



# THE SECRET HISTORY OF FOOD

Strange but True Stories  
About the Origins of  
Everything We Eat

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# NOTES

## Epigraph

- vii “History celebrates the battlefields”: Jeffrey M. Pilcher, *The Oxford Handbook of Food History* (New York: Oxford University Press, 2012), 209.
- vii “Of the many choices”: B. W. Higman, *How Food Made History* (West Sussex: Wiley-Blackwell, 2012), 1.

## Chapter 1: A History of Swallowing

- 1 “The pursuit of more”: Reay Tannahill, *Food in History* (New York: Stein and Day, 1973), 7.
- 2 “Tell me what”: Jean Anthelme Brillat-Savarin, *The Physiology of Taste; or, Meditations on Transcendental Gastronomy*, translated by M.F.K. Fisher (New York: Knopf, 2009), Apple Books ed.
- 2 “luxurious mouthfeel”: Catherine Donnelly, ed., *The Oxford Companion to Cheese* (New York: Oxford University Press, 2016), 88.
- 2 its 1825 debut: Brillat-Savarin, *The Physiology of Taste; or, Meditations on Transcendental Gastronomy*.
- 2 “For proof one can cite”: Ibid.
- 2 “Suggest to a charming”: Ibid.
- 3 “I can remember”: Ibid.
- 3 “although I carry”: Brillat-Savarin, *The Physiology of Taste; or, Meditations on Transcendental Gastronomy*.
- 3 “A dinner which ends”: Ibid.
- 3 “to forbid coffee”: Ibid.
- 3 preferences for salt: Micah Leshem, “Salt Preference in Adolescence Is Predicted by Common Prenatal and Infantile Mineralofluid Loss,” *Physiology and Behavior* 63, no. 4 (1998): 699–704.
- 4 exposure to flavors: L. Cooke and A. Fildes, “The Impact of Flavour Exposure in Utero and During Milk Feeding on Food Acceptance at Weaning and Beyond,” *Appetite* 57 (2011): 808–11.
- 4 between 500 milliliters: Jack A. Pritchard, “Fetal Swallowing and Amniotic Fluid Volume,” *Obstetrics and Gynecology* 28, no. 5 (1966): 606–10.
- 4 a full liter: Cooke and Fildes, “The Impact of Flavour Exposure in Utero and During Milk Feeding on Food Acceptance at Weaning and Beyond.”
- 4 Researchers have detected: Jennifer S. Savage, Jennifer Orlet Fisher, and Leann L. Birch, “Parental Influence on Eating Behavior: Conception to Adolescence,” *The Journal of Law, Medicine and Ethics* 35, no. 1 (2007): 22–34.

- 4 meanwhile, breast milk: Cooke and Fildes, “The Impact of Flavour Exposure in Utero and During Milk Feeding on Food Acceptance at Weaning and Beyond.”
- 4 In one study: Julie A. Mennella, Coren P. Jagnow, and Gary K. Beauchamp, “Prenatal and Postnatal Flavor Learning by Human Infants,” *Pediatrics* 107, no. 6 (2001): e88.
- 4 in another: Peter G. Hepper et al., “Long-Term Flavor Recognition in Humans with Prenatal Garlic Experience,” *Developmental Psychobiology* 55, no. 5 (2013): 568–74.
- 4 adults who’d been fed: R. Haller et al., “The Influence of Early Experience with Vanillin on Food Preference Later in Life,” *Chemical Senses* 24, no. 4 (1999): 465–67.
- 4 Children who were breastfed: Cooke and Fildes, “The Impact of Flavour Exposure in Utero and During Milk Feeding on Food Acceptance at Weaning and Beyond.”
- 4 it was considered: Mennella et al., “Prenatal and Postnatal Flavor Learning by Human Infants.”
- 5 An ancient Sanskrit text: *An English Translation of the Sushruta Samhita*, vol. 2, translated by Kaviraj Kunja Lal Bhishagratna (Calcutta, 1911).
- 5 a wet nurse: *Ibid.*, 225–26.
- 5 “extremely pendulous”: *An English Translation of the Sushruta Samhita*, 225–26.
- 5 “ye must be well”: Rick Bowers, *Thomas Phaer and the Boke of Chylidren* (Tempe, Arizona: Arizona Center for Medieval and Renaissance Studies, 1999), 33.
- 5 Meanwhile, it was thought: Kelley L. Baumgartel, Larissa Sneeringer, and Susan M. Cohen, “From Royal Wet Nurses to Facebook: The Evolution of Breastmilk Sharing,” *Breastfeeding Review* 24, no. 3 (2016): 25–32.
- 5 epigenetic inheritance: Mary Carolan-Olah, Maria Duarte-Gardea, and Julia Lechuga, “A Critical Review: Early Life Nutrition and Prenatal Programming for Adult Disease,” *Journal of Clinical Nursing* 24, no. 23–24 (2015): 3716–29.
- 5 For example, fruit flies: Anita Öst et al., “Paternal Diet Defines Offspring Chromatin State and Intergenerational Obesity,” *Cell* 159, no. 6 (2014): 1352–64.
- 5 mice that were fed: Peter Huypens et al., “Epigenetic Germline Inheritance of Diet-Induced Obesity and Insulin Resistance,” *Nature Genetics* 48, no. 5 (2016): 497–99.
- 6 fetal exposure to poor nutrition: Carolan-Olah et al., “A Critical Review: Early Life Nutrition and Prenatal Programming for Adult Disease.”
- 6 another study found: Yuriy Slyvka, Yizhu Zhang, and Felicia V. Nowak, “Epigenetic Effects of Paternal Diet on Offspring: Emphasis on Obesity,” *Endocrine* 48, no. 1 (2015): 36–46.
- 6 roughly half of the population: Charles J. Wysocki and Gary K. Beauchamp, “Ability to Smell Androstenone Is Genetically Determined,” *Pro-*

- ceedings of the National Academy of Sciences of the United States of America* 81, no. 15 (1984): 4899–902.
- 6 a smaller portion: Ibid.
- 6 People with a gene: Nicholas Eriksson et al., “A Genetic Variant Near Olfactory Receptor Genes Influences Cilantro Preference,” *Flavour* 1 (2012): article 22.
- 6 also known as coriander: Alan Davidson, *The Oxford Companion to Food*, 3rd ed. (New York: Oxford University Press, 2014), 221.
- 6 “bug-infested bedclothes”: Ibid.
- 6 the name *coriander*: Ibid.
- 6 aldehydes similar or identical: Harold McGee, “Cilantro Haters, It’s Not Your Fault,” *New York Times*, April 13, 2010.
- 6 including those of bedbugs: Dong-Hwan Choe et al., “Chemically Mediated Arrestment of the Bed Bug, *Cimex lectularius*, by Volatiles Associated with Exuviae of Conspecifics,” *PLOS ONE*, July 19, 2016.
- 6 our sensitivity to bitter foods: Diane Catanzaro, Emily C. Chesbro, and Andrew J. Velkey, “Relationship Between Food Preferences and PROP Taster Status of College Students,” *Appetite* 68 (2013): 124–31.
- 6 paper test strips: Ibid.
- 7 About half the population: Ibid.
- 7 Supertasters also tend: Ibid.
- 7 supertasters tend to be: Ibid.
- 7 it’s no coincidence: Danielle Renee Reed and Antti Knaapila, “Genetics of Taste and Smell: Poisons and Pleasures,” *Progress in Molecular Biology and Translational Science* 94 (2010): 213–40.
- 7 Meanwhile, a lot of plants: Jonathan Silvertown, *Dinner with Darwin: Food, Drink, and Evolution* (Chicago: University of Chicago Press, 2017), 61, 107.
- 7 The wild ancestors of pumpkins: Logan Kistler et al., “Gourds and Squashes (*Cucurbita* spp.) Adapted to Megafaunal Extinction and Ecological Anachronism Through Domestication,” *Proceedings of the National Academy of Sciences of the United States of America* 112, no. 49 (2015): 15107–12.
- 7 and almonds: Susie Neilson, “How Almonds Went from Deadly to Delicious,” National Public Radio, June 13, 2019, <https://www.npr.org/sections/thesalt/2019/06/13/732160949/how-almonds-went-from-deadly-to-delicious>.
- 7 breastfeeding can make it harder: Lee Goldman, *Too Much of a Good Thing: How Four Key Survival Traits Are Now Killing Us* (New York: Little, Brown, 2015), 26–27.
- 8 people would naturally stop: Brian Handwerk, “How Cheese, Wheat and Alcohol Shaped Human Evolution,” *Smithsonian*, March 13, 2018, [www.smithsonianmag.com/science-nature/how-cheese-wheat-and-alcohol-shaped-human-evolution-180968455](http://www.smithsonianmag.com/science-nature/how-cheese-wheat-and-alcohol-shaped-human-evolution-180968455).

- 8 our bodies developed: Stephen Le, *100 Million Years of Food: What Our Ancestors Ate and Why It Matters Today* (New York: Picador, 2016), 108.
- 8 The discovery of yogurt: Nissim Silanikove, “The Interrelationships Between Lactose Intolerance and the Modern Dairy Industry: Global Perspectives in Evolutional and Historical Backgrounds,” *Nutrients* 7, no. 9 (2015): 7312–31.
- 8 roughly two-thirds: Handwerk, “How Cheese, Wheat and Alcohol Shaped Human Evolution.”
- 8 Our genetic tolerance: Gary Paul Nabhan, *Why Some Like It Hot: Food, Genes, and Cultural Diversity* (Washington, DC: Shearwater Books, 2004), 28–29.
- 8 our ancestors’ consumption: W.P.T. James et al., “Nutrition and Its Role in Human Evolution,” *Journal of Internal Medicine* 285, no. 5 (2019): 543, <https://onlinelibrary.wiley.com/doi/full/10.1111/joim.12878>.
- 8 developed a tolerance: Alejandra Borunda, “Koalas Eat Toxic Leaves to Survive—Now Scientists Know How,” *National Geographic*, July 2, 2018, [www.nationalgeographic.com/animals/2018/07/scientists-sequenced-the-koala-genome-to-save-them](http://www.nationalgeographic.com/animals/2018/07/scientists-sequenced-the-koala-genome-to-save-them).
- 8 highly toxic to other mammals: Rebecca N. Johnson et al., “Adaptation and Conservation Insights from the Koala Genome,” *Nature Genetics* 50 (2018): 1102–11, <https://www.nature.com/articles/s41588-018-0153-5>.
- 8 our decision to start: Richard Wrangham, *Catching Fire: How Cooking Made Us Human* (New York: Basic Books, 2009), 83.
- 9 Cooking potatoes: Rachel N. Carmody and Richard W. Wrangham, “The Energetic Significance of Cooking,” *Journal of Human Evolution* 57, no. 4 (2009), 379–91.
- 9 properly cooking lima beans: “Should I Worry About the Cyanide in Lima Beans?,” OSU Extension Service, Oregon State University, <https://extension.oregonstate.edu/families-health/nutrition/should-i-worry-about-cyanide-lima-beans>.
- 9 water-soluble nutrients tend: Hong-Wei Xiao et al., “Recent Developments and Trends in Thermal Blanching—A Comprehensive Review,” *Information Processing in Agriculture* 4, no. 2 (2017): 101–27.
- 9 those that remain: Kristen J. Gremillion, *Ancestral Appetites: Food in Pre-history* (Cambridge, UK: Cambridge University Press, 2011), 26.
- 9 cooking makes foods softer: Rachel N. Carmody, Gil S. Weintraub, and Richard W. Wrangham, “Energetic Consequences of Thermal and Non-thermal Food Processing,” *Proceedings of the National Academy of Sciences of the United States of America* 108, no. 48 (2011): 19199–203.
- 10 Two of our closest relatives: Nicola Temple, *Best Before: The Evolution and Future of Processed Food* (London: Bloomsbury Sigma, 2018), Kindle ed.
- 10 about 14 percent less: Katherine D. Zink and Daniel E. Lieberman, “Impact of Meat and Lower Palaeolithic Food Processing Techniques on Chewing in Humans,” *Nature* 531, no. 7595 (2016): 500–03.
- 10 the redness of ripe: Rachel Herz, *Why You Eat What You Eat: The Science Behind Our Relationship with Food* (New York: Norton, 2017), Kindle ed.

- 11 just the name McDonald's: Thomas N. Robinson et al., "Effects of Fast Food Branding on Young Children's Taste Preferences," *Archives of Pediatrics and Adolescent Medicine* 161, no. 8 (2007): 792–97.
- 11 resulting in smaller jaws: Wrangham, *Catching Fire*, 40.
- 11 "Nutcracker Man": "*Paranthropus boisei*," Human Evolution Evidence, Smithsonian National Museum of Natural History, <https://humanorigins.si.edu/evidence/human-fossils/species/paranthropus-boisei>.
- 11 modern stomachs and colons: Wrangham, *Catching Fire*, 43.
- 11 human jaw sizes: Temple, *Best Before*.
- 11 The adoption of forks and knives: Bee Wilson, *Consider the Fork: A History of How We Cook and Eat* (New York: Basic Books, 2012), Kindle ed.
- 12 using roughly 20 percent: Wrangham, *Catching Fire*, 109.
- 12 "Our brains weigh": Peter S. Ungar, *Evolution's Bite: A Story of Teeth, Diet, and Human Origins* (Princeton, NJ: Princeton University Press, 2017), 160.
- 12 "by which hard": Charles Darwin, *The Descent of Man and Selection in Relation to Sex* (New York: Appleton, 1889), 49.
- 12 "probably the greatest": Ibid.
- 12 the shared development: Clive Gamble, J.A.J. Gowlett, and R.I.M. Dunbar, "The Social Brain and the Shape of the Palaeolithic," in *Lucy to Language: The Benchmark Papers*, edited by R.I.M. Dunbar, Clive Gamble, and J.A.J. Gowlett (Oxford, UK: Oxford University Press, 2014), 19–51.
- 12 children could be weaned: Wrangham, *Catching Fire*, 180.
- 13 This isn't to suggest: Gamble et al., "The Social Brain and the Shape of the Palaeolithic."
- 13 cooking also softened us: Wrangham, *Catching Fire*, 184.
- 13 natural and human selection: Reay Tannahill, *Food in History* (New York: Stein and Day, 1973), 31.
- 13 the Latin *com*: "Companion," *OED Online*, Oxford University Press, December 2020, [www.oed.com/view/Entry/37402](http://www.oed.com/view/Entry/37402).
- 13 which our ancestors learned: Tannahill, *Food in History*, 31.
- 13 we started rounding: Mary Ellen Snodgrass, *Encyclopedia of Kitchen History* (New York: Fitzroy Dearborn, 2004), 553.
- 13 though much of Asia: Ibid., 211.

