

## Dramatis Personae



**Adams, John** (1735-1826) Second president of the United States and prominent political theorist in the pre-Revolutionary era; he later said “The Revolution was effected before the war commenced...the Revolution was in the hearts and minds of the people.” Mentioned in Chapter 6 when leaders of the French and American revolutions are contrasted.

**Aepinus, Franz Ulrich Theodor** (1724-1802) German theorist in magnetism and electricity, a student of Benjamin Franklin. Chevreul mentions him in connection with successive contrast in Chapter 3.

**Albani, Francesco** (1578-1660) Italian painter known for colorful frescos; today nearly forgotten, but cited by Chevreul in Chapter 5, §322 as a *colorist* alongside Rubens and Titian.

**Ampère, André-Marie** (1775-1836) French physicist/mathematician, the father of electromagnetism. The international measurement of electric current, the ampere, immortalizes him. Chevreul pokes fun at “my good friend M. Ampère” for doubting that simultaneous contrast could be expressed as a law, in Chapter 15, §§940-941.

**Avril, Jane** (1868-1943) Can-Can dancer, often painted by Toulouse-Lautrec, as in Figure 4.10.

**Bach, Johann Sebastian** (1685-1750) German composer, the father figure of classical music, known for his mastery of counterpoint. Mentioned in Chapter 6 as exemplifying the complex musical style of his era, which corresponded to the time of the excesses of the Versailles court. His enormous output meant that in a record cover like that of Figure 9.4, the specific work must get special typographic emphasis. Chapter 18, note to §974, refers to his titling a piece *Chromatic Fantasy*. In note to §981, I cite his fugal writing as creating a simultaneous contrast-like effect to the ears.

**Beauharnais, Alexandre de** (1750-1794) French general, guillotined during the Reign of Terror on a death warrant signed by Jacques-Louis David. As recounted in Chapter 6, his widow married Napoleon.

**Beethoven, Ludwig van** (1770-1827) The most influential composer since Bach, cited in Chapters 6, 16, and 18, where the use of contrast in his Fifth and Ninth Symphonies is discussed in the note to §981.

**Bernhardt, Sarah** (1844-1923) French actress; one of the greatest performers in history. “The Divine Sarah” was often photographed or portrayed in posters; Figures 8.6A and 8.6B being examples.

**Bernstein, Leonard** (1918-1990) American conductor, listed in Chapter 6 as one of the top American “serious” composers of his century. Chapter 18, note to §974, refers to his characterization of modern music as *The Age of Chromaticism*.

**Berzelius, Jöns Jacob** (1779-1848) Swedish chemist, known for his contributions to atomic theory. His strict

analytical approach appealed to his friend Chevreul, who dedicated this book to him.

**Bizet, Georges** (1838-1875) French composer of opera and some symphonic works, best known for *Carmen*; mentioned in Chapter 6 as one of the influential artists who never reached the age of 40.

**Blanc, Charles** (1813-1882) The most prominent French art critic of his time, author of a 14-volume history of painting. He is sometimes credited with popularizing the views of Chevreul. As chair of the jury selecting paintings to be exhibited in the prestigious Paris Salon, he opposed the rise of Impressionism. See my Foreword and Chapter 6 for examples of his scintillating style.

**Boisserée, Sulpiz** (1783-1854) Art historian from Cologne, praised by Chevreul in Chapter 10, §552; the force behind the rebuilding of its cathedral, which had been abandoned in the fifteenth century but is today one of Germany’s most visited tourist attractions. The cathedral’s soaring vault is shown in Figure 10.6 and is also mentioned memorably in Chapter 15, §938.

**Bonaparte, Louis Napoleon** (1808-1873) Nephew of the original Napoleon, he ruled France for longer than any other leader since the revolution, as president of the Second Republic 1848-1852, and then as Napoleon III, emperor of the French, 1852-1870. Knowledgeable about the arts, his 1863 decision to authorize a counter-exhibition to the Paris Salon, discussed in Chapter 6, gave a boost to the movement later known as Impressionism.

**Bonaparte, Napoleon** (1769-1821) The most powerful and charismatic leader in Europe. As recounted in Chapter 6, his troops defended the revolution against royalist insurgencies in 1795; he became dictator of France in 1799 and declared himself emperor in 1804. A series of wars against other European powers ended with his disastrous invasion of Russia in 1812. After his weakened army surrendered to the invading allies in 1814, he abdicated and spent most of the rest of his life in exile on a remote island. His portrait, by Jacques-Louis David, appears as Figure 6.10. His view of defeated generals is found in Chapter 10, note to §546.

**Boutet, Claude** (?-?) Seventeenth-century French painter; his asterisk in history is that the color wheel shown in Figure 4.2A is attributed to him.

**Brandes, Peter** (1944-) Danish sculptor and fabricator of stained glass for churches. He is quoted in Chapter 8, §438 on how the light that comes through stained glass provokes a religious feeling.

**Brewster, Sir David** (1781-1868) British physicist and authority on the polarization of light; inventor of the kaleidoscope. His comments on colleagues were often prickly, as an example in Chapter 18, note to §998, indicates.

**Buffon, Comte de** (Georges Louis Leclerc, 1707-1788) French mathematician and specialist in natural history who coined the name *accidental colors* to describe the phenomenon that we now call simultaneous contrast. His 44-volume *l’Histoire Naturelle Générale et Particulière* may have made him the father of evolutionary theory, although Charles

Darwin claimed not to have read it. Chevreul discusses Buffon's historical role in Chapters 3 and 16.

**Burne-Jones**, Sir Edward (1833-1898) One of the foremost English decorative artists, skilled in many forms but especially noted for stained glass and for his long association with William Morris. One of their joint works is shown in Figure 8.8. Later, in the discussion of Figures 17.6 and 17.7, I point out that his work employed what we now call unsharp masking.

**Burns**, Robert (1759-1796) The greatest poet that Scotland, and perhaps the world, has yet produced, he is listed in Chapter 6 as one of the cultural icons who did not live to age 40. His memory, as his love, is like a red, red rose.

**Butler**, Rhett (fictional character) Principal male figure of the 1936 novel *Gone With the Wind*. In my note to Chapter 11, §691 he is presented as a better authority than Chevreul on what color suits green-eyed women.

