Список литературы

Глава 1. Зарождение генетики: от Менделя до Гитлера

- Carlson, Elof Axel. *The Unfit: A History of a Bad Idea*. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press, 2002. Discussion of eugenics beginning in biblical times and ending with contemporary clinical genetics.
- Comfort, Nathaniel. The Science of Human Perfection: How Genes Became the Heart of American Medicine. New Haven, CT: Yale University Press, 2012.
- Gillham, Nicholas Wright. A Life of Sir Francis Galton: From African Exploration to the Birth of Eugenics. New York: Oxford University Press, 2001. Engaging recent study of an extraordinary but neglected figure.
- Jacob, François. *The Logic of Life: A History of Heredity*. Princeton: Princeton University Press, 1993. Reflections by one of the founders of molecular genetics.
- Kevles, Daniel J. *In the Name of Eugenics: Genetics and the Uses of Human Heredity.* New York: Alfred A. Knopf, 1985. Scholarly but readable account of eugenics.
- Kohler, Robert E. *Lords of the Fly:* Drosophila *Genetics and the Experimental Life.* Chicago: University of Chicago Press, 1994. Chronicle of the early days of fruit fly genetics.
- Kühl, Stefan. The Nazi Connection: Eugenics, American Racism, and German National Socialism. New York: Oxford University Press, 1994.
- Mayr, Ernst. *This Is Biology: The Science of the Living World*. Cambridge, MA: Harvard University Press, 1997. Fine overview from a biologist who has just celebrated the seventy-fifth anniversary of earning his PhD.
- Müller-Hill, Benno. *Murderous Science: Elimination by Scientific Selection of Jews, Gypsies, and Others in Germany, 1933–1945.* Translated by Todliche Wissenschaft. New York: Oxford University Press, 1988. Reveals how German scientists and physicians were implicated in Nazi policies and how they resumed their academic positions after the war.
- Olby, Robert C. Origins of Mendelism. Chicago: University of Chicago Press, 1985.
- Orel, Vítezslav. *Gregor Mendel: The First Geneticist.* New York: Oxford University Press, 1996. The most complete biography to date.
- Paul, Diane B. *Controlling Human Heredity, 1865 to the Present.* Atlantic Highlands, NJ: Humanities Press, 1995. A succinct history of eugenics.
- Ridley, M. Francis Crick: Discoverer of the Genetic Code. New York: HarperCollins, 2006. Short biography of Francis Crick by the author of *Genome*.
- Watson, J. D., A. Gann, and J. Witkowski. *The Annotated and Illustrated Double Helix*. New York: Simon & Schuster, 2012.

Глава 2. Двойная спираль: это жизнь

- Crick, Francis H. C. What Mad Pursuit: A Personal View of Scientific Discovery. New York: Basic Books, 1988.
- Hager, Thomas. Force of Nature: The Life of Linus Pauling. New York: Simon & Schuster, 1995.
 An excellent biography of a scientific giant.
- Holmes, Frederic Lawrence. Meselson, Stahl, and the Replication of DNA: A History of "The Most Beautiful Experiment in Biology." New Haven: Yale University Press, 2001.
- Maddox, Brenda. Rosalind Franklin: The Dark Lady of DNA. New York: HarperCollins, 2002. Thorough biography that casts new light on Franklin.
- McCarty, Maclyn. *The Transforming Principle: Discovering That Genes Are Made of DNA*. New York: W. W. Norton & Co., 1995. Account of the experiments that showed DNA to be the hereditary material by one of the three scientists who carried them out.
- Olby, Robert. *The Path to the Double Helix: The Discovery of DNA*. Mineola, NY: Dover Publications, 1994. Scholarly historical perspective.
- Watson, James D. *The Double Helix: A Personal Account of the Discovery of the Structure of DNA*. New York: Athenaeum Press, 1968.