## Chapter 2: Pie, Progress, and Plymouth Rock

- 15 "Take anything away": David Macrae, *The Americans at Home: Pen-and-Ink Sketches of American Men, Manners, and Institutions*, vol. 1 (Edinburgh: Edmonston and Douglas, 1870), 25.
- 15 "And we must": David Mamet, *Boston Marriage* (New York: Random House, 2002), 34.
- 16 Boston Tea Party: James Trager, *The Food Chronology: A Food Lover's Compendium of Events and Anecdotes, from Prehistory to the Present* (New York: Henry Holt, 1995), 172.

- 16 “indomitable perseverance”: F. W. Searle, “Pie, Progress, and Ptomaine-Poisoning,” *Journal of Medicine and Science* 4, no. 9 (1898): 353–55.
- 18 the first recipe: Samuel Pegge, *The Forme of Cury* (London: Society of Antiquaries, 1780), 119.
- 18 the apple itself originated: Bill Price, *Fifty Foods That Changed the Course of History* (New York: Firefly Books, 2014), 160.
- 18 “cleanseth them well”: *The Whole Duty of a Woman: Or, an Infallible Guide to the Fair Sex* (London: Reed, 1737), 235.
- 18 The trick with pigeon pie: *Ibid.*, 508.
- 18 “Get a hare”: *Ibid.*, 509.
- 18 Thomas Coryat: Bee Wilson, *Consider the Fork: A History of How We Cook and Eat* (New York: Basic Books, 2012), Kindle ed; “Thomas Coryat, World Traveller, Discovers That Italians Use Forks,” *Wired*, February 21, 2017.
- 19 only fork in America: Mary Ellen Snodgrass, *Encyclopedia of Kitchen History* (New York: Fitzroy Dearborn, 2004), 392.
- 19 called for keeping: Trudy Eden, *Cooking in America, 1590–1840* (Westport, CT: Greenwood Press, 2006), 24.
- 20 when the English did use: Maguelonne Toussaint-Samat, *A History of Food*, translated by Anthea Bell (Cambridge, UK: Blackwell, 1992), 634.
- 20 made with beef broth: Ina Lipkowitz, *Words to Eat By: Five Foods and the Culinary History of the English Language* (New York: Macmillan, 2011), 59.
- 20 during Lent, with cod’s liver: Constant Antoine Serrure and Peter Scholier, *Keukenboek: Uitgegeven Naar een Handschrift der Vijftiende Eeuw* (Ghent: Annoot-Braeckman, 1872), <https://lib.ugent.be/catalog/rug01:001393558>, 5. (Translation by Christianne Muusers available at [www.coquinaria.nl/kooktekst/Edelikespijse1.htm#1.16](http://www.coquinaria.nl/kooktekst/Edelikespijse1.htm#1.16).)
- 20 Its name comes: Patricia Bunning Stevens, *Rare Bits: Unusual Origins of Popular Recipes* (Athens, OH: Ohio University Press, 1998), 254.
- 20 the word *humble* comes from: *Ibid.*, 256.
- 20 “When European colonists”: Sally Smith Booth, *Hung, Strung & Potted: A History of Eating in Colonial America* (New York: Potter, 1971), 1.
- 21 “starving times”: James Trager, *The Food Chronology: A Food Lover’s Compendium of Events and Anecdotes, from Prehistory to the Present* (New York: Henry Holt, 1995), 113.
- 21 “Though there be fish”: John Smith, *The Travels of Captaine John Smith*, vol. 1 (New York: Macmillan, 1907), 149.
- 21 “We attempted to catch”: *Ibid.*, 121–22.
- 22 people were eating better: Eden, *Cooking in America, 1590–1840*, xxv–xxvi.
- 22 “a little boye”: John Smith, *The Complete Works of Captain John Smith*, vol. 1, edited by Philip L. Barbour (Chapel Hill: University of North Carolina Press, 2011), 342–43.
- 22 “the least boy”: Francis Higginson, *New-Englands Plantation, with the Sea Journal and Other Writings* (Salem, MA: Essex Book and Print Club, 1908), 97.



- 22 Others describe lobsters: Waverly Root and Richard de Rochement, *Eating in America: A History* (New York: Ecco, 1981), 51.
- 22 most of Europe was living: John F. Mariani, *The Encyclopedia of American Food and Drink* (New York: Bloomsbury, 2013), 4.
- 22 “fat barbecu’d Venison”: John Lawson, *A New Voyage to Carolina* (London, 1709), 18.
- 23 a single cockle: Ibid., 157–61.
- 23 Others describe great migrations: Booth, *Hung, Strung & Potted*, 96–97.
- 23 “as big as a child’s”: John Josselyn, *New-Englands Rarities Discovered* (Boston: American Antiquarian Society, 1860), 143–44.
- 23 feeding eight hungry men: Lawson, *A New Voyage to Carolina*, 149.
- 23 “fat, sweet and fleshy”: Higginson, *New-Englands Plantation, with the Sea Journal and Other Writings*, 101.
- 23 “The Flesh of this Beast”: Lawson, *A New Voyage to Carolina*, 116.
- 24 “great sexual prowess”: Booth, *Hung, Strung & Potted*, 69.
- 24 Lawson describes drinking: Lawson, *A New Voyage to Carolina*, 116.
- 24 a writer in London: John L. Hess and Karen Hess, *The Taste of America* (New York: Viking, 1977), 28–29.
- 24 “Does he imagine”: Ibid.
- 25 others, such as figs: Booth, *Hung, Strung & Potted*, 155.
- 25 The first apple seeds arrived: Mariani, *The Encyclopedia of American Food and Drink*, 38.
- 25 a landowner in Virginia: Mark McWilliams, *The Story Behind the Dish: Classic American Foods* (Santa Barbara, CA: Greenwood, 2012), 1.
- 25 parts of Ohio: Kenneth F. Kiple, *A Movable Feast: Ten Millennia of Food Globalization* (Cambridge, UK: Cambridge University Press, 2007), 195.
- 25 providing much of the supply: Gregory McNamee, *Movable Feasts: The History, Science, and Lore of Food* (New York: Praeger, 2007), 15.
- 26 seventy varieties: McWilliams, *The Story Behind the Dish*, 1.
- 26 thirty-six of those varieties: Mariani, *The Encyclopedia of American Food and Drink*, 38.
- 26 some *seventeen thousand* new varieties: Andrew F. Smith, ed., *The Oxford Encyclopedia of Food and Drink in America*, vol. 1 (New York: Oxford University Press, 2004), 45.
- 26 a currency for barter: Ibid.
- 26 consuming a few hundred gallons: Booth, *Hung, Strung & Potted*, 155.
- 26 many fruits were sugared: Ibid., 158.
- 26 McDonald’s first dessert: “You Are Are the Apple to My Pie,” McDonald’s, July 4, 2016, <https://news.mcdonalds.com/stories/about-our-food-details/you-are-apple-my-pie>.
- 26 “The great beauty”: R. K. Munkittrick, “Munkittrick Camps Out,” *Los Angeles Herald*, September 18, 1891, 7.

- 27 one of the reasons: Bill Price, *Fifty Foods That Changed the Course of History* (New York: Firefly, 2014), 138.
- 27 “the pie is”: Quoted in McWilliams, *The Story Behind the Dish*, 2.
- 27 wheat was initially scarce: Andrew F. Smith, *Eating History: 30 Turning Points in the Making of American Cuisine* (New York: Columbia University Press, 2009), 1.
- 28 “a great American institution”: “The Deflation of Pie,” *The Nation*, November 22, 1922, 542.
- 28 “gems”: Andrew F. Smith, ed., *The Oxford Encyclopedia of Food and Drink in America*, vol. 1 (New York: Oxford University Press, 2004), 130.
- 28 pie was so ubiquitous: Charles Dudley Warner, *Back-log Studies and My Summer in a Garden* (London: Ward Lock and Tyler, 1872), 24.
- 28 “This country was founded”: “The Deflation of Pie.”
- 28 “wage war upon the vices”: “Founding Prospectus,” *The Nation*, March 23, 2015, [www.thenation.com/article/founding-prospectus](http://www.thenation.com/article/founding-prospectus).
- 28 “The present civil strife”: “A Dyspeptic Republic,” *The Lancet*, October 1, 1864, 388.
- 28 “the real social curse”: George Augustus Sala, *My Diary in America in the Midst of War*, vol. 1 (London: Tinsley Brothers, 1865), 238.
- 29 “the Great Pie Belt”: Quoted in “The Great Pie Belt,” *Cambridge Tribune*, November 23, 1895.
- 29 “An indiscreet and perhaps malevolent”: “The Pie Microbe,” *New York Times*, July 23, 1884.
- 30 “the food of the heroic”: “Pie,” *New York Times*, May 3, 1902.
- 30 “What’s the matter”: “The National Emblem” [from the *Milwaukee Sentinel*], *Sacramento Daily Record-Union*, July 13, 1889, 8.
- 31 the Reagan administration finally settled: Joint Resolution to Designate the Rose as the National Flower Emblem., Publ. L. No. 99–449, 100 Stat. 1128, 1986.
- 31 goldenrod and arbutus: Richard J. Hayden, “National Flowers,” *Bulletin of Popular Information, Arnold Arboretum, Harvard University* 6, no. 1 (1938): 4.
- 31 substantially taller than the British: Kiple, *A Movable Feast*, 197.
- 32 The majority of roses: Max Fisher, “There’s a 1 in 12 Chance Your V-Day Flowers Were Cut by Child Laborers,” *The Atlantic*, February 14, 2012.
- 32 having imported American apples: David Karp, “It’s Crunch Time for the Venerable Pippin,” *New York Times*, November 5, 2003, <https://www.nytimes.com/2003/11/05/dining/it-s-crunch-time-for-the-venerable-pippin.html>.
- 32 introduced the English: McNamee, *Movable Feasts*, 15.
- 32 “For my own part”: Benjamin Franklin, *The Life of Benjamin Franklin*, vol. 3, edited by John Bigelow (Philadelphia: Lippincott, 1875), 252–53.
- 33 “chicken of Turkey”: Dan Jurafsky, *The Language of Food: A Linguist Reads the Menu* (New York: Norton, 2014), 68.

- 33 “Do not suppose”: Henry Ward Beecher, *Eyes and Ears* (Boston: Ticknor and Fields, 1862), 254.
- 33 “Sown by chance”: Toussaint-Samat, *A History of Food*, 623.

### Chapter 3: Breakfast of Champions

- 35 “It tastes like all”: Sanitas Nut Food Company, *Sanitas Nut Preparations and Specialties* (Battle Creek, MI: Review and Herald Publishing Company, 1898).
- 35 “In this fast age”: Ellen G. White, *The Ministry of Healing* (Mountain View, CA: Pacific Press Publishing Association, 1909), 325.
- 36 a morning staple: “Nielsen Podcast Insights, A Marketer’s Guide to Podcasting, Q1 2018,” Nielsen Company, March 20, 2018.
- 36 One of the reasons: Michael Park, “How to Buy Food: The Psychology of the Supermarket,” *Bon Appétit*, October 30, 2014, [www.bonappetit.com/test-kitchen/how-to/article/supermarket-psychology](http://www.bonappetit.com/test-kitchen/how-to/article/supermarket-psychology).
- 36 Trix over Fruity Pebbles: Aviva Musicus, Aner Tal, and Brian Wansink, “Eyes in the Aisles: Why Is Cap’n Crunch Looking Down at My Child?” *Environment and Behavior* 47, no. 7 (2015): 715–33.
- 36 egg consumption has dropped: Judith Jones Putnam and Jane E. Allshouse, *Food Consumption, Prices, and Expenditures, 1970–97*, Statistical Bulletin no. 965, Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture, 1999, 18.
- 37 people tend to consume: Pleunie S. Hogenkamp et al., “Intake During Repeated Exposure to Low- and High-Energy-Dense Yogurts by Different Means of Consumption,” *The American Journal of Clinical Nutrition* 91, no. 4 (2010): 841–47.
- 37 “unit bias”: K. McCrickerd and C. G. Forde, “Sensory Influences on Food Intake Control: Moving Beyond Palatability,” *Obesity Reviews* 17, no. 1 (2016): 18–29.
- 37 “cheerleader effect”: Cindi May, “The Cheerleader Effect,” *Scientific American*, December 3, 2013, [www.scientificamerican.com/article/the-cheerleader-effect](http://www.scientificamerican.com/article/the-cheerleader-effect).
- 38 the Pavlovian response: Keri McCrickerd, Lucy Chambers, and Martin R. Yeomans, “Fluid or Fuel? The Context of Consuming a Beverage Is Important for Satiety,” *PLOS ONE* 9, no. 6 (2014): e100406.
- 38 was 34 percent sugar: “Children’s Cereals: Sugar by the Pound,” Environmental Working Group, May 2014, 7.
- 38 55 percent sugar by weight: *Ibid.*, 10.
- 38 updated the recipe: Natasha Blakely, “Honey Smacks will soon be back on the shelves after recall of Kellogg cereal,” *USA Today*, October 23, 2018.
- 38 36-gram serving size: “Kellogg’s. Honey Smacks. Cereal,” Kellogg’s Smart Label, May 5, 2020, <http://smartlabel.kelloggs.com/Product/Index/00038000391033>.