**Byron**, Lord (George Gordon Byron, 1788-1824) English romantic poet, author of *Don Juan*, noted for a dissolute personal life; mentioned in Chapter 6 as one of the influential cultural figures who did not reach the age of 40.

**Calverley**, Colonel (fictional character) Comic figure in Gilbert & Sullivan's *Patience*; in Chapter 11, §665, he sings about an important consideration in choosing a military uniform with a color combination that Chevreul neglects to mention.

**Capet**, Louis *see* Louis XVI.

**Caravaggio**, Michelangelo Merisi da (1571-1610) Italian painter of realistic scenes, noted for creating large, almost detail-free shadowy areas to contrast to the rest of the scene, as in Figures 5.1 and 6.2B. His style of painting is what many art historians today call *chiaroscuro*, but Chevreul uses that term in a different way. In Chapter 16, I cite Caravaggio as an inspiration for the study of Niagara Falls by Alvan Fisher, Figure 16.20. And in Figure 6.3, I illustrate how to apply the heavy-shadow method to a modern photo.

**Carlyle**, Thomas (1795-1881) Scots philosopher and historian. His *The French Revolution*, quoted in Chapter 6, remains the best account, and served as the inspiration for Dickens' *A Tale of Two Cities*.

**Carney**, Harry (1910-1974) American saxophonist/clarinetist, for 40 years a member of the band of Duke Ellington, who cited the "color" of his music in Chapter 18, note to §974.

**Castel**, Louis Bertrand (1688-1757) French mathematician and Jesuit priest; criticized Newton's theories of colors, wrote in 1740 *Optique des Couleurs*; tried to develop an instrument that would compose music based on visual perceptions, called the *ocular harpsichord*; cited by Chevreul in Chapter 18, §974.

**Cézanne**, Paul (1839-1906) Impressionist painter, often cited as one of the great artists of his century, as indicated in Chapter 6; his use of distorted forms foreshadowed much of the work of Picasso.

**Champollion the younger** (Jean-François Champollion, 1790-1832) Quoted by Chevreul in Chapter 10, §542, he

deciphered the Egyptian hieroglyphic system of writing-based on his examination of the Rosetta Stone.

**Charles X** (1757-1836) Became king upon the death of his brother Louis XVIII in 1824. Confirmed Chevreul's appointment as manager of the Gobelins. Deposed in the July Revolution of 1830. In Chapter 10, §554, Chevreul criticizes the ornamentation that was brought into the Reims cathedral on the occasion of his coronation.

**Chopin**, Frédéric François (1810-1849) One of the foremost pianists of his era, possibly the leading composer for that instrument of all time. Polish-born, but lived all his adult life in France. Appears in the Chapter 6 list of influential artists who never lived to 40.

**Church**, Frederic Edwin (1826-1900) American landscape painter, the most prominent member of the Hudson River School; his study of Niagara Falls, Figure 16.21, hangs in the National Gallery of Art.

**Copernicus**, Nicolaus (1473-1543) Polish mathematician/astronomer; his theories on how the earth revolves around the sun and not vice versa are discussed in Chapter 16, where he is also placed in the category of scientific polymaths that includes Chevreul, Helmholtz, and Leonardo.

**Copland**, Aaron (1900-1990) American composer in both abstract and traditional styles, named in Chapter 6 as one of the best American composers of the twentieth century. Chapter 18, note to §974, quotes his color-filled commentary on Igor Stravinsky.

**cummings**, e.e. (1894-1962) American poet who rarely used capital letters and employed punctuation in strange ways if at all. In spite of the difficulties this poses for his readers, Chapter 6 points out that many normal people find his verse mud-licious and puddle-wonderful.

**Dante** Alighieri (1265?-1321) Author of *The Divine Comedy*, the greatest work in the Italian language; a dozen lines appear in Chapter 7 to show how viewers allow more slack when an artist faces technical limitations, as when a translator elects to follow Dante's rhyming scheme rather than rendering his work into blank verse.

**Danton**, Georges Jacques (1759-1794) Charismatic French revolutionary leader, the first president of the Committee on Public Safety, which later had him guillotined for being too moderate; mentioned in Chapter 6 in a comparison of French and American revolutionary figures.

**Darwin**, Charles (1809-1882) English naturalist, the name everyone associates with the theory of evolution. Chapter 16 discusses how different Chevreul's thinking might have been had Darwin's works been available to him. It adds a lengthy quotation from Darwin, pointing out why the human visual system could be extremely complex.

**Darwin**, Erasmus (1731-1802) Grandfather of Charles, *this* Darwin also studied evolution as well as many other areas of science. He designed a rocket engine, wrote poetry, and is mentioned by Chevreul in Chapter 3, §124 for his understanding of successive contrast.

**David**, Jacques-Louis (1748-1825) The greatest French painter prior to Impressionism. He rejected the lavishness of the rococo and returned to a classical style. Politically

a radical, he served on the Committee of Public Safety during the Reign of Terror, from which position he abolished the Royal Academy of Painting and Sculpture and became effectively the dictator of the kind of art that would be permitted. Signed 1793 death warrant for Beauharnais, whose widow Joséphine married Napoleon, who became his special friend and frequent subject. Figure 6.10 is one such portrait; Figure 10.1 portrays Leonidas I, whom David likened to Napoleon. Exiled in 1816; upon his death the monarchy refused to allow the body to return to France, but his heart was removed and buried in Paris.

**de La Condamine**, Charles Marie (1701-1774) French explorer, mathematician, student of medicine and architecture. Noted for his mapping of parts of South and Central America, during a visit to which he discovered the value of quinine as a treatment for malaria. Chevreul cites his studies of the inclination of the Italian towers of Pisa and Bologna in Chapter 15, §903.

**Debussy**, Claude (1862-1918) The greatest French composer, whose style was often likened to Impressionism for its light, shimmering textures and subtle melodic lines; this is noted in Chapter 6, as is his rejection of being termed “what the imbeciles call an Impressionist.” One of his finest orchestral works is titled *Images*, as cited in Chapter 18.

**Degas**, Edgar (1834-1917) Painter and sculptor known particularly for paintings of dancers and of women bathing; as noted in Chapter 6, he participated in the “Exhibition of the Impressionists” in 1874.