Глава 3. Читаем код: воплощение ДНК

- Brenner, Sydney. *My Life in Science*. London: BioMed Central Limited, 2001. A rare combination: illuminating and funny.
- Cobb, Matthew. Life's Greatest Secret: The Race to Crack the Genetic Code. New York: Basic Books, 2015.
- Hunt, Tim, Steve Prentis, and John Tooze, eds. *DNA Makes RNA Makes Protein*. New York: Elsevier Biomedical Press, 1983. Collection of essays summarizing the state of molecular genetics in 1980.
- Jacob, François. *The Statue Within: An Autobiography.* Translated by Franklin Philip. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press, 1995. Lucid and beautifully written.
- Judson, Horace Freeland. The Eighth Day of Creation: Makers of the Revolution in Biology.Expanded edition. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press, 1996.Classic study on the origins of molecular biology.
- Monod, Jacques. *Chance and Necessity: An Essay on the Natural Philosophy of Modern Biology.*Translated by Austryn Wainhouse. New York: Alfred A. Knopf, 1971. Philosophical musings by a key figure in molecular genetics.
- Watson, James D. Genes, Girls, and Gamow. New York: Alfred A. Knopf, 2001. Sequel to *The Double Helix*.

Глава 4. Подобные Богу: работа над молекулой ДНК

- Fredrickson, Donald S. *The Recombinant DNA Controversy, a Memoir: Science, Politics, and the Public Interest, 1974–1981.* Washington, DC: American Society for Microbiology Press, 2001. Account of turbulent times in biomedical research by the then director of the National Institutes of Health.
- Krimsky, Sheldon. *Genetic Alchemy: The Social History of the Recombinant DNA Controversy.* Cambridge, MA: MIT Press, 1982. A critic's perspective.

- Rogers, Michael. *Biohazard*. New York: Alfred A. Knopf, 1977. Expansion of Rogers's insightful account in *Rolling Stone* of the Asilomar meeting.
- Watson, James D. A Passion for DNA: Genes, Genomes, and Society. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press, 2000. Collection of essays drawn from newspapers, magazines, talks, and Cold Spring Harbor Laboratory reports.
- Watson, James D., Michael Gilman, Jan Witkowski, and Mark Zoller. *Recombinant DNA*. New York: Scientific American Books, 1992. Now out of date but still a sound introduction to the basic science underlying genetic engineering.
- Watson, James D., and John Tooze. *The DNA Story: A Documentary History of Gene Cloning*. San Francisco: W. H. Freeman and Co., 1981. The recombinant DNA debate recounted through contemporary articles and documents.

Глава 5. Биотехнология: ДНК, доллары и биопрепараты

- Anand, Geeta. The Cure: How a Father Raised \$100 Million—and Bucked the Medical Establishment—in a Quest to Save His Children. New York: HarperCollins, 2009.
- Cooke, Robert. Dr. Folkman's War: Angiogenesis and the Struggle to Defeat Cancer. New York: Random House, 2001.
- Hall, Stephen S. *Invisible Frontiers: The Race to Synthesize a Human Gene*. New York: Atlantic Monthly Press, 1987. Tells the insulin-cloning story with verve.
- Kornberg, Arthur. *The Golden Helix: Inside Biotech Ventures*. Sausalito, CA: University Science Books, 1995. The founder of several companies describes the rise of the biotechnology industry.
- Stockwell, Brent R. The Quest for the Cure: The Science and Stories Behind the Next Generation of Medicines. New York: Columbia University Press, 2011.
- Werth, Barry. *The Antidote: Inside the World of New Pharma*. New York: Simon & Schuster, 2014. Sequel to Werth's *Billion-Dollar Molecule*.
- . The Billion-Dollar Molecule: One Company's Quest for the Perfect Drug. New York: Touchstone Books/Simon & Schuster, 1995. The story of Vertex, a company typifying the biotech approach to the pharmaceutical business.

Глава 6. Буря в миске с кашей: генетически модифицированные продукты

- Charles, Daniel. *Lords of the Harvest: Biotech, Big Money, and the Future of Food.* Cambridge, MA: Perseus, 2001. Fascinating account of the genetically modified food controversy, emphasizing the business side and focusing primarily on Monsanto.
- McHughen, Alan. *Pandora's Picnic Basket: The Potential and Hazards of Genetically Modified Foods*. New York: Oxford University Press, 2000. Introduction to some of the issues, including scientific ones, behind the controversy.

Глава 7. Геном человека. Сценарий жизни

Cook-Deegan, Robert M. *The Gene Wars: Science, Politics, and the Human Genome.* New York: W. W. Norton & Co., 1994. Brilliantly comprehensive account of the origins and early days of the Human Genome Project.