- 38 “depraved desire”: John Harvey Kellogg, *Plain Facts for Old and Young* (Burlington, VT: Segner and Condit, 1881), 112.
- 39 decades after his death: Andrew F. Smith, *Food and Drink in American History: A Full Course Encyclopedia*, vol. 1 (Santa Barbara, CA: ABC-CLIO, 2013), 409.
- 39 “the rude state of nature”: Sylvester Graham, *Lectures on the Science of Human Life* (New York: Fowler and Wells, 1869), 16.
- 39 “his body in the skins”: Ibid.
- 39 a messenger of God: Gerald Carson, *Cornflake Crusade* (New York: Rinehart, 1957).
- 39 provoked an armed riot: Ibid.
- 39 accusing butchers of selling: Graham, *Lectures on the Science of Human Life*, 195.
- 39 using spoiled flour: Sylvester Graham, *A Treatise on Bread, and Bread-Making* (Boston: Light and Stearns, 1837), 44–45.
- 39 in his 1820 book: Fredrick Accum, *A Treatise on Adulterations of Food, and Culinary Poisons* (London: Mallett, 1820), 131–46.
- 40 flavoring wine with oak sawdust: Ibid., 96.
- 40 adding molten lead: Ibid., 110.
- 40 boiling various types of leaves: Ibid., 240.
- 40 recycling used tea leaves: Reay Tannahill, *Food in History* (New York: Stein and Day, 1973), 344.
- 40 “sham-coffee”: Accum, *A Treatise on Adulterations of Food and Culinary Poisons*, 244.
- 40 powdered oyster shells: Ibid., 204.
- 40 fish skin or hartshorn shavings: Pamela Sambrook, *Country House Brewing in England, 1500–1900* (London: Hambledon Press, 1996), 105.
- 40 opium or nux vomica: Accum, *A Treatise on Adulterations of Food and Culinary Poisons*, 205.
- 40 also known as poison nut: “Nux vomica,” Science Direct, [www.science-direct.com/topics/medicine-and-dentistry/nux-vomica](http://www.science-direct.com/topics/medicine-and-dentistry/nux-vomica).
- 40 “The Industrial Revolution”: Unabomber, “Industrial Society and Its Future,” *Washington Post*, September 22, 1995, <https://www.washingtonpost.com/wp-srv/national/longterm/unabomber/manifeto.text.htm>.
- 41 Graham believed that: Graham, *Lectures on the Science of Human Life*, 252–53.
- 41 the evils of feather beds: Ibid., 626.
- 41 the horrors of masturbation: Sylvester Graham, *A Lecture to Young Men on Chastity*, 4th ed. (Boston: Light, 1838), 78–79.
- 41 Grahamites: Graham, *Lectures on the Science of Human Life*, 11.
- 41 “Sometimes this general”: Graham, *A Lecture to Young Men on Chastity*, 120–21.
- 42 “If he attempts”: Ibid., 122–23.

- 42 Graham's biggest impact: John F. Mariani, *The Encyclopedia of American Food and Drink* (New York: Bloomsbury, 1983), 232.
- 42 he believed white flour: Kenneth F. Kiple and Kriemhild Coneè Ornelas, eds., *The Cambridge World History of Food*, vol. 2 (Cambridge, UK: Cambridge University Press, 2000), 1489.
- 42 the bran and germ contain: "Whole Grains," The Nutrition Source, Harvard School of Public Health, [www.hsph.harvard.edu/nutritionsource/what-should-you-eat/whole-grains/](http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/whole-grains/).
- 43 Called granula: Marty Gitlin and Topher Ellis, *The Great American Cereal Book* (New York: Abrams, 2012), 12–14.
- 43 Born in 1852: Mariani, *The Encyclopedia of American Food and Drink*, 120.
- 43 saw little need: Howard Markel, *The Kelloggs: The Battling Brothers of Battle Creek* (New York: Penguin Random House, 2017), Apple Books ed.
- 43 spent most of his childhood: Smith, *Food and Drink in American History*, vol. 1, 496.
- 43 "anything that was fun": Markel, *The Kelloggs*.
- 43 He was also plagued: Ibid.
- 43 "cycle of bleeding": Ibid.
- 44 In 1876: Ibid.
- 44 a humble two-story farmhouse: Ibid.
- 44 the luxurious Battle Creek Sanitarium: Ibid.
- 44 vibrotherapy: John Harvey Kellogg, *The Battle Creek Sanitarium: History, Organization, Methods* (Battle Creek, MI: Battle Creek Sanitarium, 1913).
- 44 more than fifty types: Markel, *The Kelloggs*.
- 44 at least one of which: Kellogg, *The Battle Creek Sanitarium*, 81.
- 44 "walk and trot around": Ibid., 99.
- 44 chopping wood in a loincloth: Ibid., 23, 99, 103, 136.
- 44 "to combine with": Ibid., 5.
- 45 Guests could have: Ibid., 44.
- 45 take an aerobics class: Markel, *The Kelloggs*, 2017.
- 45 receive Kellogg's thoughts: Kellogg, *Plain Facts for Old and Young*.
- 46 he mansplains such topics: John Harvey Kellogg, *Ladies' Guide in Health and Disease: Girlhood, Maidenhood, Wifehood, Motherhood* (Battle Creek, MI: Modern Medicine Publishing Company, 1898), v–xviii.
- 46 he was a strong advocate: Markel, *The Kelloggs*.
- 46 a chemical used: "Material Safety Data Sheet, Klean-Strip Naked Gun Spray Gun Paint Remover," Klean-Strip, April 17, 2014.
- 46 "covering the organs": Kellogg, *Plain Facts for Old and Young*, 383–84.
- 46 Jack the Ripper: "Who Was Jack the Ripper?," *National Geographic*, October 29, 2008; Markel, *The Kelloggs*.
- 46 "school-girls are": Kellogg, *Plain Facts for Old and Young*, 88–89.

- 47 kept a separate bedroom: Markel, *The Kelloggs*.
- 47 “it is difficult”: Ibid.
- 47 Initially, the sanitarium’s offerings: Ibid.
- 47 made, ideally: E. E. Kellogg, *Science in the Kitchen* (Battle Creek, MI: Health Publishing Company, 1892), 289.
- 47 which he eventually renamed: Smith, *Food and Drink in American History*, 161.
- 47 complaints of broken teeth: Markel, *The Kelloggs*.
- 47 Among his lesser-known creations: Sanitas Nut Food Company, *Sanitas Nut Preparations and Specialties*.
- 47 Nuttolene: Sanitas Nut Food Company, *Sanitas Nut Preparations and Specialties*.
- 47 Granose: Gitlin and Ellis, *The Great American Cereal Book*, 14–18.
- 47 Kellogg poured his first bowl: Markel, *The Kelloggs*.
- 48 followed by dozens more: Gitlin and Ellis, *The Great American Cereal Book*.
- 48 who allegedly stole: Jonathan Black, *Making the American Body: The Remarkable Saga of the Men and Women Whose Feats, Feuds, and Passions Shaped Fitness History* (Lincoln, NE: University of Nebraska Press, 2013), 8.
- 48 “scientific health food”: Smith, *Food and Drink in American History*, vol. 1, 1351.
- 48 *Collier’s* magazine: Smith, *Food and Drink in American History*, vol. 1, 1351–54.
- 48 “It am suttently wunnerful”: *The Delineator: A Magazine for Woman* 69, no. 1 (January 1907): 151.
- 48 “So-Hi the Chinese Boy”: Gitlin and Ellis, *The Great American Cereal Book*, 163.
- 49 he ate oysters: Markel, *The Kelloggs*.
- 49 the chemical equivalent: John Harvey Kellogg, *The Health Question Box: Or, a Thousand and One Health Questions Answered* (Battle Creek, MI: Modern Medicine Publishing Company, 1920), 144.
- 49 little pay, little vacation time: Markel, *The Kelloggs*.
- 49 “as sweet as those”: George Howe Colt, *Brothers: On His Brothers and Brothers in History* (New York: Simon & Schuster, 2012), 162.
- 49 to begin manufacturing: Markel, *The Kelloggs*.
- 49 the industry’s first free prizes: Gitlin and Ellis, *The Great American Cereal Book*, 26.
- 49 endowed in 1979: Amy Trang, “Giving Back,” Northwestern University Kellogg School of Management, December 21, 2010, [www.kellogg.northwestern.edu/news\\_articles/2010/giving-back.aspx](http://www.kellogg.northwestern.edu/news_articles/2010/giving-back.aspx).
- 49 Will won the legal right: Markel, *The Kelloggs*.
- 49 now known for such creations: “Our Brands,” Kellogg’s, [www.kelloggs.com/en\\_US/ourfoods.html](http://www.kelloggs.com/en_US/ourfoods.html).

- 50 nearly 90 percent: Marion Nestle, *What to Eat* (New York: Farrar, Straus and Giroux, 2010), Apple Books ed.
- 50 General Mills, which started out: Andrew F. Smith, ed., *The Oxford Encyclopedia of Food and Drink in America*, vol. 1 (New York: Oxford University Press, 2004), 80.
- 50 magically delicious cereals: “Cereal,” General Mills, [www.generalmills.com/products/category/cereal](http://www.generalmills.com/products/category/cereal).
- 50 Quaker Oats, which began: Smith, *Food and Drink in American History*, vol. 1, 248.
- 50 is now owned by PepsiCo: “About Quaker,” Quaker Oats Company, <https://contact.pepsico.com/quaker/about-us>.
- 50 has gone on to make: “Products,” Quaker Oats Company, [www.capn-crunch.com](http://www.capn-crunch.com).
- 50 Post, founded in 1895: Smith, *Food and Drink in American History*, vol. 1, 162.
- 50 now responsible: “Explore Our Cereals,” Post Consumer Brands, <https://www.postconsumerbrands.com/explore-our-cereals/>.
- 51 “A short list of aphrodisiacs”: MacClancy, *Consuming Culture: Why You Eat What You Eat*, 77.
- 51 *olisbokollix*: Peter James and Nick Thorpe, *Ancient Inventions* (New York: Ballantine, 1994), 183.
- 51 baking loaves in the shape: MacClancy, *Consuming Culture*, 78–79.
- 52 “Those, therefore, who”: Plato, *The Republic*, translated by Desmond Lee (New York: Penguin Classics, 2003), 327.
- 52 “an acceptance and appreciation”: Beth Kempton, *Wabi Sabi: Japanese Wisdom for a Perfectly Imperfect Life* (New York: Harper Design, 2019), Kindle ed.
- 52 “Men who stuff themselves”: Jean Anthelme Brillat-Savarin, *The Physiology of Taste; or, Meditations on Transcendental Gastronomy*, translated by M.F.K. Fisher (New York: Knopf, 2009), Apple Books ed.
- 52 “To whom a little”: Quoted in William Wallace, *Epicureanism* (London, Society for Promoting Christian Knowledge, 1880), 48.
- 53 “I am thrilled”: Quoted in Cyril Bailey, *Epicurus: The Extant Remains* (Oxford: Clarendon Press, 1926), 131.
- 53 “We ought to be”: Quoted in Wallace, *Epicureanism*, 48–49.

#### Chapter 4: Children of the Corn

- 55 “And thus it is”: Arthur C. Parker, “Iroquois Uses of Maize and Other Food Plants,” *New York State Museum Bulletin* 144, no. 482 (1910): 15.
- 56 up until roughly: Kenneth F. Kiple and Kriemhild Coneè Ornelas, eds., *The Cambridge World History of Food*, vol. 1 (Cambridge, UK: Cambridge University Press, 2000), 100.
- 56 and neither was farming: Martin Elkort, *The Secret Life of Food: A Feast of Food and Drink History, Folklore, and Fact* (Los Angeles: Tarcher, 1991), 11.

- 56 foraging for things: Ken Albala, *Food: A Cultural Culinary History*, transcript book, The Great Courses, 2013, 20.
- 57 breed animals in dark: “Animals Used for Food,” PETA, [www.peta.org/issues/animals-used-for-food](http://www.peta.org/issues/animals-used-for-food).
- 57 generally led to a decline: Albala, *Food*, 19.
- 58 farming returned only about: *Ibid.*, 20.
- 58 Jack Rodney Harlan: Theodore Hymowitz, “Dedication: Jack R. Harlan Crop Evolutionist, Scholar,” in *Plant Breeding Reviews*, vol. 8, edited by Jules Janick (Portland, OR: Timber Press, 1990), 1–6.
- 58 “the equivalent of more”: *Ibid.*
- 58 “Instead of being”: Felipe Fernández-Armesto, *Food: A History* (New York: Macmillan, 2001), 93.
- 59 the first instances of farming: Albala, *Food*, 33–34.
- 59 “people were impelled”: B. W. Higman, *How Food Made History* (West Sussex, UK: Wiley-Blackwell, 2012), 9.
- 59 stockpiling them: Kristen J. Gremillion, *Ancestral Appetites: Food in Pre-history* (Cambridge, UK: Cambridge University Press, 2011), 45.
- 59 discovery of fermentation: Tom Standage, *A History of the World in Six Glasses* (New York: Bloomsbury, 2006), 14–15.
- 59 dug pits for food: Gremillion, *Ancestral Appetites*, 45.
- 60 rice in Asia: Gregory McNamee, *Movable Feasts: The History, Science, and Lore of Food* (New York: Praeger, 2007), 66.
- 60 *teosinte* bears almost no resemblance: Sherry A. Flint-Garcia, “Kernel Evolution: From Teosinte to Maize,” in *Maize Kernel Development*, edited by Brian A. Larkins (Oxfordshire, UK: CABI, 2017), 1–15.
- 60 five to twelve *hundred*: Sergio O. Serna-Saldivar, ed., *Corn: Chemistry and Technology*, 3rd ed. (Duxford, UK: Elsevier, 2018), 150.
- 60 one-tenth the weight: Flint-Garcia, “Kernel Evolution.”
- 60 there wasn’t a central cob: *Ibid.*
- 60 Baby corn: “The Selective Science of Baby Corn,” *All Things Considered*, NPR, April 8, 2006, [www.npr.org/templates/story/story.php?storyId=5332519](http://www.npr.org/templates/story/story.php?storyId=5332519).
- 60 the first farmers popped: Flint-Garcia, “Kernel Evolution.”
- 61 choosing only the seeds: Kiple and Ornelas, *The Cambridge World History of Food*, 101.
- 61 The French bulldog: Kat Eschner, “The Evolution of Petface,” *Smithsonian*, January 31, 2018, [www.smithsonianmag.com/science-nature/evolution-petface-180967987](http://www.smithsonianmag.com/science-nature/evolution-petface-180967987).
- 61 upward of 80 percent: Katy M. Evans and Vicki J. Adams, “Proportion of Litters of Purebred Dogs Born by Caesarean Section,” *Journal of Small Animal Practice* 51, no. 2 (2010): 113–18.
- 61 interference with natural selection: William Feeney, “Natural Selection in Black and White: How Industrial Pollution Changed Moths,” *The Con-*



versation, July 15, 2015; Helen Thompson, “Ten Species That Are Evolving Due to the Changing Climate,” *Smithsonian*, October 24, 2014; Beth Marie Mole, “Swallows May be Evolving to Dodge Traffic,” *Nature*, March 18, 2013; Cornelia Dean, “Research Ties Human Acts to Harmful Rates of Species Evolution,” *New York Times*, January 12, 2009; John W. Doudna and Brent J. Danielson, “Rapid Morphological Change in the Masticatory Structures of an Important Ecosystem Service Provider,” *PLOS ONE*, June 10, 2015.

