikimedia.org/wikipedia/commons/4/40/Giotto_-_Scrovegni_-_36_-_Lamentation_(The_Mourning_of_Christ).jpg) {{PD-1923}}

Fig. 5.5 The tower of the winds in Athens, photo by Georg Zumstrull accessed in December, 2012 at http://en.wikipedia.org/wiki/File:Tower_of_the_Winds.jpg {{CC-BY-2.0-DE}}

Fig. 5.6 Portrait of Christiaan Huygens, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Christiaan_Huygens.jpg {{PD-1923}}

Fig. 5.11 Da Vinci self portrait, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Leonardo_da_Vinci_-_Self-Portrait_-_WGA12798.jpg {{PD-1923}}

Fig. 5.13 Painting by Jean Auguste Dominique Ingres depicting Leonardo Da Vinci on his death bed at the Clos Lucé, held in the arms of the French King François I, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/7/79/Francois_I_recoit_les_derniers_soupirs_de_Leonard_de_Vinci_by_Ingres.jpg {{PD-1923}}

Fig. 5.16 Portrait of Michelangelo by Jacopinto del Conte (c. 1535), accessed in January, 2013 at <http://upload.wikimedia.org/wikipedia/commons/c/ca/Michelangelo-Buonarroti1.jpg> {{PD-1923}}

Fig. 5.17 Michelangelo's Dome above St. Peter's Basilica, photo by mtsrs accessed in December, 2012 at http://commons.wikimedia.org/wiki/File:St_Peters_Basilica.jpg {{CC-BY-2.0}}

Fig. 5.18 Michelangelo's Pietà, St. Peter's Basilica, Rome, photo by Stanislav Traykov accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Michelangelo%27s_Pieta_5450_croprncleaned_edit.jpg {{CC-BY-2.5}}

Fig. 5.19 The Rondanini Pietà by Michelangelo, Museum of Antique Art, Milan, photo by Giovanni Dall'Orto accessed in December, 2012 at [http://commons.wikimedia.org/wiki/File:Milano_-_Castello_sforzesco_-_Michelangelo,_Piet%C3%A0_Rondanini_by_Michelangelo_\(1564\)_-_Foto_Giovanni_Dall'Orto,_6-jan-2006_-_03.jpg](http://commons.wikimedia.org/wiki/File:Milano_-_Castello_sforzesco_-_Michelangelo,_Piet%C3%A0_Rondanini_by_Michelangelo_(1564)_-_Foto_Giovanni_Dall'Orto,_6-jan-2006_-_03.jpg) (photo released to public domain by the author)

Fig. 5.20 Portrait of Bernini in the Galleria Borghese, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/d/d5/Gian_Lorenzo_Bernini,_self-portrait,_c1623.jpg {{PD-1923}}

Fig. 5.21 1909 photo of Bernini's Colonnade in front of St. Peter's Basilica, Rome, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Piazza_st._peters_rome_1909.jpg {{PD-1923}}

Fig. 5.22 The Trevi Fountain in Rome, designed in part by Bernini, photo by Diliff accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Trevi_Fountain,_Rome,_Italy_2_-_May_2007.jpg {{CC-BY-3.0}}

Chapter 6

Fig. 6.2 Portrait of Pope Gregory XIII by Lavinia Fontana, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/5/50/Gregory_XIII.jpg {{PD-1923}}

Fig. 6.3 Photos of the Wasa: bow photo on *left* by Nick Lott accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:The_Wasa_from_the_Bow.jpg {{CC-BY-2.0}}, stern photo on *right* by Nick Lott accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:The_Wasa_from_the_stern.jpg {{CC-BY-2.0}}

Fig. 6.5 Recreation of L'Anse aux Meadows, Newfoundland, photo by Fruggo accessed in December, 2012 at http://en.wikipedia.org/wiki/File:Authentic_Viking_recreation.jpg {{CC-BY-2.0}}

Fig. 6.6 Portrait of Marco Polo, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/5/54/Marco_Polo_portrait.jpg {{PD-1923}}

Fig. 6.7 Portrait of Christopher Columbus by Sebastiano del Piombo, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Christopher_Columbus.PNG {{PD-1923}}

Fig. 6.8 Portrait of Ferdinand Magellan, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Ferdinand_Magellan.jpg {{PD-1923}}

Fig. 6.9 The Victoria, the only ship in Magellan's Fleet to complete the Voyage, detail from a map by Ortelius, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Detail_from_a_map_of_Ortelius_-_Magellan%27s_ship_Victoria.png {{PD-1923}}