- Davies, Kevin. *Cracking the Genome: Inside the Race to Unlock Human DNA*. New York: Free Press, 2001. Continuation of Cook-Deegan's story, bringing it up to the completion of the first draft of the human genome.
- Quackenbush, John. The Human Genome. Watertown, MA: Charlesbridge, 2011.
- Shreeve, James. *The Genome War: How Craig Venter Tried to Capture the Code of Life and Save the World.* New York: Ballantine Books, 2005. Lively insider's account of Celera's quest for the human genome.
- Sulston, John, and Georgina Ferry. *The Common Thread: A Story of Science, Politics, Ethics, and the Human Genome.* Washington, DC: Joseph Henry Press, 2002. Personal account of research on the worm and of the British end of the Human Genome Project. Sulston's disdain for individuals and companies profiting from the human genome sequence drives his story and his science.
- Venter, J. Craig. A Life Decoded: My Genome, My Life. New York: Viking, 2007.

Глава 8. Время первых

- Angrist, Misha. *Here Is a Human Being: At the Dawn of Personal Genomics*. New York: HarperCollins, 2010. Engaging account from one of the inaugural volunteers of the Personal Genome Project.
- Collins, Francis S. The Language of Life: DNA and the Revolution in Personalized Medicine. New York: Harper Perennial, 2011.
- Davies, Kevin. *The \$1,000 Genome: The Revolution in DNA Sequencing and Personalized Medicine.* New York: The Free Press, 2010. Exploration of the impact of personal genetics and next-generation sequencing on individualized health.
- Dudley, Joel T., and Konrad J. Karczewski. *Exploring Personal Genomics*. New York: Oxford University Press, 2013.
- Frank, Lone. My Beautiful Genome: Exposing Our Genetic Future, One Quirk at a Time. London: OneWorld, 2011.
- Johnson, Mark, and Kathleen Gallagher. *One in a Billion: The Story of Nic Volker and the Dawn of Genomic Medicine*. New York: Simon & Schuster, 2016. Pulitzer Prize—winning journalists profile Nic Volker, the poster child for clinical genome sequencing.
- Kean, Sam. The Violinist's Thumb: And Other Lost Tales of Love, War, and Genius, as Written by Our Genetic Code. New York: Little, Brown & Co., 2012.
- Topol, Eric. The Creative Destruction of Medicine: How the Digital Revolution Will Create Better Health Care. New York: Basic Books, 2011.
- Venter, J. Craig. A Life Decoded: My Genome, My Life. New York: Penguin, 2008.
- Yong, Ed. I Contain Multitudes. New York: Ecco, 2016. The hidden world of the microbiome.

Глава 9. Изучение геномов. Эволюция в действии

- Bier, Ethan. *The Coiled Spring: How Life Begins*. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press, 2000.
- Comfort, Nathaniel C. *The Tangled Field: Barbara McClintock's Search for the Patterns of Genetic Control.* Cambridge, MA: Harvard University Press, 2001. A scholarly but approachable account of the life and work of Barbara McClintock.
- Lawrence, Peter A. The Making of a Fly: The Genetics of Animal Design. Boston: Blackwell

- Scientific Publications, 1992. Now out of date but still an excellent introduction to the excitement generated when genetics meets developmental biology.
- Ridley, Matt. *Genome: The Autobiography of a Species in Twenty-Three Chapters.* New York: HarperCollins, 1999. Hugely accessible introduction to modern studies of human genetics.

Глава 10. Путь из Африки: ДНК и человеческое прошлое

- Cavalli-Sforza, Luigi Luca. *Genes, Peoples, and Languages*. Translated by Mark Seielstad. New York: North Point Press, 2000. Personal account of human-evolution studies by the field's leader.
- Gee, Henry. The Accidental Species: Misunderstandings of Human Evolution. Chicago: Chicago University Press, 2013.
- Jones, Steve. The Language of the Genes. New York: Anchor Books, 1995.
- Olson, Steve. *Mapping Human History: Discovering the Past Through Our Genes.* Boston: Houghton Mifflin, 2002. Balanced and up-to-date account of human evolution and the impact that our past has on our present.
- Pääbo, Svante. *Neanderthal Man: In Search of Lost Genomes*. New York: Perseus, 2014. Autobiography of the pioneer of Neanderthal genomics.
- Rutherford, Adam. A Brief History of Everyone Who Ever Lived. London: Weidenfeld & Nicolson, 2016.
- Sykes, Bryan. The Seven Daughters of Eve. New York: W. W. Norton & Co., 2001.