- 62 the lack of a central cob: Flint-Garcia, “Kernel Evolution.”
- 62 would naturally separate and fall: Andrew F. Smith, ed., *The Oxford Encyclopedia of Food and Drink in America*, vol. 1 (New York: Oxford University Press, 2004), 341–44.
- 62 The Iroquois planted corn: Marcia Eames-Sheavly, *The Three Sisters: Exploring an Iroquois Garden* (Ithaca, NY: Cornell University Press, 1993), 3.
- 62 that would convert: Robert Flynn and John Idowu, “Nitrogen Fixation by Legumes,” Guide A-129, College of Agricultural, Consumer and Environmental Sciences, New Mexico State University, [https://aces.nmsu.edu/pubs/\\_a/A129](https://aces.nmsu.edu/pubs/_a/A129).
- 63 the squash would provide: Bill Price, *Fifty Foods That Changed the Course of History* (New York: Firefly, 2014), 51.
- 63 eating their own dogs: James Trager, *The Food Chronology: A Food Lover’s Compendium of Events and Anecdotes, from Prehistory to the Present* (New York: Henry Holt, 1995), 113.
- 63 350,000-square-mile belt: Smith, *The Oxford Encyclopedia of Food and Drink in America*, 341–44.
- 63 we now have to inject: Margaret Visser, *Much Depends on Dinner: The Extraordinary History and Mythology, Allure and Obsessions, Perils and Taboos of an Ordinary Meal* (New York: Grove Press, 1986), 28.
- 63 “chemicals of interest”: “Appendix A: Chemicals of Interest (COI) List,” The Chemical Facility Anti-Terrorism Standards (CFATS) Chemicals of Interest List, Cybersecurity and Infrastructure Security Agency, 2019.
- 63 a key ingredient: “Anhydrous Ammonia Thefts and Releases Associated with Illicit Methamphetamine Production—16 States, January 2000–June 2004,” *Morbidity and Mortality Weekly Report* 54, no. 14 (2005), 359–61.
- 63 spreading lab-created STDs: Katie Pratt, “UK Researchers One Step Closer to Corn Earworm Control,” University of Kentucky College of Agriculture, Food and Environment, March 26, 2016, <https://news.ca.uky.edu/article/uk-researchers-one-step-closer-corn-earworm-control>.
- 63 seeding croplands: Serna-Saldivar, *Corn*, 12.
- 63 93 million acres of cropland: Brooke Barton and Sarah Elizabeth Clark, “Water & Climate Risks Facing U.S. Corn Production: How Companies & Investors Can Cultivate Sustainability,” *Ceres*, 2014, 15.
- 63 spread across states: *Ibid.*, 8.
- 63 consuming more fertilizer: *Ibid.*, 45.

- 64 about 19 billion pounds: *Ibid.*, 9.
- 64 roughly 400,000 gallons of water: *Ibid.*, 34.
- 64 140 gallons of fuel: “Ethanol Fuel from Corn Faulted as ‘Unsustainable Subsidized Food Burning’ in Analysis by Cornell Scientist,” *Cornell Chronicle*, August 6, 2001, <https://news.cornell.edu/stories/2001/08/ethanol-corn-faulted-energy-waster-scientist-says>.
- 64 pollute the groundwater: Barton and Clark, “Water & Climate Risks Facing U.S. Corn Production,” 44.
- 64 primary source of calories: Serna-Saldivar, *Corn*, 436.
- 64 more than a third: *Ibid.*, 19.
- 64 49.1 pounds per person: “Corn Sweeteners: Per Capita Availability Adjusted for Loss.” “Loss-Adjusted Food Availability: Sugar and Sweeteners (Added),” US Department of Agriculture, January 5, 2021, <https://www.ers.usda.gov/data-products/food-availability-per-capita-data-system>.
- 64 cornstarch and corn flour: “A Tale of Two Corns,” National Corn Growers Association, January 2018.
- 65 which rely on corn: Serna-Saldivar, *Corn*, 447.
- 65 a lot of beers: *Ibid.*, 461.
- 65 nonfermented soy sauce: “Commercial Item Description, Soy Sauce,” U.S. Department of Agriculture, April 28, 2006.
- 65 anything that contains: “Corn Allergy,” American College of Allergy, Asthma and Immunology, March 8, 2019.
- 65 potential food allergens: Food Allergen Labeling and Consumer Protection Act of 2004, Pub. L. 108–282, Title II, 20 August 20, 2004, US Food and Drug Administration, [www.fda.gov/food/food-allergens-and-gluten-free-guidance-documents-and-regulatory-information/food-allergen-labeling-and-consumer-protection-act-2004-falcpa](http://www.fda.gov/food/food-allergens-and-gluten-free-guidance-documents-and-regulatory-information/food-allergen-labeling-and-consumer-protection-act-2004-falcpa).
- 65 consumes about three pounds: Visser, *Much Depends on Dinner*, 24.
- 65 the layer of food-grade wax: Sarah Zhang, “What Life Is Like When Corn Is off the Table,” *The Atlantic*, January 18, 2019, [www.theatlantic.com/science/archive/2019/01/what-its-like-be-allergic-corn/580594](http://www.theatlantic.com/science/archive/2019/01/what-its-like-be-allergic-corn/580594).
- 65 used to make them ripen quicker: *Ibid.*
- 65 corn-based dextrose: *Ibid.*
- 66 the coating that protected it: Martin Elkort, *The Secret Life of Food: A Feast of Food and Drink History, Folklore, and Fact* (Los Angeles: Tarcher, 1991), 146.
- 66 a slew of corn-based binders: Title 9, Animals and Animal Products, Chapter III, Food Safety and Inspection Service, Department of Agriculture, Subchapter E, Regulatory Requirements Under the Federal Meat Inspection Act and the Poultry Products Inspection Act, Part 424, Preparation and Processing Operations, Subpart C, Food Ingredients and Sources of Radiation.
- 66 when Taco Bell admitted: Eliza Barclay, “With Lawsuit Over, Taco Bell’s Mystery Meat Is a Mystery No Longer,” National Public Radio, April 19,

- 2011, [www.npr.org/sections/health-shots/2011/04/22/135539926/with-lawsuit-over-taco-bells-mystery-meat-is-a-mystery-no-longer](http://www.npr.org/sections/health-shots/2011/04/22/135539926/with-lawsuit-over-taco-bells-mystery-meat-is-a-mystery-no-longer).
- 66 consumers filed a lawsuit: Michael Duvall and Bety Javidzad, “‘Grass-Fed’ Case Dismissed: Reasonable Consumers Would Not Expect Cows to Be Fed ‘Only’ Grass,” *JDSUPRA*, April 2, 2019, [www.jdsupra.com/legalnews/grass-fed-case-dismissed-reasonable-76511](http://www.jdsupra.com/legalnews/grass-fed-case-dismissed-reasonable-76511).
- 66 only around 10 percent: Elkort, *The Secret Life of Food*, 147.
- 66 it’s also an industrial ingredient: “A Tale of Two Corns.”
- 66 in the paper: Visser, *Much Depends on Dinner*, 23–24.
- 66 another few billion bushels: Barton and Clark, “Water & Climate Risks Facing U.S. Corn Production,” 19.
- 66 roughly a third: *Ibid.*
- 66 The Energy Independence and Security Act: Energy Independence and Security Act of 2007, Alternative Fuels Data Center, US Department of Energy, December 19, 2007, <https://afdc.energy.gov/laws/eisa>.
- 67 Ethanol accounts for: “U.S. Bioenergy Statistics,” US Department of Agriculture Economic Research Service, [www.ers.usda.gov/data-products/us-bioenergy-statistics/us-bioenergy-statistics](http://www.ers.usda.gov/data-products/us-bioenergy-statistics/us-bioenergy-statistics).
- 67 about 98 percent: “Monthly Grain Use for Ethanol Production,” Renewable Fuels Association, <https://ethanolrfa.org/statistics/feedstock-use-co-product-output>.
- 67 approximately 10 percent: “How Much Ethanol Is in Gasoline, and How Does It Affect Fuel Economy?,” US Energy Information Administration, May 14, 2019.
- 67 1.1 billion metric tons: “World Agricultural Production (Table 04: Corn Area, Yield, and Production),” US Department of Agriculture, February 2019, 18.
- 67 a primary food source: Serna-Saldivar, *Corn*, 436.
- 67 20 billion feed animals: “Global Livestock Counts: Counting Chickens,” *The Economist*, July 27, 2011, [www.economist.com/graphic-detail/2011/07/27/counting-chickens](http://www.economist.com/graphic-detail/2011/07/27/counting-chickens).
- 67 more than \$2.5 billion: “Ranked Sectors: Agribusiness,” Open Secrets, [www.opensecrets.org/federal-lobbying/ranked-sectors](http://www.opensecrets.org/federal-lobbying/ranked-sectors).
- 67 \$5 billion in corn subsidies: “Corn Subsidies in the United States,” Environmental Working Group Farm Subsidy Database, <https://farm.ewg.org>.
- 67 publicly emptying cans: “New Coke,” *Encyclopaedia Britannica*, [www.britannica.com/topic/New-Coke](http://www.britannica.com/topic/New-Coke).
- 67 more than forty thousand complaints: David Treadwell, “New Formula Woes: Coke Furor May Be ‘the Real Thing,’” *Los Angeles Times*, June 27, 1985.
- 67 Society for the Preservation of the Real Thing: “The Story of One of the Most Memorable Marketing Blunders Ever,” Coca-Cola Company, [www.coca-colacompany.com/news/the-story-of-one-of-the-most-memorable-marketing-blunders-ever](http://www.coca-colacompany.com/news/the-story-of-one-of-the-most-memorable-marketing-blunders-ever).

- 68 up to 4,200 calls a day: Russel Sackett, “Thirsting for Days When the Fizz Was Familiar, Gay Mullins Crusades to Can the New Coke,” *People*, June 24, 1985, <https://people.com/archive/thirsting-for-days-when-the-fizz-was-familiar-gay-mullins-crusades-to-can-the-new-coke-vol-23-no-25>.
- 68 back to its original formula: James B. Cobb, “What We Can Learn from Coca-Cola’s Biggest Blunder,” *Los Angeles Times*, July 10, 2015, <https://time.com/3950205/new-coke-history-america>.
- 68 interrupted *General Hospital*: “Was the ‘New Coke’ Fiasco Just a Clever Marketing Ploy?,” Snopes, May 2, 1999, [www.snopes.com/fact-check/new-coke-fiasco](http://www.snopes.com/fact-check/new-coke-fiasco).
- 68 “decision of historical significance”: Jube Shiver, Jr., “‘Classic’ to Be Sold Along with Widely Resisted New Formula: Coca-Cola to Bring Back ‘the Real Thing,’” *Los Angeles Times*, July 11, 1985.
- 68 the company had been: Pamela G. Hollie, “Advertising; Coke Held Not to Be Real Thing,” *New York Times*, August 15, 1985, [www.nytimes.com/1985/08/15/business/advertising-coke-held-not-to-be-real-thing.html](http://www.nytimes.com/1985/08/15/business/advertising-coke-held-not-to-be-real-thing.html).
- 68 it’s deficient: Albala, *Food*, 293–94.
- 68 the human body can make: Tsutomu Fukuwatari and Katsumi Shibata, “Nutritional Aspect of Tryptophan Metabolism,” *International Journal of Tryptophan Research* 6 (suppl. 1) (2013): 3–8.
- 68 neither corn, beans, nor squash: Jane Mt. Pleasant, “Food Yields and Nutrient Analyses of the Three Sisters: A Haudenosaunee Cropping System,” *Ethnobiology Letters* 7, no. 1 (2016): 87–98.
- 68 nixtamalization: Simon Quellen Field, *Culinary Reactions: The Everyday Chemistry of Cooking* (Chicago: Chicago Review Press, 2012), 192.
- 68 from the Aztec *nextli*: Cynthia Clampitt, *Midwest Maize: How Corn Shaped the U.S. Heartland* (Champaign: University of Illinois Press, 2015), 7.
- 69 made corn kernels: Smith, *The Oxford Encyclopedia of Food and Drink in America*, vol. 1, 341–44.
- 69 released pectin: Paul Adams, “Transforming Corn,” *Cook’s Illustrated*, August 14, 2016, [www.cooksillustrated.com/science/789-articles/feature/transforming-corn](http://www.cooksillustrated.com/science/789-articles/feature/transforming-corn).
- 69 gave corn an earthier flavor: Ibid.
- 69 including much of: Kiple and Ornelas, *The Cambridge World History of Food*, vol. 1, 108.
- 69 so named in 1771: Trager, *The Food Chronology*, 160.
- 69 condition also causes: R.P.P.W.M. Maas and P.J.G.M. Voets, “The Vampire in Medical Perspective: Myth or Malady?,” *QJM: An International Journal of Medicine* 107, no. 11 (2014): 945–46.
- 69 within a year of each other: Jeffrey S. Hampl and William S. Hampl III, “Pellagra and the Origin of a Myth: Evidence from European Literature and Folklore,” *Journal of the Royal Society of Medicine* 90, no. 11 (1997): 636–39.
- 69 “Just as vampires”: Ibid.

- 70 known as Casal's necklace: D. Segula et al., "Case Report—A Forgotten Dermatological Disease," *Malawi Medical Journal* 24, no. 1 (2012): 19–20.
- 70 the general vicinity of Transylvania: Katharina M. Wilson, "The History of the Word 'Vampire,'" *Journal of the History of Ideas* 46, no. 4 (1985): 577–83.
- 70 researchers also discovered: Mathilde L. Tissier et al., "Diets Derived from Maize Monoculture Cause Maternal Infanticides in the Endangered European Hamster Due to a Vitamin B3 Deficiency," *Proceedings of the Royal Society B: Biological Sciences* 284, no. 1847 (2017): 20162168.
- 70 developed black tongues: Jason Daley, "Diet Deficiency Can Lead to Cannibal Hamsters," *Smithsonian*, February 2, 2017, [www.smithsonianmag.com/smart-news/corn-diet-turns-french-hamsters-cannibals-180961987](http://www.smithsonianmag.com/smart-news/corn-diet-turns-french-hamsters-cannibals-180961987).
- 71 it took scientists: Brian A. Larkins, ed., *Maize Kernel Development* (Oxfordshire: CABI, 2017), viii.
- 71 Joseph Goldberger: Daniel Akst, "The Forgotten Plague," *American Heritage* 51, no. 8 (2000), [www.americanheritage.com/forgotten-plague](http://www.americanheritage.com/forgotten-plague).
- 71 sewage systems: Giulio Alessandrini and Alberto Sala, *Pellagra*, translated by E. M. Perdue (Kansas City: Burton, 1916), 318.
- 71 attempted to treat it: Akst, "The Forgotten Plague."
- 71 Goldberger had injected himself: Ibid.
- 71 "Meanwhile—a slow": *Real Life Comics*, Nedor Publishing Company, no. 12, July 1943.