**Delacroix**, Eugène (1798-1863) The most prominent French painter of the first half of the nineteenth century. His *Liberty Leading the People*, Figure 5.2, is discussed in Chapter 6 as an example of how politics affects art. Also in Chapter 6, a discussion of how his eclectic tastes and his propensity to work in the style of others meant that he had no distinctive style himself.

**Delaunay**, Robert (1885-1941) French painter, a strong follower of Chevreul’s teaching. In his youth he favored a neo-Impressionist style with very visible brushstrokes; later he became interested in geometric forms, featuring intersections of bright colors, such as in his *Simultaneous Contrast* painting of Figure 6.16 and the Eiffel Tower of Figure 7.9.

**Deyrolle**, Gilbert (?-?) A painter in his own right, succeeded his father as chief tapissier at the Gobelins; Chevreul acknowledges his assistance with various scientific tests in Chapter 8.

**Dickens**, Charles (1812-1870) English novelist; his *A Tale of Two Cities* vividly portrayed the aftermath of the French Revolution and is quoted in Chapter 6.

**Don Quijote** de la Mancha (fictional character) As discussed in Chapter 18, note to §998, the emaciated Knight of the Woeful Countenance is a fine comic contrast to his paunchy squire, Sancho Panza. He is depicted in Figure 8.1B, a Gobelins tapestry.

**Donné**, Alfred François (1801-1878) Pioneer in the field of microscopy, cited by Chevreul in Chapter 18, §966 in discussing contrast of sizes.

**Duranty**, Louis Edmond (1833-1880) French novelist and art commentator, one of the few critics who supported Impressionism. Nevertheless, he fought and was wounded in a duel with Manet over an imagined slight in one of his reviews, see Chapter 6.

**Ebbinghaus**, Hermann (1850-1909) German psychologist and student of memory; the first to describe the “learning curve.” Mentioned in Chapter 18, note to §965, for his demonstration of simultaneous contrast of size, showing that a circle surrounded by larger ones is perceived as smaller than an identical one surrounded by smaller circles.

**Einstein**, Albert (1879-1955) German-born physicist, noted for his theory of relativity; Chapter 17 calls him one whose scientific achievements can fairly be compared to those of Helmholtz, Lavoisier, and Newton.

**El Greco** (Doménikos Theotokópoulos, 1541-1614) Greek-born painter whose work is associated with Spain, where he lived for nearly forty years. His almost surrealist style led directly to Picasso; he also was a pioneer in the use of what we now call unsharp masking. Figures 17.6 and 17.7 show two of his religious-themed paintings.

**Ellington**, Edward Kennedy “Duke” (1899-1974) American musician and bandleader, credited with turning jazz into an art form, though he himself saw jazz as a part of a larger category of American music. In Chapter 18, note to §974, he uses color terms to describe the sounds of two of his band members.

**Falstaff**, Sir John (fictional character) Fat, lecherous, cowardly, and corrupt, the drunkard Falstaff is Shakespeare’s most brilliant comic creation. His juxtaposition with the youthful, handsome Prince Hal is a type of contrast discussed in Chapter 18, note to §998.

**Faulkner**, William (1897-1962) American novelist and Nobel prize winner who set most of his works in the fictional Yoknapatawpha County, Mississippi. Cited in Chapter 6 as an artist who adopted a very difficult form (dialect, long sentences, incomprehensible narrators) yet can be appreciated by anyone.

**Fisher**, Alvan (1792-1863) American painter of landscapes. His *A General View of the Falls of Niagara* is Figure 16.20.

**France**, Anatole (1844-1924) Acerbic and ironic novelist, winner of the Nobel Prize for literature; his comical description of political correctness in art during the French Revolution appears in Chapter 6.

**Francesco I** d’Este (1610-1658) Duke of Modena and Reggio, visited Spain in 1638, where his portrait, Figure 10.8B, was painted by Velázquez.

**Franklin**, Benjamin (1706-1790) Scientist, printer, diplomat, wit, and the most prominent advocate of American independence. Popular in Europe, he spent time in England and later as U.S. Minister to Sweden and then France. He is mentioned in Chapter 6 in the discussion of how history today views American v. French revolutionary figures.

**Frederick II “the Great”** (1712-1786) King of Prussia for 46 years, an outstanding general and political reformer. The model of an enlightened autocrat, he was a patron of the

arts and a fine musician and composer himself. Chapter 18, note to §981, recounts his meeting with Johann Sebastian Bach, which generated a fiendishly difficult piece of music that illustrates simultaneous contrast of sound.

**Galuppi**, Baldassare (1705-1785) Venetian composer of comic operas. His works are forgotten today, but his name lives on with an allegation that Mozart, whose works are *not* forgotten, “stole outrageously” from him. Delacroix’s rejoinder to that accusation is found in Chapter 6.

**Gauguin**, Paul (1848-1903) French artist and student of Blanc who moved toward primitivism; known for paintings of Tahiti. Chapter 6 notes that he condemned Poin-tillism—after having experimented with several paintings in that technique himself. A van Gogh portrait of him is shown in Figure 4.5A.

**Gautier**, Théophile (1811-1872) Novelist, poet, playwright, and a renowned critic of the arts. He rejected Impressionism and was particularly scathing toward Manet. Chapter 6 showcases Zola’s attack on him.

**Géricault**, Théodore (1791-1824) French painter known for his *Raft of the Medusa* (Figure 6.6).

**Gershwin**, George (1898-1937) Reasonably considered the foremost American composer, noted for his *Rhapsody in Blue* and his opera *Porgy and Bess*. As discussed in Chapter 6, however, he was panned by critics for not being “serious” enough, since he wrote for the musical theater.

**Goethe**, Johann Wolfgang von (1749-1832) The greatest literary figure in German history: poet, dramatist, novelist, civil servant, philosopher, critic, and scientific dabbler. In 1810 he published *Zur Farbenlehre*, anticipating Chevreul’s findings on simultaneous contrast by a quarter of a century, as discussed in Chapter 3, §119.

**Gould**, Glenn (1932-1982) Canadian pianist noted for his interpretations of the works of Bach. Figure 9.4 presents his reputation as a problem in the design of a record jacket.

**Greenberg**, Clement (1909-1994) American essayist and authority on abstract art; he is quoted in Chapter 12 as being the only critic who understood how Matisse chose his colors in Figure 12.8.