Fig. 6.10 Portrait of Francis Drake by Marcus Gheeraerts, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:1590_or_later_Marcus_Gheeraerts,_Sir_Francis_Drake_Buckland_Abbey,_Devon.jpg {{PD-1923}}

Fig. 6.11 Portrait of Captain James Cook by Nathaniel Dance-Holland, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Captainjamescookportrait.jpg> {{PD-1923}}

Fig. 6.12 Portrait of Edmund Halley by Thomas Murray, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Edmund_Halley.gif {{PD-1923}}

Fig. 6.13 Diagram from Sir Edmund Halley's report to the Royal Society describing how to measure the distance to the Sun using the transit of Venus, accessed in February, 2013 at http://en.wikipedia.org/wiki/File:Halley_1716_proposal_of_determining_the_parallax_of_the_sun.jpg {{PD-1923}}

Fig. 6.14 The Endeavor leaving Whitby Harbor England in 1768, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/2/2f/Endeavour,_Thomas_Luny_1768.jpg {{PD-1923}}

Fig. 6.15 Image of Venus transiting the Sun on June 5, 2012 {{PD-USGov-NASA}}

Fig. 6.16 Route of the Endeavor, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Endeavour_track_chart.jpg {{PD-1923}}

Fig. 6.17 Captain Cook Memorial on Kealakekua Bay, Hawaii, photo by surfsupusa accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Cook_Monument_Kealakekua.jpg (photo released to public domain by the author)

Fig. 6.18 Portrait of Joseph Banks by Sir Joshua Reynolds, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/6/6e/Joseph_Banks_1773_Reynolds.jpg {{PD-1923}}

Chapter 7

Fig. 7.1 Portrait of Nicolas Copernicus, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Nikolaus_Kopernikus.jpg {{PD-1923}}

Fig. 7.2 Title page of *De Revolutionibus Orbium Coelestium* [51], accessed in January, 2013 at http://en.wikipedia.org/wiki/File:De_revolutionibus_orbium_coelestium.jpg {{PD-1923}}

Fig. 7.3 Portrait of Tycho Brahe, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Tycho_Brahe.JPG {{PD-1923}}

Fig. 7.4 Portrait of Johannes Kepler, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Johannes_Kepler_1610.jpg {{PD-1923}}

Fig. 7.5 Portrait of Galileo Galilei by Justus Sustermans, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Justus_Sustermans_-_Portrait_of_Galileo_Galilei,_1636.jpg {{PD-1923}}

Fig. 7.10 Photograph of Clarence A. Waldo, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:ProfWaldo99.jpg> {{PD-1923}}

Fig. 7.11 Portrait of René Descartes by Frans Hals, Louvre Museum, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Frans_Hals_-_Portret_van_Ren%C3%A9_Descartes.jpg {{PD-1923}}

Fig. 7.12 Depiction of a Chinese Abacus, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Abacus_6.png {{PD-1923}}

- Fig. 7.13** Tycho Brahe charting the heavens, accessed in January, 2013 at <http://commons.wikimedia.org/wiki/File:Tycho-Brahe-Mural-Quadrant.jpg> {{PD-1923}}
- Fig. 7.14** Portrait of Blaise Pascal by an unknown artist, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Blaise_Pascal_2.jpg {{PD-1923}}
- Fig. 7.18** Portrait of Pierre-Simon Laplace, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/e/e3/Pierre-Simon_Laplace.jpg {{PD-1923}}
- Fig. 7.21** Portrait of Isaac Newton by Sir Godfrey Kneller, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:GodfreyKneller-IsaacNewton-1689.jpg> {{PD-1923}}
- Fig. 7.22** Title page of *The Principia*, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Principia-title.png> {{PD-1923}}
- Fig. 7.24** Portrait of Gottfried Leibniz by Christoph Bernhard Francke, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Gottfried_Wilhelm_von_Leibniz.jpg {{PD-1923}}
- Fig. 7.25** Portrait of Joseph-Louis Lagrange, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Langrange_portrait.jpg {{PD-1923}}
- Fig. 7.28** Galileo's Cantilever Beam, taken from Galileo Galilei's book *Discourses on Two New Sciences (1638)* {{PD-1923}}
- Fig. 7.29** Portrait of Jacob Bernoulli, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Jakob_Bernoulli.jpg {{PD-1923}}
- Fig. 7.30** Portrait of Johann Bernoulli, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Johann_Bernoulli2.jpg {{PD-1923}}
- Fig. 7.31** Portrait of Daniel Bernoulli, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Daniel_Bernoulli_001.jpg {{PD-1923}}
- Fig. 7.32** Portrait of Leonhard Euler, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Leonhard_Euler_2.jpg {{PD-1923}}
- Fig. 7.34** Galileo's depictions of fractured beams, taken from Galileo Galilei's book *Discourses on Two New Sciences (1638)* {{PD-1923}}
- Fig. 7.35** Hooke's spring experiment, plate to Robert Hooke's lecture "Of Spring," 1678, {{PD-1923}}
- Fig. 7.36** Portrait of Gabriel Lamé, accessed in January, 2013 at <http://upload.wikimedia.org/wikipedia/commons/1/18/Gabriel-Lam%C3%A9.jpg> {{PD-1923}}