## Chapter 5: Honey Laundering

- 73 "Instead of dirt": Jonathan Swift, *Oxford Essential Quotations*, 6th ed. (New York: Oxford University Press, 2018).
- 73 "Haceos miel": W. Gurney Benham, *Cassell's Book of Quotations, Proverbs and Household Words* (London: Cassell, 1914), 738.
- 73 "He that would eat": Jennifer Speake, ed., *Oxford Dictionary of Proverbs*, 6th ed. (Oxford: Oxford University Press, 2015), 89.
- 73 "The honey is sweet": Benjamin Franklin, *Poor Richard's Almanack* (Waterloo: U.S.C. Publishing, 1914), 48.
- 74 exorcise evil spirits: Hilda M. Ransome, *The Sacred Bee in Ancient Times and Folklore* (New York: Dover, 2004), 36.
- 74 poured it onto walls: Bodog F. Beck, *Honey and Health* (New York: McBride, 1938), 201.
- 74 early Christians used it: Bee Wilson, *The Hive: The Story of the Honeybee and Us* (New York: Macmillan, 2014), Apple Books ed.
- 74 medieval Jews smeared it: Ivan G. Marcus, *Rituals of Childhood: Jewish Acculturation in Medieval Europe* (New Haven, CT: Yale University Press, 1996).
- 74 Chinese placed it: Beck, *Honey and Health*, 228.

- 74 in traditional Hindi weddings: Ibid., 224–25.
- 74 Hitler gave honey: Judith Sumner, *Plants Go to War: A Botanical History of World War II* (Jefferson, NC: McFarland, 2019), 127.
- 75 in ancient Germany: Beck, *Honey and Health*, 223.
- 75 honey can crystallize: “Honey Crystallization,” Honey Hotline Fact Sheet, National Honey Board Food Technology, Product Research Program; “Composition of American honeys,” Technical Bulletin no. 1261, US Department of Agriculture, Agricultural Research Service, April 1962, 3, 11.
- 75 “is no sooner full”: Ernest Weekley, *Words Ancient and Modern* (London: John Murray, 1965), 53.
- 75 “Honie-moone”: Ibid.
- 75 “Hony-moon”: Ibid.
- 76 *Il mele catta*: “Honey,” *OED Online*, Oxford University Press, December 2020, [www.oed.com/view/Entry/88159](http://www.oed.com/view/Entry/88159).
- 76 the practice goes back: Maggy Saldais, Tony Taylor, and Carmel Young, *Oxford Big Ideas History 7 Australian Curriculum* (South Melbourne: Oxford University Press, 2011), 128.
- 76 science of attracting: Personal interview with Sean O’Donnell, October 7, 2019.
- 76 Goldilocks concentrations: Hany K. M. Dweck et al., “The Olfactory Logic Behind Fruit Odor Preferences in Larval and Adult *Drosophila*,” *Cell Reports* 23, no. 8 (2018): 2524–31.
- 77 possibly on the season: Rik Clymans et al., “Olfactory Preference of *Drosophila suzukii* Shifts Between Fruit and Fermentation Cues over the Season: Effects of Physiological Status,” *Insects* 10, no. 7 (2019): 200.
- 77 the thirst and stress levels: Wolf Huetteroth and Scott Waddell, “Hungry Flies Tune to Vinegar,” *Cell* 145, no. 1 (2011): 17–18.
- 77 you’re probably best served: A. W. Morrill, “Experiments with House-Fly Baits and Poisons,” *Journal of Economic Entomology* 7, no. 3 (1914): 268–74.
- 77 erythritol: Brooks Hays, “Popular Artificial Sweetener Also Works as Pesticide and Insect Birth Control,” UPI, May 23, 2017.
- 77 beer outperformed: Morrill, “Experiments with House-Fly Baits and Poisons.”
- 77 “the crack cocaine”: Quoted in Erika Engelhaupt, “Flies Could Falsely Place Someone at a Crime Scene,” *National Geographic*, February 22, 2016, [www.nationalgeographic.com/science/phenomena/2016/02/22/flies-could-falsely-place-someone-at-a-crime-scene](http://www.nationalgeographic.com/science/phenomena/2016/02/22/flies-could-falsely-place-someone-at-a-crime-scene).
- 77 “white man’s flies”: Gilbert Waldbauer, *Fireflies, Honey, and Silk* (Berkeley: University of California Press, 2009), 140.
- 77 indigenous cultures were cutting: Harold McGee, *On Food and Cooking: The Science and Lore of the Kitchen* (New York: Scribner, 2004), 668.
- 77 people in the Middle East: Alan Davidson and Tom Jaime, *The Oxford Companion to Food*, 3rd ed. (New York: Oxford University Press, 2014), 787.

- 77 Romans were boiling: Darra Goldstein, *The Oxford Companion to Sugar and Sweets* (New York: Oxford University Press, 2015), 397.
- 78 today's legal limit: "Bottled Water Everywhere: Keeping It Safe," US Food and Drug Administration, April 1, 2019, [www.fda.gov/consumers/consumer-updates/bottled-water-everywhere-keeping-it-safe](http://www.fda.gov/consumers/consumer-updates/bottled-water-everywhere-keeping-it-safe).
- 78 lead intoxication: Milton A. Lessler, "Lead and Lead Poisoning from Antiquity to Modern Times," *The Ohio Journal of Science* 88, no. 3 (1988): 78–84; "Lead Toxicity: What Are Possible Health Effects from Lead Exposure?," Agency for Toxic Substances & Disease Registry, June 12, 2017.
- 78 Salem witch trials: Linnda R. Caporael, "Ergotism: The Satan Loosed in Salem?," *Science* 192, no. 4234 (1976): 21–26.
- 78 precursor of LSD: Dieter Hagenbach and Lucius Werthmüller, "Turn On, Tune In, Drop Out—and Accidentally Discover LSD," *Scientific American*, May 17, 2013, [www.scientificamerican.com/article/lsd-finds-its-discoverer](http://www.scientificamerican.com/article/lsd-finds-its-discoverer).
- 79 "Honey was so extraordinary": Wilson, *The Hive*.
- 79 "honey falls from the air": Aristotle, *Aristotle's History of Animals in Ten Books*, translated by Richard Cresswell (London: George Bell and Sons, 1887), 129.
- 79 "mostly at the rising": Quoted in Tickner Edwardes, *The Lore of the Honey-Bee* (New York: Dutton, 1911), 9.
- 79 enslaved insects: Christopher Lloyd, *What on Earth Evolved? . . . In Brief: 100 Species That Have Changed the World* (London: Bloomsbury, 2011).
- 80 bees merely transferred: Dovid Heber, "Do Bee Don't Bee: A Halachic Guide to Honey and Bee Derivatives," STAR-K Kosher Certification, Fall 2010, <http://www.star-k.org/articles/kashrus-kurrents/624/do-bee-dont-bee>.
- 80 scholars decided these: "Keeping Kosher: When Jewish Law Met Processed Food," *Gastropod*, July 25, 2016, <https://gastropod.com/keeping-kosher-jewish-law-met-processed-food-transcript>.
- 80 More than half: Martin Elkort, *The Secret Life of Food: A Feast of Food and Drink History, Folklore, and Fact* (Los Angeles: Tarcher, 1991), 197.
- 80 the FDA approved: "K053095-Derma Sciences API-MED Active Manuka Honey Absorbent Dressing," US Food and Drug Administration, July 12, 2007.
- 80 there's further evidence: James Austin Stewart, Owen Lane McGrane, and Ian S. Wedmore, "Wound Care in the Wilderness: Is There Evidence for Honey?," *Wilderness & Environmental Medicine* 25, no. 1 (2014): 103–10.
- 80 A 2004 study: *Ibid*.
- 80 outperforms leading cough medicines: *Ibid*.
- 80 kills antibiotic-resistant bacteria: Paulus H. S. Kwakman et al., "Medical-Grade Honey Kills Antibiotic-Resistant Bacteria In Vitro and Eradicates Skin Colonization," *Clinical Infectious Diseases* 46, no. 11 (2008): 1677–82.

- 81 honey is naturally acidic: Natasha Geiling, “The Science Behind Honey’s Eternal Shelf Life,” *Smithsonian*, August 22, 2013, [www.smithsonianmag.com/science-nature/the-science-behind-honeys-eternal-shelf-life-1218690](http://www.smithsonianmag.com/science-nature/the-science-behind-honeys-eternal-shelf-life-1218690).
- 81 This is why: Mickey Parish, “How Do Salt and Sugar Prevent Microbial Spoilage?,” *Scientific American*, February 21, 2006, [www.scientificamerican.com/article/how-do-salt-and-sugar-pre](http://www.scientificamerican.com/article/how-do-salt-and-sugar-pre).
- 81 Honey also contains: Geiling, “The Science Behind Honey’s Eternal Shelf Life.”
- 81 primarily as a medical-grade: Cyril P. Bryan, trans., *Ancient Egyptian Medicine: The Papyrus Ebers* (Chicago: Ares, 1930), 23, 32, 73, 155.
- 81 penis water: *Ibid.*, 18.
- 81 treating burns with crushed cake: Bryan, *Ancient Egyptian Medicine*, 33, 69, 102, 112.
- 81 no one else: Lucy M. Long, *Honey: A Global History* (London: Reaktion, 2017), 105–06.
- 81 Botulism spores thrive: “Botulism,” World Health Organization, January 10, 2018, [www.who.int/news-room/fact-sheets/detail/botulism](http://www.who.int/news-room/fact-sheets/detail/botulism).
- 82 There’s an old story: Wilson, *The Hive*.
- 82 used honey as embalming fluid: *Ibid.*
- 82 Bronze Age burial sites: Paul Salopek, “Honey, I’m Dead,” *National Geographic*, May 13, 2015, [www.nationalgeographic.org/projects/out-of-eden-walk/articles/2015-05-honey-im-dead](http://www.nationalgeographic.org/projects/out-of-eden-walk/articles/2015-05-honey-im-dead).
- 82 leaking out of coffins: Eva Crane, *The World History of Beekeeping and Honey Hunting* (New York: Routledge, 1999), 510.
- 82 but also into gall: Walter K. Kelly, trans., *The Poems of Catullus and Tibullus, and The Vigil of Venus* (London: George Bell and Sons, 1887), 82.
- 82 tameless and deceitful brat: Beck, *Honey and Health*, 212.
- 82 his habit of ruining marriages: Lucius Apuleius, *The Very Pleasant and Destructable Tale of Cupid and Psyche*, translated by Walter Pater (San Francisco: Taylor, Nash and Taylor), 1914.
- 83 “As Cupid was stealing”: *Venus with Cupid the Honey Thief*, Metropolitan Museum of Art, [www.metmuseum.org/art/collection/search/459077](http://www.metmuseum.org/art/collection/search/459077).
- 83 The inscription is based: “Theocritus,” *Encyclopaedia Britannica*, [www.britannica.com/biography/Theocritus](http://www.britannica.com/biography/Theocritus).
- 83 tells the story: *Venus with Cupid the Honey Thief*.
- 83 beehives were used: Jeffrey A. Lockwood, *Six-Legged Soldiers: Using Insects as Weapons of War* (New York: Oxford University Press, 2009), 10.
- 83 Cavemen covered them: *Ibid.*, 11.
- 83 Roman armies loaded them: *Ibid.*, 24.
- 83 medieval Englishmen tossed them: *Ibid.*, 22–23.
- 83 Mayans lobbed bee grenades: *Ibid.*, 17.
- 83 ships’ crews waged war: *Ibid.*, 24.



- 83 from the Greek *bombos*: Ibid.
- 83 Ancient Persians and Native Americans: Ibid., 36–37.
- 84 “mad honeycomb”: Abdulkadir Gunduz, Suleyman Turedi, and Hikmet Oksuz, “The Honey, the Poison, the Weapon,” *Wilderness and Environmental Medicine* 22, no. 2 (2011): 182–84.
- 84 rigging jungle beehives: Lockwood, *Six-Legged Soldiers*, 231.
- 84 worth about \$166 per pound: Vaughn Bryant, “Truth in Labeling: Testing Honey,” *Bee Culture*, August 2014, 29.
- 84 prior to sacrifice: Long, *Honey*, 108; Raymond Constant Kerkhove, “Explaining Aztec Human Sacrifice” (master’s thesis, University of Queensland, 1994).
- 84 “the land of milk and honey”: Cyrus H. Gordon and Gary A. Rendsburg, *The Bible and the Ancient Near East*, 4th ed. (New York: Norton, 1997), 168.
- 84 the Buddha ate honeycomb: Long, *Honey*, 59.
- 84 the Norse god Odin: Beck, *Honey and Health*, 218.
- 85 “Wherever Christianity spread”: Wilson, *The Hive*.
- 85 a churchly symbol: Ibid.
- 85 held by a single queen: Ibid.
- 85 “used by brothel-keepers”: Wilson, *The Hive*.
- 85 both a lubricant: Jeremy MacClancy, *Consuming Culture: Why You Eat What You Eat* (New York: Holt, 1992), 80.
- 85 “There would be”: Stephanie Strom, “A Bee Mogul Confronts the Crisis in His Field,” *New York Times*, February 16, 2017, [www.nytimes.com/2017/02/16/business/a-bee-mogul-confronts-the-crisis-in-his-field.html](http://www.nytimes.com/2017/02/16/business/a-bee-mogul-confronts-the-crisis-in-his-field.html).
- 85 nearly three-quarters: Ibid.
- 85 California almonds alone depend: “Fact Sheet: The Economic Challenge Posed by Declining Pollinator Populations,” The White House, June 20, 2014.
- 85 1.26 million acres: “2020 California Almond Objective Measurement Report,” US Department of Agriculture National Agricultural Statistics Service, July 7, 2020.
- 86 farmers rent commercial hives: Heather Smith, “Bee Not Afraid: The Disappearance of the Honeybees Isn’t the End of the World,” *Slate*, July 13, 2007, <https://slate.com/technology/2007/07/why-the-disappearance-of-the-honeybees-isn-t-the-end-of-the-world.html>.
- 86 nearly eighteen hundred varieties: Frank C. Pellett, *American Honey Plants* (Hamilton, IL: *American Bee Journal*, 1920).
- 86 they’re attracted to: Ibid.
- 86 Bees living near tourist attractions: Elkort, *The Secret Life of Food*, 198.
- 86 beekeepers in New York: Ian Frazier, “The Maraschino Mogul,” *The New Yorker*, April 16, 2018, [www.newyorker.com/magazine/2018/04/23/the-maraschino-moguls-secret-life](http://www.newyorker.com/magazine/2018/04/23/the-maraschino-moguls-secret-life).