**Handel**, George Frederick (1685-1759) German-born composer who did most of his work in London and became a British subject. Many of his works remain popular today, *Messiah* above all. In Chapter 6, Shaw advocates the death penalty for those using more than 80 performers to present it.

**Hardy**, Oliver (1892-1957) American comedian, partner with Stan Laurel in over a hundred films. His obesity, a comic contrast with Laurel’s slenderness, was emphasized by removing the heels from his shoes, as recounted in Chapter 18, note to §998.

**Haüy**, René Just (1743-1822) French mineralogist and physicist, a pioneer in crystallography and celestial mechanics, and one of the driving forces behind the adoption of the metric system. Chevreul repeatedly skewers his theories on vision in Chapters 3 and 16, considering this part of his work to be intellectually unworthy of so brilliant a scientist; see Chapter 16, §941.

**Haydn**, Franz Joseph (1732-1809) Austrian composer who spanned several distinct periods. His 104 symphonies and nearly 70 string quartets may reasonably be called the fore-runners of all subsequent developments in these forms. His style is contrasted to that of Bach in Chapter 6. Chapter 18, note to §981, discusses his use of contrast in his Symphonies #93 and #94.

**Helmholtz**, Hermann von (1821-1894) German polymath, noted for his work in ophthalmology and electromagnetism. Interested in both optical and aural perception, he was the first to nail the difference between additive and subtractive primary colors (Chapter 1, §6). The *Helmholtz-Kohlrausch Effect*, whereby we perceive more neutral colors as being darker, is discussed in Chapters 8, 16, and 17.

**Hitchcock**, Alfred (1899-1980) English film producer/director, noted for thrillers such as *Psycho*, whose shower scene is discussed in Chapter 18, note to §981. There he is described as being the imaging equivalent of Beethoven in music: both mastered the art of contrast of moods better than anyone else in their field.

**Hodges**, Johnny (1907-1970) Likely the greatest alto saxophonist of all time, he is strongly associated with Duke Ellington’s band. Ellington likened his treatment of a certain key to “light blue satin” in Chapter 18, note to §974.

**Holtzapffell**, Jules (1826-1866) French painter; when the jury for the Salon de Paris, which had accepted his work in previous years, rejected it in 1866, he committed suicide. See Chapter 6.

**Homer**, Winslow (1836-1910) American painter known for landscapes and seascapes; Chapter 6 reports that he called Chevreul’s book “The Bible.”

**Hugo**, Victor (1802-1885) Author of *Les Misérables* and *The Hunchback of Notre-Dame*; also a fine poet and dramatist; his oblique description of the “ultras” during the French Revolution appears in Chapter 6.

**Hunt**, Robert W. G. (1923-2018) British scientist, author of the text *The Reproduction of Colour*. Criticized in my Foreword for asserting that fidelity to color is usually more important than form in images. His views on how much variation from “correct” color is acceptable are quoted in Chapter 11, §694. I accept what he says about landscapes, but not about skintone, for which I offer my own rule, expanded upon somewhat in Chapter 17.

**James**, Henry (1843-1916) Novelist and critic, known for a style that some call impressionistic. American-born, from 1869 onward he lived either in London or Paris. His views of Whistler’s work are found in Chapter 6.

**Jefferson**, Thomas (1743-1826) Principal author of the U.S. Declaration of Independence and third president of his country. In Paris during the storming of the Bastille, he consulted on the drafting of the French Declaration of the Rights of Man, as noted in Chapter 6.

**Jekyll**, Gertrude (1843-1932) Prolific English horticulturist, the designer of more than 400 gardens and author of over 1,000 articles. Mentioned in my Foreword as being strongly influenced by the views Chevreul laid out in his Chapter 13.

**Kandinsky**, Wassily Wassilyevich (1866-1944) Russian painter who spent most of his adult life in Germany and France; became a French citizen. His early work featured strong exaggerations of simultaneous contrast and was similar to that of many Impressionists; later he turned to abstract paintings that featured geometric forms. Mentioned in Chapter 6 as one of the few artists in any field who could make deliberately complex works that were still understandable to laypeople.

**Jobs**, Steve (1955-2011) American entrepreneur, a founder of Apple Computer, known for his fierce devotion to product design and corporate identity, such as the NeXT logo, Figure 4.11, that he developed with Paul Rand. He is mentioned in a discussion of the relation between designers and their print firms in Chapter 12.

**Joséphine**, empress of the French (Marie Joséphe Rose Tascher de La Pagerie, 1763-1814) The execution of her husband during the Reign of Terror paved the way for a romance with Napoleon Bonaparte, whom she married in 1795, with a peculiar effect on art that is recounted in Chapter 6.

**Joyce**, James (1882-1941) Irish novelist and poet, mentioned in Chapter 6 because his most famous work, *Ulysses*, appeals mostly to professors of literature and not to the average reader.

**Klee**, Paul (1879-1940) Swiss-German artist and teacher; his notebooks on color and design theory remain influential; his belief that the primary colors are red, yellow, and blue is cited in Chapter 4, §152.

**Lancret**, Michel Ange (1774-1807) Engineer and student of art, accompanied Napoleon during a 1798 campaign in Egypt. His written descriptions of what he found, referred to by Chevreul in Chapter 10, §541, included the prediction that the Rosetta Stone could be used to decode the secrets of hieroglyphics.

**Laurel**, Stan (1890-1965) English actor/director known for his comic partnership with Oliver Hardy, with whom he appeared in over a hundred films. Chapter 18, note to §998, points out how the producers of these films had Laurel adopt a vertical hairstyle to emphasize the contrast between his slender build and that of the obese Hardy.

**Lavoisier**, Antoine (1743-1794) The greatest French chemist, noted for discoveries pertaining to combustion, quantitative measurements, and the precise nomenclature of chemical compounds. Alas, he was of noble birth; during the Reign of Terror he was accused of having sold adulterated tobacco to finance his research, and was guillotined, as recounted in Chapter 6. The following year, the new French government exonerated him posthumously.

**L'Enfant**, Pierre Charles (1754-1825) French-born but lived in the United States most of his adult life. Principal designer of the layout of the new capital, Washington, DC. As noted in Chapter 6, the clean, classical lines of the architecture were a direct response to the excessive ornamentation of the period of the French monarchy.