Chapter 8

- Fig. 8.1** South dome organ from the Milan Cathedral, first constructed in 1395, photo by Lorenzo Fratti accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Organo_sud_duomo_milano.jpg (photo released to public domain by the author)
- Fig. 8.2** Photograph of a Harpsichord, photo by Nick Michael accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Flemish_harpsichord.jpg (photo released to public domain by the author)
- Fig. 8.4** Portrait of Bartolomeo Cristofori, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:BartolomeoCristofori.jpg> {{PD-1923}}

Fig. 8.5 Oldest surviving Cristofori fortepiano 1720, Metropolitan Museum New York, photo by Shriram Rajagopalan accessed in December, 2012 at http://en.wikipedia.org/wiki/File:Pianoforte_Cristofori_1720.jpg {{CC-BY-2.0}}

Fig. 8.6 Portrait of Johann Bach by Elias Haussmann, Old Town Hall, Leipzig, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/6/6a/Johann_Sebastian_Bach.jpg {{PD-1923}}

Fig. 8.7 Detail from Portrait of Wolfgang Mozart by Johann della Croce, Mozart House, Salzburg, accessed in January, 2013 at <http://upload.wikimedia.org/wikipedia/commons/4/47/Croce-Mozart-Detail.jpg> {{PD-1923}}

Fig. 8.8 Portrait of Ludwig Beethoven by Joseph Stieler, Beethoven House, Bonn, accessed in January, 2013 at <http://upload.wikimedia.org/wikipedia/commons/6/6f/Beethoven.jpg> {{PD-1923}}

Fig. 8.9 Photograph of Frédéric Chopin, accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Frederic_Chopin_photo_sepia.jpeg {{PD-1923}}

Fig. 8.10 Action from a 1907 upright piano, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Piano_action_-_Project_Gutenberg_eText_17571.jpg {{PD-1923}}

Fig. 8.15 Modern Violin, photo by Just Plain Bill accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Violin_VL100.jpg (photo released to public domain by the author)

Fig. 8.16 Five stradivari violins {{PD-USGov-Congress}}

Fig. 8.17 Photograph of a Jacquard Loom, photo by Dmm2va7 accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:DMM_29263ab_Jacquardwebstuhl.jpg?uselang=de {{CC-BY-3.0}}

Fig. 8.18 Hunting scene from the eleventh century Bayeux Tapestry, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Bayeux_hawking.jpg {{PD-1923}}

Fig. 8.19 Portrait of John Harrison, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:John_Harrison_Uhrmacher.jpg {{PD-1923}}

Fig. 8.20 Pendulum clock drawn by Galileo, accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Galileo_Pendulum_Clock.jpg {{PD-1923}}

Chapter 9

Fig. 9.1 Portrait of Napoleon Bonaparte by Jacques-Louis David, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Napoleon_in_His_Study.jpg {{PD-1923}}

Fig. 9.3 Portrait of Jean-François Champollion by Léon Cogniet, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Leon_Cogniet_-_Jean-Francois_Champollion.jpg {{PD-1923}}

Fig. 9.4 Portrait of Thomas Young, accessed in January, 2013 at [http://en.wikipedia.org/wiki/File:Thomas_Young_\(scientist\).jpg](http://en.wikipedia.org/wiki/File:Thomas_Young_(scientist).jpg) {{PD-1923}}

Fig. 9.5 Portrait of Joseph Fourier, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Fourier2.jpg> {{PD-1923}}