Глава 11. Генетическая дактилоскопия. ДНК в суде

- Lynch, Michael et al. *Truth Machine: The Contentious History of DNA Fingerprinting.* Chicago: University of Chicago Press, 2008.
- Massie, Robert K. *The Romanovs: The Final Chapter.* New York: Random House, 1995. The story of the Romanovs' murders and of how DNA fingerprinting established the authenticity of the remains and unmasked impostors.
- Scheck, Barry, Peter Neufeld, and Jim Dwyer. Actual Innocence: Five Days to Execution and Other Dispatches from the Wrongly Convicted. New York: Doubleday, 2000. From the horses' mouths, an examination of the power of DNA fingerprinting to exonerate the wrongfully convicted.
- Wambaugh, Joseph. *The Blooding*. New York: Bantam Books, 1989. Exciting account of the first use of DNA fingerprinting to apprehend a criminal.

Глава 12. Гены и болезни: поиски и лечение

- Bishop, Jerry E., and Michael Waldholz. *Genome: The Story of the Most Astonishing Scientific Adventure of Our Time—the Attempt to Map All the Genes in the Human Body.* New York: Simon & Schuster, 1990. Still one of the best accounts of the early days of hunting human disease genes.
- Davies, Kevin, with Michael White. *Breakthrough: The Race to Find the Breast Cancer Gene.* New York: John Wiley & Sons, 1996. Story of immensely hard work, dedication, ambition, and greed.
- Gelehrter, Thomas D., Francis Collins, and David Ginsburg. Principles of Medical Genetics.

- Baltimore: Williams & Wilkins, 1998. A short and readable textbook on modern human molecular genetics.
- Kitcher, Philip. *The Lives to Come: The Genetic Revolution and Human Possibilities.* New York: Simon & Schuster, 1997. Philosophical and ethical discussion about how to use what we have learned of human molecular genetics.
- Kozubek, James. *Modern Prometheus: Editing the Human Genome with Crispr-Cas9.* New York: Cambridge University Press, 2016. First detailed account of the therapeutic potential of CRISPR gene editing.
- Leroi, Armand Marie. Mutants: On the Form, Varieties and Errors of the Human Body. New York: HarperCollins, 2004.
- Lewis, Ricki. *The Forever Fix: Gene Therapy and the Boy Who Saved It.* New York: St. Martin's Press, 2012.
- Lyon, Jeff, with Peter Gorner. *Altered Fates: Gene Therapy and the Retooling of Human Life.* New York: W. W. Norton & Co., 1995. Includes a good account of the treatment of the two girls with ADA deficiency.
- Pollen, Daniel A. *Hannah's Heirs: The Quest for the Genetic Origins of Alzheimer's Disease.* New York: Oxford University Press, 1993. Captures the thrill of the chase and highlights the awfulness of the disease.
- Reilly, Philip R. *Abraham Lincoln's DNA and Other Adventures in Genetics*. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory, 2000. Essays on topical issues written from the unusually informed perspective of a physician-cum-lawyer.
- Thompson, Larry. *Correcting the Code: Inventing the Genetic Cure for the Human Body.* New York: Simon & Schuster, 1994. Account of the development of gene therapy, including the Martin Cline episode.
- Wexler, Alice. *Mapping Fate: A Memoir of Family, Risk, and Genetic Research*. New York: Random House, 1995. Searingly honest testimony from Nancy Wexler's sister.

Глава 13. Что важнее: наследственность или воспитание?