**Le Nôtre**, André (1613-1700) French landscape architect, principal gardener to Louis XIV. Designed the Tuileries

in Paris and the formal gardens of the Palace of Versailles, shown in Figure 2.1 and referred to by Chevreul in Chapter 13, §783 and Chapter 18, §907 and 938.

**Leonardo** da Vinci (1452-1519) The genius of the Renaissance era, adept in more fields than possibly could be imagined. The opening quote of Chapter 1 indicates that he recognized the existence of simultaneous contrast. The Mona Lisa, shown in Figure 6.1, shows that he had not yet mastered it. In Chapter 16 his status as a polymath is compared to that of Helmholtz and Chevreul.

**Leonidas I** (c.530-480 B.C.) King of the Spartans. His heroic but doomed defense at the battle of Thermopylae delayed the advance of an invading Persian army long enough to give us a much stronger idea of the use of color in Greek architecture, as recounted in Chapter 10, §546, along with the most memorable two-word phrase in military history. His portrait, by Jacques-Louis David, is Figure 10.1.

**Leroy**, Louis (1812-1885) French journalist, playwright and occasional painter and printmaker, known today almost exclusively for an 1874 review quoted in Chapter 6, wherein he called Cézanne, Monet, and Renoir *Impressionists*. The term was intended as an insult, but it stuck.

**Louis XIV** (1638-1715) The “Sun King” ruled France for 72 years, during a period now called *le grand siècle*—the great century. A major patron of the arts, he arranged the construction and details of the opulent Palace of Versailles shown in Figure 2.5. Chevreul references its gardens in Chapter 13, §783, Chapter 16, §907; and, memorably, asserts that our view of the man influences our opinion of the gardens, Chapter 18, §938.

**Louis XVI** (1754-1793) Became King of France in 1774. His socially enlightened proposals won him the hostility of the aristocracy; his free-market economic policies led to food shortages and the onset of the French Revolution. Though still theoretically king, he was effectively under house arrest from 1789 on. In 1791 his powers were severely limited; in 1792 he was deposed altogether. He was guillotined the following January. His story appears in Chapter 6.

**Louis XVIII** (1755-1824) Fled France during the Revolution; upon the abolition of the monarchy and the guillotining of his brother Louis XVI in 1793, and the death in prison of the crown prince in 1795, laid claim to the French throne. A coalition of anti-Napoleonic nations invaded France in 1814 and installed him as king. During his tenure he appointed Chevreul to his directorship at Gobelins, as discussed in Chapter 6.

**Madison**, James (1751-1836) The “Father of the Constitution” became the fourth president of the U.S.; mentioned in Chapter 6 in comparing leading political figures of the French and American Revolutions.

**Malebranche**, Nicolas (1638-1713) French priest and philosopher, author of the phrase that Chevreul throughout his long life described as his own motto and which is used as the epigraph on the facsimile title page that precedes Chapter 1. It’s got a play on words that can’t be translated,

but the meaning is, “we must strive to become unerring without imagining that we already have.”

**Manet, Édouard** (1832-1883) An important transitional figure who began painting in the 1850s, adopting a realistic style that simplified detail but had few bright colors. His use of nudity in *Luncheon in the Grass* (Figure 2.2) and *Olympia* scandalized critics but led to more artistic freedom. At first, he was an enemy of the younger Claude Monet (see Chapter 6) but the two eventually reconciled. Manet’s later works, like the Venice scene of Figure 6.14, have much in common with those of Monet and Renoir. His last and greatest painting, *A Bar at the Folies-Bergère*, illustrating the use of bright secondary objects to liven up an otherwise nearly monochromatic image, is Figure 12.5.

**Manet, Julie** (1878-1966) Niece of Édouard Manet, and a painter and collector in her own right. She was a frequent model for her uncle and for Renoir, whose portrait of her is Figure 2.4.

**Marat, Jean Paul** (1743-1793) One of the most radical voices in the French Revolution; cited in Chapter 6 in comparing French and American leaders. Assassinated in his bathtub by a member of a rival revolutionary group.

**Marie Antoinette** (1755-1793) Queen of France as wife of Louis XVI. Her extravagant acquisitions of clothing and jewelry drained the French treasury in a time when peasants were hungry. This, coupled with her Austrian birth and various rumors about her morality, made her unpopular, as described in Chapter 6. She was guillotined several months after her husband.

**Matisse, Henri** (1869-1954) French post-Impressionist painter who carried simultaneous contrast to its extreme, as in *The Green Stripe* (Figure 12.8A) and *Woman in a Hat* (Figure 12.8B).

**Maxwell, James Clerk** (1831-1879) Scots physicist and poet who developed a unified theory of electromagnetic radiation; cited as an inspiration to Impressionism along with Chevreul and Rood in Chapter 6.

**Mendelssohn Bartholdy, Felix** (1809-1847) Versatile German composer of the early Romantic era, known for his lyricism and the depth of his chamber music; author of the march that is a cliché at weddings; mentioned in Chapter 6 as one of the major artists who did not live to the age of 40.

**Michelangelo** Buonarroti (1475-1564) Painter, sculptor, architect, poet; the greatest visual artist of all time. Chevreul mentions the *Last Judgment* panel from the Sistine Chapel in Chapter 14, §866 as an example of how to treat scenes with a large number of identifiable people; it is displayed in Figures 14.1 and 14.2. And his only surviving canvas painting, complete with the frame he designed for it, is shown in Figures 10.11 and 10.12.

**Monet, Claude** (1840-1926) The archetypical Impressionist, incredibly prolific, noted for water and landscape painting, and especially for a long series of paintings of water lilies. Chapter 6 discusses his controversial entry into the Salon of Paris as a competitor of Manet, his developing style (Figure 6.11), his waterscape (Figure 6.4) for the 1874

exhibition that gave the name *Impressionism* to the movement, and his haystack painting (Figure 6.13), which used techniques developed by Signac and sold at auction in 2019 for \$110 million.

**Monroy, Bert** (1948–) American artist, known for large-scale works that can easily be mistaken for photographs, but are in fact computer-assisted illustrations. *Venetian Night*, overview in Figure 8.4B, magnified section in Figure 8.7, is an example.