- Fig. 9.6** Portrait of Ernst Chladni, accessed in January, 2013 at <http://upload.wikimedia.org/wikipedia/commons/d/d1/Echladni.jpg> {{PD-1923}}
- Fig. 9.9** Portrait of Siméon-Denis Poisson, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Simeon_Poisson.jpg {{PD-1923}}
- Fig. 9.10** Photo of a Statue of Claude-Louis Navier, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Claude-Louis_Navier.jpg {{PD-1923}}
- Fig. 9.11** Photograph of Augustin Cauchy, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Augustin-Louis_Cauchy.jpg {{PD-1923}}
- Fig. 9.13** Photograph of Carl Culmann, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/f/f2/Karl_Culmann.jpg {{PD-1923}}
- Fig. 9.14** Portrait of Christian Otto Mohr, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Otto_Mohr.JPG {{PD-1923}}
- Fig. 9.15** Lines of principal planes (*left*) in a curved crane compared to the trabecular alignment in a human proximal femur (*right*) [90–93], photo published in Thompson [93] from previous publications by Culmann [90], Meyer [91] and Wolff [92], photo in the public domain under {{PD-US}}
- Fig. 9.17** Photograph of Édouard Manet, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/9/9b/%C3%89douard_Manet-crop.jpg {{PD-1923}}
- Fig. 9.18** Manet's *Le Dejeuner sur l'Herbe*, 1863, Musée D'Orsay, accessed in January, 2013 at [http://upload.wikimedia.org/wikipedia/commons/f/f1/Manet,_Edouard_-_Le_D%C3%A9jeuner_sur_l'Herbe_\(The_Picnic\)_1.jpg](http://upload.wikimedia.org/wikipedia/commons/f/f1/Manet,_Edouard_-_Le_D%C3%A9jeuner_sur_l'Herbe_(The_Picnic)_1.jpg) {{PD-1923}}
- Fig. 9.19** Manet's *Olympia*, 1863, Musée D'Orsay, accessed in January, 2013 at [http://en.wikipedia.org/wiki/File:%C3%89DOUARD_MANET_-_Olympia_\(Museo_de_Orsay,_Par%C3%ADs,_1863._%C3%93leo_sobre_lienzo,_130_x_190_cm\).jpg](http://en.wikipedia.org/wiki/File:%C3%89DOUARD_MANET_-_Olympia_(Museo_de_Orsay,_Par%C3%ADs,_1863._%C3%93leo_sobre_lienzo,_130_x_190_cm).jpg) {{PD-1923}}
- Fig. 9.20** Photograph of Claude Monet, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/3/33/Claude_Monet_1899_Nadar.jpg {{PD-1923}}
- Fig. 9.21** The right section of Monet's *Le Dejeuner sur L'herbe*, Musée D'Orsay, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Monet_dejeunersurlherbe.jpg {{PD-1923}}
- Fig. 9.22** Self-portrait of Edgar Degas, Musée D'Orsay, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/a/a1/Edgar_Degas_self_portrait_1855.jpeg {{PD-1923}}
- Fig. 9.23** Photograph of Pierre-Auguste Renoir, accessed in January, 2013 at <http://upload.wikimedia.org/wikipedia/commons/f/fd/PARenoir.jpg> {{PD-1923}}
- Fig. 9.24** Pierre-Auguste Renoir's *Bal du Moulin de la Galette*, 1876, Musée D'Orsay, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/2/21/Pierre-Auguste_Renoir,_Le_Moulin_de_la_Galette.jpg {{PD-1923}}
- Fig. 9.25** Photograph of Vincent Van Gogh, c. 1871, accessed in January, 2013 at <http://upload.wikimedia.org/wikipedia/commons/7/74/VincentVanGoghFoto.jpg> {{PD-1923}}

Fig. 9.26 Vincent Van Gogh's *Le Café le Nuit*, Kröller-Müller Museum, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/7/7e/Vincent_Willem_van_Gogh_015.jpg {{PD-1923}}

Fig. 9.27 Photograph of Pablo Picasso, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/9/98/Pablo_picasso_1.jpg {{PD-1923}}

Fig. 9.28 Pablo Picasso's *Les Femmes d'Alger (O. J. R. Version O)*, 1911, Museum of Modern Art, New York, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/en/4/4c/Les_Demoiselles_d'Avignon.jpg {{PD-1923}}

Fig. 9.29 Portrait of Thomas Telford by S. Lane, accessed in January, 2013 at <http://upload.wikimedia.org/wikipedia/commons/b/b8/ThomasTelford.jpg> {{PD-1923}}

Fig. 9.30 Photograph of the Menai Suspension Bridge, photo by Velela accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Menai_Bridge_painting.jpg (photo released to public domain by the author)

Fig. 9.31 Photograph of the Britannia Bridge, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/f/ff/Britanniabruecke_Postkarte.jpg {{PD-1923}}

Fig. 9.32 Initial conceptual drawing of the Eiffel Tower sketched by Maurice Koechlin, accessed in February, 2013 at http://en.wikipedia.org/wiki/File:Maurice_koechlin_pylone.jpg {{PD-1923}}