- 86 In 1969, a graduate student: Meredith Elizabeth Hoag Lieux, “A Palynological Investigation of Louisiana Honey” (PhD dissertation, Louisiana State University and Agricultural and Mechanical College, 1969).
- 86 nearly 80 percent contained: *Ibid.*, 74.
- 86 “seemed reluctant to admit”: *Ibid.*
- 86 Some artisan beekeepers: Old Blue Raw Honey, [www.oldbluenaturalresources.com](http://www.oldbluenaturalresources.com).
- 87 helped the CIA search: Molly Kulpa, “The Buzz on Pollen: A Q&A with Dr. Vaughn Bryant, One of the World’s Prominent Palynologists,” *Spirit Magazine*, Texas A&M Foundation, Fall 2017, [www.txamfoundation.com/Fall-2017/Ask-Professor-X.aspx](http://www.txamfoundation.com/Fall-2017/Ask-Professor-X.aspx).
- 87 spent more than forty years: Vaughn Bryant, “Caveat Emptor: Let the Buyer Beward,” *Bee Culture*, April 24, 2017.
- 87 “consumers rarely get”: Vaughn Bryant, “Truth in Labeling: Testing Honey,” *Bee Culture*, August 2014, 29–32.
- 87 “Beekeepers and honey producers”: *Ibid.*
- 87 “The federal laws”: Bryant, “Caveat Emptor.”
- 87 the current methods: Bryant, “Truth in Labeling.”
- 87 Ever since the United States: Ben Schott, “Honey Laundering,” *New York Times*, June 16, 2010, <https://schott.blogs.nytimes.com/2010/06/16/honey-laundering>.
- 88 loose federal regulations: Bryant, “Truth in Labeling.”
- 88 remove unwanted materials: Bryant, “Caveat Emptor.”
- 88 the United States gets: Personal interview with Jill Clark, October 11, 2019.
- 88 almost 100 million pounds: Bryant, “Caveat Emptor.”
- 88 heavy metals such as lead: Andrew Schneider, “Asian Honey, Banned in Europe, Is Flooding U.S. Grocery Shelves,” *Food Safety News*, August 15, 2011, [www.foodsafetynews.com/2011/08/honey-laundering](http://www.foodsafetynews.com/2011/08/honey-laundering).
- 88 potentially dangerous chemicals: Long, *Honey*, 135.
- 88 often contains traces: Schneider, “Asian Honey, Banned in Europe, Is Flooding U.S. Grocery Shelves.”
- 88 In 2011, inspectors found: *Ibid.*
- 88 some manufacturers take forgery: *Ibid.*
- 88 About 30 percent: Personal interview with Clark, October 11, 2019.
- 89 Some states: Bryant, “Caveat Emptor.”

## Chapter 6: The Vanilla of Society

- 91 “I’ve spent my life”: “Howard Johnson, 75, Founder of the Restaurant Chain, Dead,” *New York Times*, June 21, 1972, [www.nytimes.com/1972/06/21/archives/howard-johnson-75-founder-of-the-restaurant-chain-dead-bought.html](http://www.nytimes.com/1972/06/21/archives/howard-johnson-75-founder-of-the-restaurant-chain-dead-bought.html).
- 92 who call their lovers: Michael Oates and Larbi Oukada, *Entre Amis*, 6th ed. (Boston: Cengage Learning, 2012), 283.

- 92 in which case *mon chou*: Barbara Ensrud, *The Pocket Guide to Wine and Cheese* (Dorset, UK: New Orchard Editions, 1981), 90.
- 92 etymology of *mon chou*: Oates and Oukada, *Entre Amis*, 238; Evelyne Bloch-Dano, *Vegetables: A Biography*, translated by Teresa Lavender Fagan (Chicago: University of Chicago Press, 2012), 51.
- 92 *la femme fraise*: Mary A. Knighton, “Down the Rabbit Hole: In Pursuit of Shōjo Alices, from Lewis Carroll to Kanai Mieko,” *U.S.-Japan Women’s Journal*, no. 40 (2011): 49–89.
- 92 *c’est la saison*: “Top Euphemisms for ‘Period’ by Language,” Clue, March 10, 2016, <https://helloclue.com/articles/culture/top-euphemisms-for-period-by-language>.
- 92 taken as a compliment: “Vanille,” *OED Online*, Oxford University Press, December 2020, [www.oed.com/view/Entry/221378](http://www.oed.com/view/Entry/221378).
- 92 “Ah, you flavour”: Lady Holland, *A Memoir of the Reverend Sydney Smith*, vol. 1 (London: Longman, Brown, Green, and Longmans, 1855), 262.
- 93 “I love you”: “Cap o’ Rushes,” Jacqueline Simpson and Steve Roud, *A Dictionary of English Folklore* (Oxford: Oxford University Press, 2003).
- 93 the stereotype of sailors: “Salty,” *OED Online*, Oxford University Press, December 2020, [www.oed.com/view/Entry/170227](http://www.oed.com/view/Entry/170227).
- 93 because LGBTQ populations: “Vanilla,” *OED Online*, Oxford University Press, December 2020, [www.oed.com/view/Entry/221377](http://www.oed.com/view/Entry/221377).
- 93 world’s most popular: Anne Cooper Funderburg, *Chocolate, Strawberry, and Vanilla: A History of American Ice Cream* (Bowling Green, OH: Bowling Green State University Press, 1995), 59.
- 93 second most expensive: Harold McGee, *On Food and Cooking: The Science and Lore of the Kitchen* (New York: Scribner, 2004), 430.
- 93 a kilo of which: “Mystery Solved: Biologists Explain the Genetic Origins of the Saffron Crocus,” *Science Daily*, March 11, 2019.
- 94 vanilla is the only: Patricia Rain, *Vanilla: The Cultural History of the World’s Most Popular Flavor and Fragrance* (New York: Penguin, 2004), 5.
- 94 more than 25,000 species: *Ibid.*, 2.
- 94 It can take years: *Ibid.*, 10.
- 94 which grow only: *Ibid.*
- 94 bloom only for a few hours: *Ibid.*, 6.
- 94 their hermaphroditic sex parts: *Ibid.*
- 94 only one or two species: *Ibid.*
- 94 the melipona and euglossine bees: *Ibid.*
- 94 a 1 percent chance: Daphna Havkin-Frenkel and Faith C. Belanger, eds., *Handbook of Vanilla Science and Technology*, 2nd ed. (Hoboken: John Wiley and Sons, 2019), 15.
- 94 Nahuatl *ahuacatl*: Anju Saxena, ed., *Himalayan Languages Past and Present* (Berlin: De Gruyter, 2004), 364.

- 94 a Spanish diminutive: Tim Ecott, *Vanilla: Travels in Search of the Ice Cream Orchid* (New York: Grove Press, 2004), 23.
- 94 Greek *órxis*: Anju Saxena, ed., *Himalayan Languages Past and Present*.
- 95 It wasn't until 1841: Richard Bulliet et al., *The Earth and Its Peoples: A Global History*, 6th ed., vol. 2 (Stamford: Cengage Learning, 2015), 680.
- 95 a title now held: Javier De La Cruz Medina et al., "Vanilla: Post-harvest Operations," Food and Agriculture Organization of the United Nations, June 16, 2009, 3.
- 95 Because its flowers: Rain, *Vanilla*, 7.
- 95 another six to nine months: Ibid., 8.
- 95 they need to be cured: Ibid., 9.
- 95 six hundred dollars per kilo: Richard Gray, "Nine Surprising Things Worth More than This Shimmering Metal," BBC, May 31, 2018, [www.bbc.com/worklife/article/20180530-nine-surprising-things-worth-more-than-this-shimmering-metal](http://www.bbc.com/worklife/article/20180530-nine-surprising-things-worth-more-than-this-shimmering-metal).
- 95 six hundred blossoms: Melody M. Bomgardner, "The Problem with Vanilla," *Scientific American*, September 14, 2016, [www.scientificamerican.com/article/the-problem-with-vanilla](http://www.scientificamerican.com/article/the-problem-with-vanilla).
- 95 contain only about about 2 percent: Ibid.
- 96 a few kilos of vanilla beans: Nancy Kacungira, "Fighting the Vanilla Thieves of Madagascar," BBC, August 16, 2018, [www.bbc.co.uk/news/resources/idt-sh/madagascar\\_vanilla](http://www.bbc.co.uk/news/resources/idt-sh/madagascar_vanilla).
- 96 Some farmers harvest: Lovasoa Rabary and Hereward Holland, "Madagascar Vanilla Crop Quality Suffers as Thieves Spark Violence," Reuters, July 18, 2019.
- 96 more prone to disease: De La Cruz Medina, et al., "Vanilla: Post-harvest Operations."
- 96 seek vigilante justice: Finbarr O'Reilly, "Precious as Silver, Vanilla Brings Cash and Crime to Madagascar," *New York Times*, September 4, 2018, [www.nytimes.com/interactive/2018/08/30/world/africa/madagascar-vanilla.html](http://www.nytimes.com/interactive/2018/08/30/world/africa/madagascar-vanilla.html).
- 96 "tattoo" their beans: Ecott, *Vanilla*, 36.
- 96 up to 99 percent: Bomgardner, "The Problem with Vanilla."
- 96 derived from things: Iain Fraser, "Choosy Consumers Drive a Near 1,000% Spike in Vanilla Prices," *The Conversation*, February 27, 2017, <https://theconversation.com/choosy-consumers-drive-a-near-1-000-spike-in-vanilla-prices-72780>.
- 96 chloroform: Simon Cotton, "Vanillin," Royal Society of Chemistry, February 29, 2008.
- 96 castoreum: C. Rose Kennedy, "The Flavor Rundown: Natural vs. Artificial Flavors," *Science in the News*, Harvard University, September 21, 2015, <http://sitn.hms.harvard.edu/flash/2015/the-flavor-rundown-natural-vs-artificial-flavors>.
- 96 In 2006, a Japanese scientist: Cotton, "Vanillin."

- 96 the FDA's definition: Kennedy, "The Flavor Rundown: Natural vs. Artificial Flavors."
- 96 applies only to visible contamination: Kimberly Kindy, "Consumers Are Buying Contaminated Meat, Doctors' Group Says in Lawsuit," *Washington Post*, April 17, 2019.
- 96 a 2015 study: Andrea Rock, "How Safe Is Your Ground Beef?," *Consumer Reports*, December 21, 2015, [www.consumerreports.org/cro/food/how-safe-is-your-ground-beef.htm](http://www.consumerreports.org/cro/food/how-safe-is-your-ground-beef.htm).
- 96 acceptable limits: "Food Defect Levels Handbook," US Food and Drug Administration, September 7, 2018.
- 97 odds are: "CFR—Code of Federal Regulations, Title 21," US Food and Drug Administration, April 1, 2019.
- 98 mix with wine or honey: Martin Elkort, *The Secret Life of Food: A Feast of Food and Drink History, Folklore, and Fact* (Los Angeles: Tarcher, 1991), 101–02; Maguelonne Toussaint-Samat, *A History of Food*, translated by Anthea Bell (Cambridge: Blackwell, 1992), 749.
- 98 comes from the Arabic *sharba*: "Sherbet," *OED Online*, Oxford University Press, December 2020, [www.oed.com/view/Entry/177992](http://www.oed.com/view/Entry/177992).
- 98 *sharbat*, a drink made: "Hot Enough for You? Cool Off with a Brief History of Frozen Treats," National Public Radio, August 17, 2016, [www.npr.org/sections/thesalt/2016/08/17/490386948/hot-enough-for-you-cool-off-with-a-brief-history-of-frozen-treats](http://www.npr.org/sections/thesalt/2016/08/17/490386948/hot-enough-for-you-cool-off-with-a-brief-history-of-frozen-treats).
- 98 The Chinese made sherbet: Mary Ellen Snodgrass, *World Food: An Encyclopedia of History, Culture and Social Influence from Hunter Gatherers to the Age of Globalization* (Armonk, NY: Sharpe Reference, 2013).
- 98 the Mongols made ice cream: *Ibid.*
- 98 underground pits insulated: Margaret Visser, *Much Depends on Dinner: The Extraordinary History and Mythology, Allure and Obsessions, Perils and Taboos of an Ordinary Meal* (New York: Grove Press, 1986), 289.
- 98 "the Viennese are afraid": Ludwig van Beethoven, *Beethoven's Letters: A Critical Edition with Explanatory Notes by Dr. A. C. Kalischer*, translated with preface by J. S. Shedlock, vol. 1 (London: Dent, 1909), 10.
- 98 "P.S. The house I filled": George Washington, *The Papers of George Washington*, edited by W. W. Abbot, vol. 1, 1784–July 1784, University Press of Virginia, 1992, 420–21.
- 99 "there was not": George Washington, *The Diaries of George Washington*, edited by Donald Jackson and Dorothy Twohig, vol. 4, 1784–June 1786, University Press of Virginia, 1978, 148–49.
- 99 later spending: John F. Mariani, *The Encyclopedia of American Food and Drink* (New York: Bloomsbury, 2013), 264.
- 99 Francis Bacon: Visser, *Much Depends on Dinner*, 293–94.
- 99 "stale and rancid": Edgar Stanton Maclay, "The Social Side of Washington's Administration," *Daughters of the American Revolution Magazine* 52, no. 1 (1918): 209.