**Morris, William** (1834-1896) English designer, publisher, poet, author, and political figure, the inspiration for the Arts and Crafts movement that advocated a return to expensive and intricate design work in many disciplines; one of his stained-glass windows is Figure 8.8, and his wallpaper is shown in Figures 9.1A and 9.2. The discussion of Figures 17.6 and 17.7 points out that he used a method of outlining similar to that of El Greco, not to mention modern unsharp masking.

**Mozart, Wolfgang Amadeus** (1756-1791) The most versatile composer of all time, equally known for his symphonies, concerti, chamber music, and operas. A child prodigy in his native Austria, he produced an enormous volume of work during his short lifetime; much of it, as noted in Chapter 6, was intended as background music.

**Mucha, Alphonse** (1860-1939) Czech-born decorative artist who lived in Paris after 1887, known for his advertising posters in an Art Nouveau style, such as those shown in Figures 4.3 and 12.13A; a particular favorite of the actress Sarah Bernhardt, of whom he created many posters, including the one shown as Figure 8.6A.

**Munsell, Albert Henry** (1858-1918) American educator and theorist; proposed a sophisticated system of classifying colors that is still in use today. Figure 4.2B shows his “color tree,” a direct descendant of the hemisphere model that Chevreul advocated earlier in the chapter. In Chapter 16 I point out that his model, like all others, assumes a gray-centricity, where all colors are evaluated by comparison to what he considers a neutral gray.

**Nadar** (trade name of Gaspard-Félix Tournachon, 1820-1910) The most famous French photographer of his time, known for his portraits of cultural figures, such as Sarah Bernhardt (Figure 8.6B); also a balloonist and patron of the arts. His studio hosted the 1874 exhibition that launched the word *Impressionism* into common use. In 1886 he conducted the first published interview that incorporated photographs of the subject: Chevreul, who had just turned 100.

**Napoleon I** *see* Bonaparte, Napoleon

**Napoleon III** *see* Bonaparte, Louis Napoleon

**Newton, Sir Isaac** (1643-1727) Mathematician, physicist, and color theorist; developer of the theory of gravitation; his *Opticks*, showing how light can produce several colors when passing through a prism, remains a basic text. Chapter 4, §162, references his proposed color wheel. Poet Alexander Pope wrote: “Nature and nature’s laws lay hid in sight/God said, ‘Let Newton Be’, and all was light.” This

reputation did not impress Goethe, whose own color text blasts Newton repeatedly, as discussed in Chapter 3.

**O'Hara**, Scarlett (fictional character) Protagonist of the 1936 civil war novel *Gone With the Wind*, her most striking physical feature was a pair of dazzling green eyes, which Chapter 7 points out created a problem for the movie version. Rhett Butler's opinion of the effect of a green bonnet on those eyes is treated in Chapter 11, §691. In Chapter 17 Scarlett illustrates a repetitive trend in female fashion: from time to time the mode is to alter appearance so as to make women appear too delicate to perform manual labor. In her case this implied an unhealthily pale skintone and a 17-inch corset.

**Oudry**, Jean-Baptiste (1686-1755) French painter, graphic artist, and designer of tapestries. He held responsible positions at both Beauvais and Gobelins. A sample of his upholstery work is shown in Figure 10.8.

**Picasso**, Pablo Ruiz y (1881-1973) The most prominent visual artist of the twentieth century, moved to Paris from his native Spain in 1900 and shortly thereafter entered his "Blue Period," producing such works as the *Old Guitarist* of Figure 4.6. Introduced the free-form style known as Cubism, as in *The Damsels of Avignon*, Figures 6.2A and 17.8, where there is a discussion of how he used the technique now known as unsharp masking. His 1902 *Absinthe Drinker*, which uses a red background to suggest an unhealthy complexion, is Figure 12.1B.

**Pissarro**, Camille (1830-1903) The oldest and most flexible stylistically of the Impressionists, he was a father figure to several artists, and took a pivotal role in organizing exhibitions of their works. His explanation of how his colleagues were crediting Chevreul, Rood, and Maxwell is found in Chapter 6, as is the surmise that he must have been studying Chevreul himself for his theories about what types of frame to use for his art. His *Washerwoman Study* (1880), showing the use of a cool background to suggest a ruddy complexion, is Figure 12.1A.

**Pitois-Levreault**, Charles (1792-1843) head of the eponymous firm that published this book in 1839. He is thanked in Chevreul's *Avant-Propos* for having had the courage to take on the project, in spite of the author's insistence on excruciatingly costly color graphics. Pitois-Levreault is an offshoot of Berger-Levreault, founded in 1463 and still in existence, having been France's most prestigious publisher for most of its lifetime.

**Plateau**, Joseph (1801-1883) Belgian scientist, the first to demonstrate the concept of the moving picture, although he did it with drawings and not photographs; successive images, when viewed through a slit on a rotating cylinder, created the illusion of motion. He was a student of Chevreul, who notes as much in Chapter 3, §80. His *Essays on a General Theory* (1834) suggested that principles of contrast were based on positive and negative "oscillations," and that the principle could even be extended to emotional issues such as the contrast between pleasure and pain. This is fleshed out (along with a violent response from Sir David Brewster) in Chapter 18, note to §998.

**Pollock**, Jackson (1912-1956) American abstract painter; he fulfilled a Chapter 6 prophecy by John Ruskin by literally flinging paint at a canvas.

**Ponzo**, Mario (1882-1960) Italian psychologist, mentioned in Chapter 18, note to §965, for his demonstration that perspective effects sometimes cause us to misperceive size.

**Prieur de la Côte d'Or** (Claude Antoine, comte Prieur-Duvernois, 1763-1832) French engineer, founded the École Polytechnique, was instrumental in the introduction of the metric system as a standard; Chevreul discusses his contributions to the theory of simultaneous contrast in Chapters 3 and 16.

**Prince Hal** (Shakespearean portrait of a young King Henry V) Later to become a great warrior, in his youth he falls under the influence of the fat, dissolute, and corrupt Sir John Falstaff, a comic contrast commented on in Chapter 18, note to §998.

**Rand**, Paul (1914-1996) American designer, noted for his development of corporate logos, such as that of NeXT, Figure 4.11. He is mentioned briefly in a discussion of the relation between designers and their print firms in Chapter 12.