Fig. 9.33 Photographs of the Eiffel Tower during construction, accessed in February, 2013 at http://en.wikipedia.org/wiki/File:Construction_of_the_Eiffel_Tower.JPG {{PD-1923}}

Fig. 9.36 Photo of the first of forth bridge depicted above the moment diagram for a double cantilever beam with evenly distributed loading, photo by Renata accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:ForthBridge-Edinburgh.jpg> (photo released to public domain by the author)

Fig. 9.37 Sketch of John A. Roebling, accessed in February, 2013 at <http://en.wikipedia.org/wiki/File:Roebling.jpg> {{PD-1923}}

Fig. 9.38 Portrait of Emily W. Roebling by Carolus Duran, accessed in February, 2013 at http://en.wikipedia.org/wiki/File:Brooklyn_Museum_-_Portrait_of_Emily_Warren_Roebling_-_Charles-%C3%89mile-Auguste_Carolus-Duran.jpg {{PD-1923}}

Fig. 9.39 Photograph of the Brooklyn Bridge, photo by Simone Roda accessed in December, 2012 at http://commons.wikimedia.org/wiki/File:Brooklyn_Bridge_-_New_York_City.jpg {{CC-BY-2.0}}

Fig. 9.40 Photo of the Golden Gate Bridge, photo by Rich Niewirowski, Jr. accessed in December, 2012 at <http://en.wikipedia.org/wiki/File:Golden-GateBridge-001.jpg> {{CC-BY-2.5}}

Fig. 9.41 Photograph of the Sydney Harbour Bridge, photo taken by Adam J.W.C. accessed in December, 2012 at http://commons.wikimedia.org/wiki/File:Sydney_harbour_bridge_new_south_wales.jpg {{CC-BY-3.0}}

Fig. 9.42 Photograph of the Pont de Normandie, photo by Citron accessed in January, 2013 at http://fr.wikipedia.org/wiki/Fichier:Pont_de_Normandie_from_above-edit.jpg {{CC-BY-2.0}}

Fig. 9.44 Photograph of the Millau Viaduct in Southern France, photo by Vincent accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Viaduc_de_Millau_1.jpg (photo released to public domain by the author)

Chapter 10

Fig. 10.1 Aftermath of the Galveston Hurricane of 1900, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/4/47/Galveston_-_1900_wreckage.jpg {{PD-US}}

Fig. 10.3 Artist's depiction of the impact of an Asteroid with the Earth that caused the Moon {{PD-USGov-NASA}}

Fig. 10.6 Earth's precession {{PD-USGov-NASA}}

Fig. 10.7 Color enhanced satellite photo of water temperatures in the gulf stream {{PD-USGov-NASA}}

Fig. 10.8 Firefly 7 hot air balloon in flight, photo by DrWhatIKnow accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Joy_Ride_hot_air_balloon.jpg (photo released to public domain by the author)

Fig. 10.9 Cumulus clouds, photo by Janne Naukkarinen accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Cumulus_mediocris_3.JPG (photo released to public domain by the author)

Fig. 10.10 Satellite photo of a line of thunderstorms over the Eastern U.S. on May 3, 2012, photo taken by the Goes-13 Satellite {{PD-USGov-NOAA}}

Fig. 10.11 Radar image taken by National Weather Service Wichita, Kansas WSR-88D on April 3, 2011 {{PD-NWS}}

Fig. 10.13 Satellite photo of Hurricane Katrina on August 28, 2005 {{PD-USGov-NASA}}

Fig. 10.15 Tornado in Central Oklahoma, May, 1999, photo shot by en:VORTEX-99 Team {{PD-USGov-NOAA}}

Fig. 10.16 Photo of Earth taken from Apollo 17 showing the global scale of weather {{PD-USGov-NASA}}

Chapter 11

Fig. 11.1 Hubble telescope reveals the deepest view into the universe in a photograph that took 10 years to complete. Extreme deep field image captures thousands of galaxies billions of light years away {{PD-USGov-NASA}}

Fig. 11.2 The Ant Nebula, a cloud of dust and gas whose technical name is Mz3, resembles an ant when observed using ground-based telescopes. The nebula lies within our galaxy between 3,000 and 6,000 light years from Earth {{PD-USGov-NASA}}

Fig. 11.3 Above is Nebula NGC 2392, called Eskimo because it looks like a face surrounded by a furry hood. The hood is, in fact, a ring of comet-shaped objects flying away from a dying star. Eskimo is 5,000 light years from earth {{PD-USGov-NASA}}