- 99 “Refined sugar was sold”: Funderburg, *Chocolate, Strawberry, and Vanilla*, 4.
- 99 Thomas Jefferson’s recipe: “Ice Cream,” Thomas Jefferson’s Monticello, [www.monticello.org/site/research-and-collections/ice-cream](http://www.monticello.org/site/research-and-collections/ice-cream).
- 101 “the average family”: Funderburg, *Chocolate, Strawberry, and Vanilla*, 4.
- 101 many early American breweries: Ibid., 111. See also “Milk Products,” *The Western Brewer and Journal of the Barley, Malt and Hop Trades* 54, no. 4 (1920): 127.
- 101 Pabst Blue Ribbon: Kat Eschner, “How Some Breweries Survived Prohibition,” *Smithsonian*, April 7, 2017.
- 101 “The prohibition”: “Ice-Cream Instead of Beer,” *The National Advocate* 54, no. 12 (1919): 2.
- 102 ice cream consumption had grown: William H. Young and Nancy K. Young, *The Great Depression in America: A Cultural Encyclopedia*, vol. 2 (Westport, CT: Greenwood Press, 2007), 253.
- 102 mock apple pies: Julia C. Andrews, *Breakfast, Dinner, and Tea: Viewed Classically, Poetically, and Practically* (New York: Appleton, 1860), 174; Lisa Abraham, “Recipe: Ritz Mock Apple Pie—an Old Time Favorite,” *Seattle Times*, June 23, 2009.
- 102 popularized by William Dreyer: “Dreyer’s Grand Ice Cream,” Oral History Center, Bancroft Library, University of California, [www.lib.berkeley.edu/libraries/bancroft-library/oral-history-center/projects/dreyers](http://www.lib.berkeley.edu/libraries/bancroft-library/oral-history-center/projects/dreyers).
- 102 owned by Unilever: Nathalie Jordi, “Don’t Use the P Word: A Popsicle Showdown,” *The Atlantic*, July 9, 2010, [www.theatlantic.com/health/archive/2010/07/dont-use-the-p-word-a-popsicle-showdown/59412](http://www.theatlantic.com/health/archive/2010/07/dont-use-the-p-word-a-popsicle-showdown/59412).
- 103 “the sick fucking Romans”: John O’Bryan, *A History of Weapons: Crossbows, Caltrops, Catapults & Lots of Other Things That Can Seriously Mess You Up* (San Francisco: Chronicle Books, 2013), 73.
- 103 called *meurtrières*: Lise Hull, *Understanding the Castle Ruins of England and Wales: How to Interpret the History and Meaning of Masonry and Earthworks* (Jefferson, NC: McFarland, 2009), 52.
- 103 the Japanese were throwing: Heather Arndt Anderson, *Chillies: A Global History* (London: Reaktion, 2016), Apple Books ed.
- 103 converted fruit pits: Albert N. Merritt, *War Time Control of Distribution of Foods* (New York: Macmillan, 1920), 149.
- 103 Fat Salvage Committee: Adee Braun, “Turning Bacon into Bombs: The American Fat Salvage Committee,” *The Atlantic*, April 18, 2014, [www.theatlantic.com/health/archive/2014/04/reluctantly-turning-bacon-into-bombs-during-world-war-ii/360298](http://www.theatlantic.com/health/archive/2014/04/reluctantly-turning-bacon-into-bombs-during-world-war-ii/360298).
- 104 “Don’t throw away”: “Out of the Frying Pan into the Firing Line,” Walt Disney, 1942.
- 104 “For armies are”: N. P. Milner, *Vegetius: Epitome of Military Science* (Liverpool, UK: Liverpool University Press, 2001), 67.
- 104 “fights from within”: Ibid., 84.

- 105 all he needed: Tom Standage, *An Edible History of Humanity* (New York: Bloomsbury, 2009), Apple Books ed.
- 105 offered a twelve-thousand-franc reward: “Nicolas Appert,” *Encyclopaedia Britannica*, [www.britannica.com/biography/Nicolas-Appert](http://www.britannica.com/biography/Nicolas-Appert).
- 105 It took fourteen years: Ibid.
- 105 *L’Art de conserver*: Ibid.
- 105 the French destroyed: Standage, *An Edible History of Humanity*.
- 105 tactical herbicides: Jeanne Mager Stellman and Steven D. Stellman, “Agent Orange During the Vietnam War: The Lingering Issue of Its Civilian and Military Health Impact,” *American Journal of Public Health* 108, no. 6 (2018): 726–28.
- 105 Agent Orange: Ibid.
- 105 we actually employed: Committee to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides, Board on the Health of Select Populations, Institute of Medicine, *Veterans and Agent Orange: Update 2012* (Ninth Biennial Update) (Washington, DC: National Academies Press, 2014).
- 105 “The crude contamination”: Brian J. Lukey et al., eds., *Chemical Warfare Agents: Chemistry, Pharmacology, Toxicology, and Therapeutics*, 2nd ed. (Boca Raton, FL: CRC Press, 2008), 53.
- 106 The Assyrians poisoned: Ibid.
- 106 Confederate and Union soldiers: “Water Conflict Chronology,” Pacific Institute, [www.worldwater.org/conflict/list](http://www.worldwater.org/conflict/list).
- 106 “A few dikes”: “Text of Intelligence Report on Bombing of Dikes in North Vietnam Issued by State Department,” *New York Times*, July 29, 1972, [www.nytimes.com/1972/07/29/archives/text-of-intelligence-report-on-bombing-of-dikes-in-north-vietnam.html](http://www.nytimes.com/1972/07/29/archives/text-of-intelligence-report-on-bombing-of-dikes-in-north-vietnam.html).
- 106 before Hoover became: “Herbert Hoover,” The White House, [www.whitehouse.gov/about-the-white-house/presidents/herbert-hoover](http://www.whitehouse.gov/about-the-white-house/presidents/herbert-hoover).
- 106 before the United States entered: “Years of Compassion, 1914–1923,” Herbert Hoover Presidential Library and Museum, <https://hoover.archives.gov/exhibits/years-compassion-1914-1923>.
- 106 the entire nation of Belgium: George H. Nash, “An American Epic: Herbert Hoover and Belgian Relief in World War I,” *Prologue* 21, no. 1 (1989), [www.archives.gov/publications/prologue/1989/spring/hoover-belgium.html](http://www.archives.gov/publications/prologue/1989/spring/hoover-belgium.html).
- 107 his own pirate nation: Seymour Morris, Jr., *Fit for the Presidency?: Winners, Losers, What-ifs, and Also-rans* (Lincoln: University of Nebraska Press, 2017), 183.
- 107 delivering, in total: William Clinton Mullendore, *History of the United States Food Administration, 1917–1919* (Stanford, CA: Stanford University Press, 1941), 39.
- 107 Hoover himself volunteered: “Sow the Seeds of Victory! Posters from the Food Administration During World War I,” National Archives, [www.archives.gov/education/lessons/sow-seeds](http://www.archives.gov/education/lessons/sow-seeds).

- 107 “of the nature”: Mullendore, *History of the United States Food Administration, 1917–1919*, 52.
- 107 “spirit of self-denial”: Ibid., 53.
- 107 “food will win the war”: “Sow the Seeds of Victory! Posters from the Food Administration During World War I.”
- 108 Within months he’d built: Mullendore, *History of the United States Food Administration, 1917–1919*, 87.
- 108 Restaurants and public eateries: Ibid., 97.
- 108 urging consumers to consume less: Ibid., 89.
- 108 an estimated \$19,417,600: Ibid., 89–90.
- 108 Even the White House: “Sow the Seeds of Victory! Posters from the Food Administration During World War I.”
- 108 18 million tons: Jeff Lyon, “The Misunderstood President,” *Chicago Tribune*, April 29, 1985.
- 108 “If English medical men”: *The Ice Cream Review* 1, no. 10 (1918): 2.
- 108 “Reports from nearly”: Ibid.
- 109 “In this country”: Ibid.
- 109 it wouldn’t be patented: Jefferson M. Moak, “The Frozen Sucker War: Good Humor v. Popsicle,” *Prologue* 37, no. 1 (2005), [www.archives.gov/publications/prologue/2005/spring/popsicle-1.html](http://www.archives.gov/publications/prologue/2005/spring/popsicle-1.html).
- 109 depended on toxic gases: Sam Kean, “Einstein’s Little-Known Passion Project? A Refrigerator,” *Wired*, July 23, 2017, [www.wired.com/story/einsteins-little-known-passion-project-a-refrigerator](http://www.wired.com/story/einsteins-little-known-passion-project-a-refrigerator).
- 109 introduced in the 1930s: Ibid.
- 109 the United States was still: Mullendore, *History of the United States Food Administration, 1917–1919*, 169.
- 109 before the war had imported: Ibid., 167.
- 110 “Ice cream is no longer”: “New Sugar Regulations,” United States Food Administration, *Food Conservation Notes*, no. 15, July 6, 1918.
- 110 Howard Johnson: Anthony Mitchell Sammarco, *A History of Howard Johnson’s: How a Massachusetts Soda Fountain Became an American Icon* (Charleston, SC: History Press, 2013).
- 110 purchased a dilapidated drugstore: “Howard Johnson, 75, Founder of the Restaurant Chain, Dead.”
- 110 an ice cream recipe: Ibid.
- 110 The recipe, which called: “Howard D. Johnson,” Rosenberg International Franchise Center, Peter T. Paul College of Business and Economics, University of New Hampshire, <https://www.unh.edu/rosenbergcenter/howard-d-johnson>.
- 111 it was the largest: “The Last Howard Johnson’s Restaurant Is for Sale: The Demise of a Once-Great Food Chain,” *The Economist*, February 16, 2017, [www.economist.com/united-states/2017/02/16/the-last-howard-johnsons-restaurant-is-for-sale](http://www.economist.com/united-states/2017/02/16/the-last-howard-johnsons-restaurant-is-for-sale).



- 111 debut of the Eskimo Pie: Moak, "The Frozen Sucker War: Good Humor v. Popsicle."
- 111 originally called the "Epsicle": Ibid.
- 111 who inserted lollipop sticks: "Good Humor Ice Cream Truck," Smithsonian Institution, June 21, 2011, [www.si.edu/newsdesk/snapshot/good-humor-ice-cream-truck](http://www.si.edu/newsdesk/snapshot/good-humor-ice-cream-truck).
- 111 bells initially borrowed: "100 Years of Good Humor," Good Humor, [www.goodhumor.com/us/en/our-history.html](http://www.goodhumor.com/us/en/our-history.html).
- 111 "You are at all times": "NMAH-AC0451-0000012," Gold Bond-Good Humor Collection, National Museum of American History, Archives Center.
- 111 around 1916, a Polish immigrant: Peter Smith, "The Stunt That Launched Nathan's Famous Stand on Coney Island," *Smithsonian*, July 3, 2012, [www.smithsonianmag.com/arts-culture/the-stunt-that-launched-nathans-famous-stand-on-coney-island-312344](http://www.smithsonianmag.com/arts-culture/the-stunt-that-launched-nathans-famous-stand-on-coney-island-312344).
- 111 paying college students: David Gerard Hogan, *Selling 'em by the Sack: White Castle and the Creation of American Food* (New York: New York University Press, 1997), 17.
- 112 "Let me advise you": S. S. Schoff and B. S. Caswell, *The People's Own Book of Recipes* (Kenosha, WI: Schoff and Winegar, 1867), 189.
- 112 had part of their fleet: Ron Grossman, "Flashback: Good Humor Delighted Generations with Its Curbside Delivery of Ice Cream Bars—and Not Even the Mob Could Stop It," *Chicago Tribune*, August 2, 2019.
- 112 "Ellis Island Authorities Gently Lead": "Ice Cream as Americanization Agent," *The Soda Fountain* 20, no. 7 (1921): 81.
- 112 "It augurs well": Ibid.
- 113 which accounted for roughly: Mariani, *The Encyclopedia of American Food and Drink*, 518.
- 113 endorsing carrots on sticks: Jill Reilly, "In My Day, All We Got for Easter Was a Carrot on a Stick: Newsreel Reveals What Children Got Instead of Chocolate Eggs in WW2," *Daily Mail*, April 2, 2012, [www.dailymail.co.uk/news/article-2123981/In-day-got-Easter-carrot-stick-World-War-Two-showreel-reveals-children-swapped-ice-cream-carrots.html](http://www.dailymail.co.uk/news/article-2123981/In-day-got-Easter-carrot-stick-World-War-Two-showreel-reveals-children-swapped-ice-cream-carrots.html).
- 113 mock fudge: Lee Edwards Benning, *The Cook's Tales: Origins of Famous Foods and Recipes* (Old Saybrook: Globe Pequot, 1992), 119.
- 113 building pop-up ice cream factories: Funderburg, *Chocolate, Strawberry, and Vanilla*, 143.
- 114 breaking into the freezer: Ibid., 142.
- 114 US bomber crews used to make: McGee, *On Food and Cooking*, 43.
- 114 soldiers on the ground: "Transcript of an Oral History Interview with Richard T. Meland, Communications, Anti-Aircraft Artillery, Army, World War II," Wisconsin Veterans Museum Research Center, 1995, 14.
- 114 the most decorated member: "Gen. Chesty Puller Dies; Most Decorated Marine," *New York Times*, October 12, 1971, [www.nytimes.com/1971](http://www.nytimes.com/1971)

- /10/12/archives/cert-chesty-puller-diesi-most-decoralted-marine-commissioned-at-20.html.
- 114 called it a “sissy food”: Betty Cuniberti, “Celebrating 40 Years of 31 Flavors,” *Los Angeles Times*, December 11, 1985.
- 114 during which he was photographed: Meyer Liebowitz, “Fidel Castro Eating Ice Cream,” April 2, 1959, Getty Images, [www.gettyimages.com/detail/news-photo/cuban-president-fidel-castro-eats-an-ice-cream-cone-as-he-news-photo/2967514](http://www.gettyimages.com/detail/news-photo/cuban-president-fidel-castro-eats-an-ice-cream-cone-as-he-news-photo/2967514).
- 114 “ice cream cathedral”: Myles Karp, “The History of Cuba’s Ongoing Obsession with Ice Cream,” *Vice*, May 10, 2018, [www.vice.com/en\\_us/article/mbkje8/history-of-ice-cream-cuba-fidel-castro-ubre-blanca-coppelia](http://www.vice.com/en_us/article/mbkje8/history-of-ice-cream-cuba-fidel-castro-ubre-blanca-coppelia).
- 114 (after the French ballet *Coppélia*): Jason Motlagh, “The Future of Cuba’s Socialist Ice-Cream Cathedral,” *The Guardian*, April 14, 2015, [www.theguardian.com/world/2015/apr/14/future-of-coppelia-cuba-socialist-ice-cream-cathedral](http://www.theguardian.com/world/2015/apr/14/future-of-coppelia-cuba-socialist-ice-cream-cathedral).
- 115 “[finish] off a good-sized lunch”: Gabriel García Márquez, “A Personal Portrait of Fidel,” in Fidel Castro, *Fidel: My Early Years*, edited by Deborah Shnookal and Pedro Álvarez Tabío (Melbourne: Ocean Press, 2005), 13.
- 115 the CIA tried to assassinate: Anthony Boadle, “Closest CIA Bid to Kill Castro Was Poisoned Drink,” Reuters, July 5, 2007, [www.reuters.com/article/us-cuba-cia/closest-cia-bid-to-kill-castro-was-poisoned-drink-idUSN0427935120070705](http://www.reuters.com/article/us-cuba-cia/closest-cia-bid-to-kill-castro-was-poisoned-drink-idUSN0427935120070705).
- 115 when Castro got into a fight: Guillermo Cabrena Infante, *Mea Cuba* (New York: Farrar, Straus and Giroux, 1994), 324.
- 115 a breed of miniature cows: Peter Fritsch and Jose De Cordoba, “Castro Hopes to Clone a Famous Milk Cow,” *Wall Street Journal*, May 21, 2002, [www.wsj.com/articles/SB1021927734453270880](http://www.wsj.com/articles/SB1021927734453270880).
- 115 Ubre Blanca: Karp, “The History of Cuba’s Ongoing Obsession with Ice Cream.”
- 115 241 pounds of milk: Fritsch and De Cordoba, “Castro Hopes to Clone a Famous Milk Cow.”
- 115 “our great champion”: Fidel Castro, “Fidel Castro Addresses Medical Students,” Havana Domestic Television Service, March 12, 1982, Castro Speech Data Base, Latin American Network Information Center, <http://lanic.utexas.edu/project/castro/db/1982/19820314.html>.
- 115 eulogized her with military honors: Karp, “The History of Cuba’s Ongoing Obsession with Ice Cream.”
- 115 Cotoni and Swiss dairy farmers: Samantha Clark, “Santa Cruz County Supervisors Support Cotoni-Coast Dairies as Name for Proposed National Monument,” *Santa Cruz Sentinel*, June 23, 2015, [www.santacruzsentinel.com/2015/06/23/santa-cruz-county-supervisors-support-cotoni-coast-dairies-as-name-for-proposed-national-monument](http://www.santacruzsentinel.com/2015/06/23/santa-cruz-county-supervisors-support-cotoni-coast-dairies-as-name-for-proposed-national-monument).
- 116 “No G.I. who passed”: Lee Kennett, *G.I.: The American Soldier in World War II* (Norman: University of Oklahoma Press, 1997), 197.
- 116 maggot-infested rice: Sue Shephard, “A Slice of the Moon,” in *Food and the*

*Memory: Proceedings of the Oxford Symposium on Food and Cookery 2000*, edited by Harlan Walker (Devon, UK: Prospect, 2001), 226–29.