**Raphael** (Raffaello Sanzio da Urbino, 1483-1520) The leading painter of his era, and one of the most prolific; mentioned in Chapter 6 in the list of great artistic figures who did not live to the age of 40. In Chapter 5, §57, Chevreul cites an example of a tapestry done in his style.

**Rayleigh**, Lord (John William Strutt, 1842-1919) British physicist and Nobel laureate. Mentioned in Chapter 18, note to §961 for his theory of wave scattering, which is the currently accepted explanation of why both skies and the shadows cast when sunlight hits a solid object seem blue.

**Rembrandt** van Rijn (1606-1669) The greatest Dutch painter, mentioned along with Caravaggio in my note to Chapter 5, §515 for his style of large, almost featureless deep shadows as a means of emphasizing the foreground.

**Renoir**, Pierre-Auguste (1841-1919) The finest pure colorist of the Impressionists. His portrait of the nine-year-old Julie Manet, Figure 2.4A, is uncharacteristically subdued, and I show a more colorful version. In Figure 4.9, I alter the clothing in his 1878 *Madame Georges Charpentier and Her Daughters* to show how important (and correct) his original choice was. I show his *Near the Lake* as Figure 7.12 and modify a photograph using similar techniques. Two of his portraits grace the end of Chapter 12 for experiments in emulating simultaneous contrast: *The Theater Box* is Figure 12.12A; a portrait of the brothers Durand-Ruel is 12.14A.

**Robespierre**, Maximilien (1758-1794) Political figure of the French Revolution, noted for incorruptibility and progressive views but forever associated with the Reign of Terror, which he presided over as leader of the all-powerful Committee on Public Safety. Quotations from him justifying the murder of his opponents (and explicitly praising state terrorism) are found in Chapter 6. He was guillotined the day after being ousted.

**Rood**, N. Ogden (1831-1902) American physicist and amateur painter, author of *Modern Chromatics*. His definition of

simultaneous contrast is quoted in Chapter 1, §§16 and 18. Pissarro's assertion of his great importance to Impressionism is found in Chapter 6. Rood's statement that greenness in imaging is nauseating, "very cold and hard," is in Chapter 7 and repeated in Chapter 17. His comment that contrast does not apply equally in all circumstances is in my note to Chapter 9, §515. His denial that music is comparable to color is criticized in Chapter 18, note to §981.

**Rossini**, Gioachino (1792-1868) Composer of nearly 40 operas, cited in Chapter 6 to argue that there was a strong Italian presence in opera before that nation came to dominate the field.

**Rubens**, Peter Paul (1577-1640) Flemish painter known for sensual portrayals of the human figure; cited by Chevreul in Chapter 5, §322 as a *colorist*.

**Rumford**, Count (Sir Benjamin Thompson, 1756-1814) American-born, fought for the loyalist side in the American revolution and thereafter relocated to Britain. There he designed warships, did substantial work in thermodynamics, and eventually changed countries again, this time to Bavaria, where he reorganized the army. Chevreul discusses his contributions to color theory in Chapters 3 and 16.

**Ruskin**, John (1819-1900) The leading English art critic, an incredibly prolific and opinionated writer. Widely traveled, he was also an authority on architecture and literature. His views seem conservative today; his rejection of Impressionism is lampooned in Chapter 6, along with an account of a libel suit filed against him when Whistler decided that one of his negative reviews went too far. In Chapter 7, he observes that great art depends upon directing the viewer's attention to the main objects, rather than eliminating the competition.

**Saint-Just**, Louis Antoine de (1767-1794) The "Angel of Death" of the Reign of Terror, a close associate of Robespierre. Was himself guillotined the day after the Robespierre government fell, as recounted in Chapter 6.

**Saint-Simon**, Duke of (Louis de Rouvroy, 1675-1755) French diplomat, court schemer, and one of the wittiest writers of his time. His scornful dismissal of the great gardens of Versailles is cited by Chevreul in Chapter 16, §907.

**Sancho Panza** (fictional character) The faithful and opinionated squire of Don Quijote, his physical appearance is in comic contrast to that of his emaciated master, as described in Chapter 18, note to §998.

**Scherffer**, Karl (1716-1783) Viennese physicist and Jesuit priest, wrote *On Accidental Colors: a Physical Dissertation*. An occasional target of Chevreul in Chapters 3 and 16, he was much admired by Joseph Plateau.

**Schiller**, Friedrich (1759-1805) German playwright, poet, physician, polymath, and friend of Goethe. His *Ode to Joy* was set to music in Beethoven's Ninth Symphony, as discussed in Chapter 18, note to §981.

**Schoenberg**, Arnold (1874-1951) Austrian composer who moved to the United States in 1934. Though he wrote in several styles, he is best known for devising a twelve-tone system, cited in Chapter 6, that certain professors of music

find merit in, but most others find indecipherable if not offensive.

**Schubert**, Franz (1797-1828) Austrian composer of more than 600 major works; mentioned in Chapter 6 as one of the influential cultural figures who did not reach the age of 40.

**Serradifalco**, Duke of (Domenico Lo Faso Pietrasanta, 1783-1863) Italian architect and archaeologist specializing in artifacts found in Sicily, where a form of Greek is still spoken by many inhabitants; Chevreul refers to him in his discussion of Greek architectural style in Chapter 10, §548.

**Seurat**, Georges (1859-1891) His massive canvas *A Sunday Afternoon on the Island of La Grande Jatte* launched the school known as neo-Impressionism and introduced what is now known as Pointillism; his impression of Can-Can dancers is Figure 6.7. His writings emphasized Chevreul's influence; he disciplined himself by copying portions of this book in longhand (Chapter 6).

**Shakespeare**, William (1564-1616) The greatest English-language playwright, author of such masterpieces as *Hamlet*, *King Lear*, *Othello*, *Romeo and Juliet*, and *The Merchant of Venice*. His comic creations Prince Hal and Falstaff are cited in Chapter 18; that he occasionally borrowed ideas from others is mentioned in Chapter 6.

**Shaw**, Bernard (1856-1950) The foremost English-language playwright since Shakespeare, known for strong views on music, art, and politics. His pithy opinions of how to perform Handel and of the French capacity for art are found in Chapter 6.