Fig. 11.4 The Trifid Nebula, 9,000 light years from earth, where new stars are being born {{PD-USGov-NASA}}

- Fig. 11.5** The glowering eyes from 114 million light years away are the swirling cores of two merging galaxies called NGC 2207 and IC 2163 in the distant Canis Major constellation {{PD-USGov-NASA}}
- Fig. 11.6** Photograph of Dr. Eugene Shoemaker {{PD-USGov-USGS}}
- Fig. 11.7** Photograph of Barringer Crater, Arizona {{PD-USGov-USGS}}
- Fig. 11.9** Shoemaker-Levy strikes Jupiter {{PD-USGov-NASA}}
- Fig. 11.10** Photo of the near side of the moon showing meteor craters {{PD-USGov-NASA}}
- Fig. 11.11** Chicxulub crater {{PD-USGov-NASA}}
- Fig. 11.12** The Earth's tectonic plates {{PD-USGov-NASA}}
- Fig. 11.13** Three types of tectonic plate boundaries {{PD-USGov-USGS}}
- Fig. 11.17** Mt. St. Helens eruption on May 18, 1980 {{PD-USGov-USGS}}
- Fig. 11.18** Satellite view of Santorini, showing the part of the Island destroyed in the eruption {{PD-USGov-NASA}}
- Fig. 11.20** Satellite photo of Anakrakatoa taken in 2007 {{PD-USGov-NASA}}
- Fig. 11.21** The yellowstone calderas {{PD-USGov-USGS}}
- Fig. 11.22** Satellite photo of the Hawaiian Islands, showing from *top left* Niihau, Kauai, Oahu, Molokai, Lanai, Maui, Kahoolawe and Hawaii {{PD-USGov-NASA}}
- Fig. 11.23** The Hawaii-Seamount Chain {{PD-USGov-USGS}}
- Fig. 11.25** Satellite photo of the Big Island {{PD-USGov-NOAA}}
- Fig. 11.26** Satellite photo of Maui {{PD-USGov-NASA}}
- Fig. 11.30** Photo of Waimea Canyon, photo taken by Redshirt accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Overlooking_Waimea_Canyon.jpg (photo released to public domain by the author)
- Fig. 11.31** The Na Pali Coast of Hawaii, photo taken by Remember accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Real_Kauai_Panorama1.jpg (photo released to public domain by the author)
- Fig. 11.32** The black rapids glacier, Alaska, accessed in January, 2013 at http://ak.water.usgs.gov/glaciology/black_rapids/index.htm {{PD-USGov-USGS}}
- Fig. 11.33** The Mer de Glace, photo by Didier Baertschiger accessed in December, 2012 at http://commons.wikimedia.org/wiki/File:Mer_de_Glace,_31_October_2009.jpg?uselang=fr {{CC-BY-2.0}}
- Fig. 11.34** Chamonix-Montenvers train, photo by trams aux fils accessed in December, 2012 at http://fr.wikipedia.org/wiki/Fichier:Train_du_Montenvers_-_rame_53_au_Montenvers.jpg {{CC-BY-2.0}}
- Fig. 11.36** Moraine in the foreground at Lake Louise, Canada, photo taken by Wilson44691 accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:MorainesLakeLouise.JPG> (photo released to public domain by the author)
- Fig. 11.37** Cape Cod viewed from space {{PD-USGov-NASA}}

Chapter 12

Fig. 12.1 Portrait of James Watt by Carl Frederik von Breda, National Portrait Gallery, London, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/1/15/Watt_James_von_Breda.jpg {{PD-1923}}

Fig. 12.2 Photo of the Puffing Billy—an early steam locomotive, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Puffing_Billy_1862.jpg {{PD-1923}}

Fig. 12.3 Photo of a modern steam locomotive, photo by Oslo Pardo accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Steam_locomotive_555.0153.jpg (photo released to public domain by the author)

Fig. 12.4 Photograph of Mr. and Mrs. Henry Ford in his first automobile, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/d/d3/Mr_and_Mrs_Henry_Ford_in_his_first_car.jpg {{PD-1923}}

Fig. 12.5 Photograph of Alberto Santos-Dumont, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/en/4/44/Alberto_Santos-Dumont_1910_circa.jpg {{PD-1923}}

Fig. 12.6 Santos-Dumont rounding the Eiffel Tower in 1901, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/9/9c/Sd_num6_rounding_tower.jpg {{PD-1923}}

Fig. 12.7 Photograph of Orville Wright, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/c/cb/Orville_Wright.jpg {{PD-1923}}

Fig. 12.8 Photograph of Wilbur Wright, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Wilbur_Wright.jpg {{PD-1923}}