- Coppinger, Raymond, and Lorna Coppinger. *Dogs: A Startling New Understanding of Canine Origin, Behavior, and Evolution.* New York: Scribner, 2001. Overview of the enormous differences, in body and mind, among dogs.
- Crick, Francis H. C. *The Astonishing Hypothesis: The Scientific Search for the Soul.* New York: Scribner, 1993. A materialist perspective on the problem of consciousness. Crick concludes that we are "no more than the behavior of a vast assembly of nerve cells and their associated molecules."
- Herrnstein, Richard J., and Charles Murray. *The Bell Curve: Intelligence and Class Structure in American Life.* New York: Free Press, 1994. More talked about than read.
- Jacoby, Russell, and Naomi Glauberman, eds. *The Bell Curve Debate: History, Documents, Opinions.* New York: Times Books, 1995. Collection of eighty essays about and reviews of *The Bell Curve.*
- Lewontin, Richard C., Steven Rose, and Leon J. Kamin. *Not in Our Genes: Biology, Ideology, and Human Nature.* New York: Pantheon Books, 1984. The academic left's response to Wilson's *Sociobiology*.
- Mendvedev, Zhores A. The Rise and Fall of T. D. Lysenko. New York: Columbia University

- Press, 1969. Firsthand account by a scientist who suffered from the Communist Party's control of Soviet science.
- Pinker, Steven. *The Blank Slate: The Modern Denial of Human Nature*. New York: Viking Penguin, 2002.
- ———. *How the Mind Works*. New York: W. W. Norton & Co., 1997. Evolutionary psychology outlined by one of its most eloquent proponents.
- Ridley, Matt. Nature via Nurture: Genes, Experience, and What Makes Us Human. New York: HarperCollins, 2003.
- Soyfer, Valery N. *Lysenko and the Tragedy of Soviet Science*. Translated by Leo Gruliow and Rebecca Gruliow. New Brunswick, NJ: Rutgers University Press, 1994. An account from someone who knew Lysenko.
- Wilson, Edward O. *Sociobiology: The New Synthesis*. Cambridge, MA: Belknap Press of Harvard University Press, 1975. Proposes an evolutionary explanation for much of our behavior.

Глава 14. Рак: война без конца?

- Angier, Natalie. *Natural Obsessions: Striving to Unlock the Deepest Secrets of the Cancer Cell.*New York: Mariner Books, 1999. Enjoyable fly-on-the-wall account inside two pioneering cancer research labs.
- Armstrong, Sue. p53: The Gene That Cracked the Cancer Code. New York: Bloomsbury, 2015.
- Bazell, Robert. Her-2: The Making of Herceptin, a Revolutionary Treatment for Breast Cancer. New York: Random House, 1998.
- Davies, Kevin and Michael White. *Breakthrough: The Race for the Breast Cancer Gene.* New York: John Wiley & Sons Inc., 1995. The story of Mary-Claire King's quest to map the *BRCA1* gene.
- DeVita, Vincent T., Jr., and Elizabeth DeVita-Raeburn . The Death of Cancer: After Fifty Years on the Front Lines of Medicine, a Pioneering Oncologist Reveals Why the War on Cancer Is Winnable—and How We Can Get There. New York: Sarah Crichton Books, 2015.
- Diamond, John. *C: Because Cowards Get Cancer Too.* London: Vermillion, 1998. British journalist's wry account of his personal battle against throat cancer.
- Hitchens, Christopher. *Mortality*. New York: Twelve, 2012. The author's final collection of *Vanity Fair* columns on his personal battle against cancer.
- Johnson, George. *The Cancer Chronicles: Unlocking Medicine's Deepest Mystery.* New York: Knopf, 2013. Lucid account of the causes of and potential treatments for cancer, inspired by the personal battle of the author's wife.
- Mukherjee, Siddhartha. *The Emperor of All Maladies: A Biography of Cancer.* New York: Scribner, 2010. Magisterial story of the history of cancer research, written by an oncologist.
- Waldhoz, Michael. Curing Cancer: Solving One of the Greatest Medical Mysteries of Our Time. New York: Simon & Schuster, 1997.
- Watson, James D. A Passion for DNA: Genes, Genomes, and Society. New York: Cold Spring Harbor Laboratory Press, 2000.
- Weinberg, Robert A. *The Biology of Cancer*. 2nd ed. New York: Garland Science, 2014. Eloquent, authoritative textbook on the molecular biology of cancer by one of the field's leading researchers.

Эпилог. Наши гены и перспективы на будущее

Knoepfler, Paul. *GMO Sapiens: The Life-Changing Science of Designer Babies*. Singapore: World Scientific Publishing, 2016.

Wong, Wendy S. W. et al. "New Observations on Maternal Age Effect on Germline *de novo* Mutations." *Nature Communications* 7, no. 10486 (2016). 7:10486 doi: 10.1038/ncomms10486