**Shelley**, Percy Bysshe (1792-1822) English poet; known for romantic works such as *Don Juan* and *Prometheus Unbound*; mentioned in Chapter 6 among those who have been influential in art despite not reaching the age of 40.

**Shostakovich**, Dmitri Dmitreyevich (1906-1975) Composer whose tenuous relations with the Soviet government resulted in several works with hidden agendas. Mentioned for this reason in Chapter 6, and also because although some of his output was too complex for the average listener, much was interesting and approachable.

**Signac**, Paul (1863-1935) Parisian painter and art theorist known, along with Seurat, for developing the Pointillist style. His *Woman With an Umbrella* is Figure 4.7A; his view of the *Port of Rotterdam* is Figure 6.8; his mosaic-like *Grand Canal, Venice* is Figure 8.2B. Also mentioned in Chapter 18 for his habit of naming his works with musical terms.

**Soufflot**, Jacques-Germain (1713-1780) French architect specializing in neo-classical forms, obliquely criticized by Chevreul in Chapter 10, §550.

**Stendhal** (pen name of Marie-Henri Beyle, 1783-1842) Novelist known for treatment of his characters' psychology; author of *The Red and the Black* and *The Charterhouse of Parma*. His views on how politics interferes with literature are in Chapter 6.

**Stravinsky**, Igor Fyodorovich (1882-1971) Russian-born, later naturalized both in France and the U.S., often considered the greatest composer of the twentieth century, noted

for the variety of styles he was comfortable with. Chapter 6 recounts how the Paris premiere of his *Rite of Spring* was blasted by critics. In Chapter 18, note to §974, Aaron Copland likens his stylistic periods to colors.

**Tchaikovsky**, Pyotr Ilyich (1840-1893) Russian composer of the Romantic era, mentioned in Chapter 6 to illustrate that there was a strong Russian presence in musical composition even before that nation began to dominate the field.

**Tiffany**, Louis Comfort (1848-1933) American designer and decorative artist noted for his work in stained glass and mosaics; generally in an Art Deco style. An example is shown in Figure 8.9. In the discussion of the El Greco paintings of Figures 17.6 and 17.7, I note that Tiffany used a similar method of outlining characters for emphasis.

**Titian** (Tiziano Vecelli, 1488?-1576) The foremost Venetian painter, known for extravagant uses of color, particularly in his younger works; cited by Chevreul in Chapter 5, §322 as a *colorist*.

**Tocqueville**, Alexis de (1805-1859) French historian and political analyst, particularly known for his two-volume *Democracy in America* and for *The Old Regime and the French Revolution*, which is quoted in Chapter 6.

**Toulouse-Lautrec**, Henri de (1864-1901) French painter and printmaker noted for artwork depicting the decadent nightlife of Paris. One of his favorite models, dancer Jane Avril, is portrayed in Figure 4.10 as an example of the use of background color to emphasize the subject. In Figure 10.15, he casts well-to-do theater patrons in a negative light by defying Chevreul's rule that the boxes in which they are seated should never be bright red. He is mentioned again in the discussion of Figure 12.12, a Renoir take on theater boxes.

**van Dyck**, Anthony (1599-1641) Flemish artist, noted for portraits of the English court; cited by Chevreul in Chapter 5, §358 for elegance, good taste, and simplicity.

**van Gogh**, Vincent (1853-1890) Dutch-born painter who practiced in France. Almost unknown in his own time, today he is considered one of the great artists of his era, noted for vivid colors which, as described in Chapter 6, he said came from studying Chevreul and Blanc. His portrait of Paul Gauguin is Figure 4.5A.

**van Loon**, Hendrik Willem (1882-1944) Dutch-born historian, author, and savant who spent most of his adult life in the United States. An outstanding and prolific writer, he had a deep understanding of many art forms. He is quoted twice in Chapter 6, offering explanations for why French painting was undistinguished before the Impressionist period.

**van Spaendonck**, Gerard (1746-1822) Dutch-born, but

moved in his teens to Paris, where he became a court painter specializing in floral images, often miniatures and watercolors. Chevreul cites him in Chapter 8, §396 for designs that served as inspiration for various Beauvais fabrics.

**Velázquez**, Diego Rodríguez de Silva y (1599-1660) Spanish painter, the greatest portraitist of all time. His work often was realistic enough to resemble a photograph, for example *The Triumph of Bacchus*, Figure 6.2C. His sensitive portrait of Duke Francesco I d'Este is ruined by a tasteless frame in Figure 10.8B. His move toward realism is contrasted to El Greco's freer style in Chapter 17. His magnificent portrait of Pope Innocent X, Figure 17.10, displays intentional exaggeration of four different kinds of simultaneous contrast—more than a hundred years before Chevreul was born.

**Voltaire** (pen name of François-Marie Arouet, 1694-1778) witty French writer and political philosopher. His “Woe to the peddlers of literal translations” line is quoted in my Foreword; his propensity to borrow ideas from others is noted by Delacroix in Chapter 6.

**Washington**, George (1732-1799) Revolutionary war general-in-chief; first president of the United States, the “Father of His Country”; mentioned in Chapter 6 in comparing French and American Revolutionary figures.

**Whistler**, James Abbott McNeill (1834-1903) American-born artist who lived much of his adult life in St. Petersburg, Paris, and London. He often likened his paintings to works of music, calling them such things as “arrangements,” “harmonies,” and “nocturnes.” The 1862 painting that he subsequently titled *Symphony in White* (Figure 2.6A) was rejected by the Salon de Paris. In 1878 he sued critic John Ruskin for libel after an unfavorable review. The jury found in his favor but awarded only one farthing in damages, ruining him financially. These adventures in criticism are recounted in Chapter 6.

**Zola**, Émile (1840-1902) French novelist, journalist, and political figure, today known particularly for his courageous denunciation, under the headline *J'Accuse...*, of the French army's behavior in the Dreyfus Affair. Chapter 6 offers some of his art reviews from the 1860s, where he was one of the few critics to praise Monet—and an astonishing recantation “My God! Was I out of my mind?” thirty years later.

**Zurbarán**, Francisco de (1598-1664) Spanish painter, known primarily for religious scenes. Mentioned in Chapter 5 (along with Caravaggio and Rembrandt) for his characteristic style of extensive, very dark shadow areas that made it seem that a light was shining on the foreground subject.