Fig. 12.9 The first manned flight of a heavier-than-air vehicle on December 17, 1903, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/8/86/First_flight2.jpg {{PD-1923}}

Fig. 12.10 Illustration of Santos-Dumont's flight of November 12, 1906, accessed in January, 2013 at http://upload.wikimedia.org/wikipedia/commons/3/3f/Santos_-_Nov12_1906.jpg {{PD-1923}}

Fig. 12.11 Wright aircraft, national air and space museum, photo by Ad Meskens accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Wright_flyer3.jpg (photo released by the author for any use under {{CC-BY-SA-1.0}})

Fig. 12.12 Photograph of Charles Lindbergh, Library of Congress, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Col_Charles_Lindbergh.jpg {{PD-1923}}

Fig. 12.13 Lindbergh arrives in Paris, accessed in January, 2013 at <http://www.deathandtaxesmag.com/92144/charles-lindberghs-transatlantic-flight-the-day-the-earth-shrank/> {{PD-US-not renewed}}

Fig. 12.14 Photograph of the Concorde, photo by Arpingstone accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Concorde_on_Bristol.jpg (photo released to public domain by the author)

Fig. 12.15 Photograph of Neil Armstrong {{PD-USGov-NASA-AP}}

Fig. 12.16 The eagle lunar lander after separation {{PD-USGov-NASA}}

Fig. 12.17 Neil Armstrong steps onto the moon {{PD-USGov-NASA}}

Fig. 12.18 Photograph of a SAFER barrier, photo by Freekee accessed in February, 2013 at http://en.wikipedia.org/wiki/File:Milwaukee-Mile_Aug2009_wall.jpg (photo released to public domain by the author)

Fig. 12.19 Depiction of Ramses II riding a chariot at the Battle of Kadesh in 1274 BCE, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Ramses_II_at_Kadesh.jpg {{PD-1923}}

Fig. 12.21 Statue of Alexander the Great, Istanbul Museum, photo by tkbwikmed accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Alexander1256.jpg> (photo released to public domain by the author)

Fig. 12.23 Photograph of reconstruction of the fortifications at Alesia, uploaded to Wikipedia by user Mariule (with permission) from <http://www.angelfire.com/me/ik/alesia2.html> and accessed in December, 2012 at <http://en.wikipedia.org/wiki/File:AlesiaFortifications.JPG> {{CC-BY-SA-3.0}}(in this instance we have been unable to trace or contact the copyright holder. If notified the publisher will be pleased to rectify any errors or omissions at the earliest opportunity)

Chapter 13

Fig. 13.1 Photograph of James Clerk Maxwell, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:James_Clerk_Maxwell.png {{PD-1923}}

Fig. 13.3 The Sombrero Galaxy—28 million light years from Earth. The dimensions of the galaxy, officially called M104, are as spectacular as its appearance. It has 800 billion Suns and is 50,000 light years across {{PD-USGov-NASA}}

Fig. 13.4 Photograph of Stephen Timoshenko, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Timoshenko.jpg> (This work is in the public domain in Russia according to article 6 of Law No. 231-FZ of the Russian Federation of December 18, 2006)

Fig. 13.8 The Suez Canal viewed from space {{PD-USGov-NASA}}

Fig. 13.9 Depiction of one of the first Suez Canal crossings, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:SuezCanalKantara.jpg> {{PD-1923}}

Fig. 13.10 Portrait of Ferdinand de Lesseps, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Ferdinand_de_Lesseps.jpg {{PD-1923}}

Fig. 13.11 Aerial photograph Corinth Canal, photo by Vancouverquadra accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Canal_of_korinth_greece.jpg (photo released to public domain by the author)

Fig. 13.12 The Panama Canal viewed from space {{PD-USGov-NASA}}

Fig. 13.13 Photograph taken in 1913 showing the Panama railway, the steam shovels, and the locks in the Panama Canal project, accessed in February, 2013 at <http://en.wikipedia.org/wiki/File:PanamaCanal1913a.jpg> {{PD-1923}}

Fig. 13.14 Photograph of the SS Kroonland transiting the Panama Canal in 1915, accessed in January, 2013 at http://en.wikipedia.org/wiki/File:Kroonland_in_Panama_Canal,_1915.jpg {{PD-1923}}

Fig. 13.15 Photograph of Lake Mead slowly filling on the upstream side of the Hoover Dam in 1935, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:Damupstream.jpg> {{PD-USGov-Interior-USBR}}

Fig. 13.16 Downstream view of the Hoover Dam, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:HooverDamFrontWater.jpg> {{PD-USGov-Interior-USBR}}

Fig. 13.17 Photograph of a jumbo rig used to dig tunnels during the construction of Hoover Dam, accessed in February, 2013 at <http://en.wikipedia.org/wiki/File:HooverDamJumboRig.jpg> {{PD-USGov-Interior-USBR}}

Fig. 13.18 Photograph of the Devil's Tower in northeastern Wyoming, photo by Colin.faulkingham accessed in February, 2013 at http://en.wikipedia.org/wiki/File:Devils_Tower_CROP.jpg (photo released to public domain by the author)

Fig. 13.19 Photograph showing the formworks for the massive concrete columns in Hoover Dam, accessed in February, 2013 at <http://en.wikipedia.org/wiki/File:Damforms.jpg> {{PD-USGov-Interior-USBR}}

Fig. 13.20 Photograph of the Aswan high dam from space, accessed in January, 2013 at <http://en.wikipedia.org/wiki/File:BarragemAssu%C3%A3o.jpg> {{PD-USGov-NASA}}

Fig. 13.21 Satellite photo of Lake Nasser, the world's second largest artificial lake, accessed in January, 2013 at <http://earth.jsc.nasa.gov/sseop/EFS/printinfo.pl?PHOTO=STS052-102-103> {{PD-USGov-NASA}}

Fig. 13.22 Photograph of Ramses II's Temple during reconstruction, photo by Per-Olow Anderson accessed in February, 2013 at <http://es.wikipedia.org/wiki/Archivo:Abusimbel.jpg> {{PD-Sweden-photo}}

Fig. 13.24 Satellite photo of Venice showing main entrance to the Lagoon, accessed in January, 2013 at <http://www.wunderground.com/blog/JeffMasters/comment.html?entrynum=1163> {{PD-USGov-NASA}}

Fig. 13.26 Photo of full scale model of section of Chunnel at National Railway Museum in York, England, photo by Xtrememachineuk accessed in December, 2012 at http://en.wikipedia.org/wiki/File:Channel_Tunnel_NRM.jpg {{CC-BY-2.5}}

Fig. 13.27 Photograph of the Tacoma Narrows Bridge collapse, uploaded by Qutezuze accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Tacoma_Narrows_Bridge_Falling.png (photo released to public domain by the author)

Fig. 13.28 Photo by F.G.O. Stuart of RMS Titanic departing Southampton on April 10, 1912 {{PD-1923}}

Fig. 13.29 Photos of the Challenger disaster; explosion on the *left*; challenger underwater on the *right* {{PD-USGov-NASA}}

Fig. 13.30 Photo of Aloha Airlines disaster {{PD-USGov-FAA}}

Fig. 13.31 Photo on *left* of the Minneapolis bridge collapse {{PD-USGov-DHS-CG}}; photo on *right* showing fracture in gusset plate {{PD-USGov-NTSB}}

Fig. 13.32 Photo of reconstruction of the stage 1 fan disk in the Sioux City aircraft crash of flight UA 232 on July 19, 1989 {{PD-USGov-NTSB}}

Fig. 13.33 Boeing 787 Dreamliner on *left*; photo by Dave Sizer accessed in December, 2012 at http://en.wikipedia.org/wiki/File:Boeing_787_first_flight.jpg {{CC-BY-2.0}}; Airbus A380 on *right*; photo by Dmitry A. Mottl accessed in January, 2013 at http://commons.wikimedia.org/wiki/File:Airbus_A380.jpg (photo released to public domain by the author)

Fig. 13.34 Photograph taken in 2006 of the Chernobyl Sarcophogus, photo by Carl Montgomery accessed in December, 2012 at http://commons.wikimedia.org/wiki/File:Chernobylreactor_1.jpg {{CC-BY-2.0}}

Fig. 13.35 Photos of buildings collapsed by the Tōhoku earthquake, accessed in December, 2012 at <http://spacecoalition.com/blog/benefits-of-space-exploration/u-s-european-satellites-enable-scientists-to-explain-japanese-earthquake's-destructive-force> (courtesy BBC)

Chapter 14

Fig. 14.1 Weightlessness in the “Vomit Comet” {{PD-USGov-NASA}}

Fig. 14.3 Photograph of a surgical robotic device inserted through the stomach (photo courtesy Drs. Shane Farritor and Dimitri Olenykov, University of Nebraska)

Fig. 14.4 Depiction of the Chesapeake Bay Meteor impact site, accessed in February, 2013 at http://en.wikipedia.org/wiki/File:Chesapeake_Crater_boundaries_map.png {{PD-USGov-USGS}}