- 116 “as obtainable”: Quoted in *ibid.*, 225.
- 116 “Somebody listening in”: *Ibid.*, 223.
- 116 pictures of food: *Ibid.*, 235.
- 116 “perhaps it was just”: Quoted in Jan Thompson, “Prisoners of the Rising Sun: Food Memories of American POWs in the Far East During World War II,” in *Food and the Memory: Proceedings of the Oxford Symposium on Food and Cookery 2000*, edited by Harlan Walker (Devon, UK: Prospect, 2001), 274, 280.
- 116 “Belly empty”: Quoted in Shephard, “A Slice of the Moon,” 235.
- 116 “During the forty-three months”: Quoted in Thompson, “Prisoners of the Rising Sun,” 278–79.
- 117 “Few tried to recall”: Shephard, “A Slice of the Moon,” 233.
- 117 “There are today”: Visser, *Much Depends on Dinner*, 315–16.
- 118 Researchers testing: Peter Walla et al., “Food-Evoked Changes in Humans: Startle Response Modulation and Event-Related Brain Potentials (ERPs),” *Journal of Psychophysiology* 24, no. 1 (2010): 25–32.
- 119 human milk is significantly sweeter: Mark Kurlansky, *Milk!: A 10,000-Year Food Fracas* (New York: Bloomsbury, 2018).
- 119 contains more fat: Harold H. Williams, “Differences Between Cow’s and Human Milk,” *The Journal of the American Medical Association* 175, no. 2 (1961): 104–07.
- 119 calming and pain reduction effects: Mahnaz Jebreili et al., “Comparison of Breastmilk Odor and Vanilla Odor on Mitigating Premature Infants’ Response to Pain During and After Venipuncture,” *Breastfeeding Medicine* 10, no. 7 (2015): 362–65.
- 119 “spent significantly more time”: Julie A. Mennella and Gary K. Beauchamp, “The Human Infants’ Response to Vanilla Flavors in Mother’s Milk and Formula,” *Infant Behavior and Development* 19, no. 1 (1996): 13–19.
- 119 “what all prisoners of war”: Russell Braddon, *The Naked Island* (New York: Doubleday, 1953), 159.

## **Chapter 7: The Ghosts of Cockaigne Past**

- 121 “It has been”: Clement A. Miles, *Christmas in Ritual and Tradition, Christian and Pagan* (Detroit: Gale, 1968), 17.
- 121 “A couple of flitches”: William Cobbett, *Cottage Economy* (London, 1823).
- 123 before the winter frost: Madeline Shanahan, *Christmas Food and Feasting* (Lanham, MD: Rowman & Littlefield, 2019), 36.
- 123 the old German and Anglo-Saxon names: R. S. Ferguson, “Culvershouses,” *The Archaeological Journal*, June 1887, 106.
- 123 “labours of the months”: “Labours of the Months: December,” Victoria and Albert Museum, <http://collections.vam.ac.uk/item/O7617/labours-of-the-months-december-panel-unknown>.

- 123 Latin calendar descriptions: Piero Camporesi, *The Magic Harvest: Food, Folklore and Society*, translated by Joan Krakover Hall (Malden, MA: Blackwell, 1998), 43.
- 123 having had time: Shanahan, *Christmas Food and Feasting*, 36.
- 123 freshly fermented: *Ibid.*, 10.
- 124 And to ensure: Joan P. Alcock, "The Festival of Christmas," in *Oxford Symposium on Food and Cookery 1990*, edited by Harlan Walker (Devon, UK: Prospect, 1990), 27.
- 124 This is also where: *Ibid.*
- 124 "a kind of safety valve": Ken Albala and Trudy Eden, *Food and Faith in Christian Culture* (New York: Columbia University Press, 2011), 16.
- 124 from the Latin roots: Anais N. Spitzer, *Derrida, Myth and the Impossibility of Philosophy* (London: Continuum, 2011), 107.
- 124 observed around the time: Frederick B. Jonassen, "Lucian's *Saturnalia*, the Land of Cockaigne, and the Mummers' Plays," *Folklore* 101, no. 1 (1990): 58–68.
- 124 Saturnalia sought to re-create: *Ibid.*
- 124 it was a time of the year: E. O. James, *Seasonal Feasts and Festivals* (New York: Barnes & Noble, 1961), 176.
- 125 of the grape harvest: Victor Shea and William Whitla, eds., *Victorian Literature: An Anthology* (West Sussex, UK: John Wiley and Sons, 2015), 749.
- 125 wine, intoxication, ritual madness, ecstasy: "Dionysus," in *The Oxford Classical Dictionary*, 3rd rev. ed., edited by Simon Hornblower and Antony Spawforth (Oxford University Press, 2005).
- 125 raw flesh torn: *Ibid.*
- 125 sacrificial humans: William Smith, *Dictionary of Greek and Roman Antiquities* (Boston: Little, Brown, 1859), 413.
- 125 it was considered bad manners: *Ibid.*, 411.
- 125 also because they involved: *Ibid.*, 410–14.
- 125 some scholars have suggested: A.J.M. Wedderburn, *Baptism and Resurrection: Studies in Pauline Theology Against Its Graeco-Roman Background* (Tübingen, Germany: Mohr Siebeck, 1987), 323.
- 126 lighting yule logs: Clement A. Miles, *Christmas Customs and Traditions: Their History and Significance* (New York: Dover, 1976), 244–45.
- 126 a Teutonic or Norse festival: Alcock, "The Festival of Christmas," 27.
- 126 a Saxon rite of sacrifice: W. F. Dawson, *Christmas: Its Origins and Associations* (Detroit: Gale, 1968), 15.
- 126 *hwéol*: Miles, *Christmas Customs and Traditions*, 171–72.
- 126 *iol*, or *iul*: Dawson, *Christmas*, 15.
- 126 it was eventually adopted: "Yule," in Jacqueline Simpson and Steve Roud, *A Dictionary of English Folklore* (Oxford: Oxford University Press, 2003).
- 126 There is also a theory: "Jolly," *OED Online*, Oxford University Press, December 2020, [www.oed.com/view/Entry/101618](http://www.oed.com/view/Entry/101618).

- 126 “No singular one”: Shanahan, *Christmas Food and Feasting*, 10.
- 126 celebrate the birth: Alcock, “The Festival of Christmas,” 27.
- 127 “Christian symbolism”: Miles, *Christmas in Ritual and Tradition, Christian and Pagan*, 183.
- 127 “Because they are wont”: *Ibid.*, 179.
- 128 “The medieval year resembled: Bridget Ann Henisch, *Fast and Feast: Food in Medieval Society* (University Park: Pennsylvania State University Press, 1976), 28.
- 128 demonstrations of power: *Ibid.*, 10–11.
- 128 would have been heavily salted: Massimo Montanari, *Medieval Tastes: Food, Cooking and the Table*, translated by Beth Archer Brombert (New York: Columbia University Press, 2012), 155–56.
- 128 “The end of the year”: Reay Tannahill, *Food in History* (New York: Stein and Day, 1973), 209.
- 129 like bread: Montanari, *Medieval Tastes*, 58.
- 129 there are accounts: E. J. Kahn, Jr., *The Staffs of Life* (Boston: Little, Brown, 1984), 169.
- 129 given the “upper crust”: Mary Ellen Snodgrass, *Encyclopedia of Kitchen History* (New York: Fitzroy Dearborn, 2004), 68.
- 129 “The medieval ‘course’”: Madeleine Pelner Cosman, *Fabulous Feasts: Medieval Cookery and Ceremony* (New York: George Braziller, 1976), 20.
- 129 The coronation banquet: *Ibid.*
- 129 the funeral collation: *Ibid.*, 24.
- 130 an umble pie: Alex Johnson and Vincent Franklin, *Menus That Made History* (New York: Hachette, 2019).
- 130 meant to resemble: *Ibid.*
- 130 “superb insignia”: Cosman, *Fabulous Feasts*, 45.
- 130 “indicators of ostentatious waste”: *Ibid.*
- 130 Pepper was said: Marjorie Shaffer, *Pepper: A History of the World’s Most Influential Spice* (New York: St. Martin’s Press, 2013), 6–7.
- 130 *cinnamologus*: W. Geoffrey Arnott, *Birds in the Ancient World from A to Z* (New York: Routledge, 2007), 97–98.
- 130 powered by courage alone: Andrew Dalby, *Dangerous Tastes: The Story of Spices* (University of California Press, 2000), 38.
- 130 grew in lakes: *Ibid.*, 37.
- 131 whenever spices became affordable: Ken Albala, *Food: A Cultural Culinary History*, *The Great Courses*, transcript book, 2013, 371–72.
- 131 crushed pearls and rose water: *Ibid.*, 282.
- 131 “This means, of course”: William Edward Mead, *The English Medieval Feast* (New York: Houghton Mifflin, 1931), 58.
- 131 “oysters in gravy bastard”: *Ibid.*, 55.
- 131 “dyschefull of snowe”: Albala, *Food*, 388–89.

- 131 having wine or rose water: Katherine C. Little and Nicola McDonald, eds., *Thinking Medieval Romance* (Oxford: Oxford University Press, 2018), 13.
- 132 blood for brown or black: Cosman, *Fabulous Feasts*, 61–63.
- 132 the Easter egg: “A Hunt for Medieval Easter Eggs,” *Medieval Manuscripts Blog*, British Library, April 14, 2017, <https://blogs.bl.uk/digitised-manuscripts/2017/04/a-hunt-for-medieval-easter-eggs.html>.
- 132 *coqz beaumex*: Terrence, Scully, ed., *The Viandier of Taillevent: An Edition of All Extant Manuscripts* (Ottawa: University of Ottawa Press, 1988), 300.
- 132 *cignes revestuz*: Ibid., 303.
- 132 stuffing a ball of cloth: Richard Warner, *Antiquitates Culinariae, or, Curious Tracts Relating to the Culinary Affairs of the Old English* (London, 1791), xxiii.
- 132 “Take an olde cok”: Ibid., 66.
- 133 “one last pagan fling”: Emmanuel Le Roy Ladurie, *Carnival in Romans*, translated by Mary Feeney (New York: George Braziller, 1979), 307–08.
- 133 the need to use: Henisch, *Fast and Feast*, 38.
- 133 a mock swordfight: Ken Albala, *Food in Early Modern Europe* (Westport, CT: Greenwood Press, 2003), 196.
- 133 Sometimes Lent would be: Samuel Kinser, *Rabelais’s Carnival* (Berkeley: University of California Press, 1990), 48.
- 133 Carnival would wear: Terence Scully, *The Art of Cookery in the Middle Ages* (Woodbridge, UK: Boydell Press, 1995), 63.
- 134 reenactments of Adam and Eve: Herman Pleij, *Dreaming of Cockaigne: Medieval Fantasies of the Perfect Life*, translated by Diane Webb (New York: Columbia University Press, 2001), 7.
- 134 “designed to make”: Ibid., 6.
- 134 Middle Low German *kokenje*: “Cockaigne,” *The Oxford Dictionary of Phrase and Fable*, 2nd ed., edited by Elizabeth Knowles (Oxford University Press, 2005).
- 134 the Dutch similarly had: Pleij, *Dreaming of Cockaigne*, 77.
- 134 *leuzig*: “Lazy,” *OED Online*, Oxford University Press, December 2020, [www.oed.com/view/Entry/106558](http://www.oed.com/view/Entry/106558).
- 134 *likken*: “Lick,” *OED Online*, Oxford University Press, December 2020, [www.oed.com/view/Entry/108002](http://www.oed.com/view/Entry/108002).
- 134 the Germans had: Hans Hinrichs, *The Glutton’s Paradise* (Mount Vernon, NY: Peter Pauper Press, 1955).
- 134 *schlaff*: Anatoly Liberman, *An Analytic Dictionary of the English Etymology: An Introduction* (Minneapolis: University of Minnesota Press, 2008), 114.
- 135 “By the Middle Ages”: Pleij, *Dreaming of Cockaigne*, 3.
- 135 rain the occasional pie: Ibid., 34.
- 135 snow a dusting: Ibid., 42.

- 135 The streets were paved: Ibid., 35
- 135 the rivers flowed: Ibid., 34, 41.
- 135 Houses were made: Ibid., 40.
- 135 their beams were made: Ibid., 34, 40.
- 135 their rooftops were tiled: Ibid.
- 135 perfectly stewed and sprinkled: “The Land of Cockaygne,” MS Harley 913, ff. 3r–6v, British Library, London.
- 135 a pig would run up: Jonassen, “Lucian’s ‘Saturnalia,’ the Land of Cockaigne, and the Mummies’ Plays.”
- 135 a grilled fish might jump: Pleij, *Dreaming of Cockaigne*, 3.
- 135 “shit nothing but sweet figs”: Ibid., 41.
- 135 poached eggs: Hinrichs, *The Glutton’s Paradise*, 7.
- 135 “the encumbrance”: Pleij, *Dreaming of Cockaigne*, 39.
- 135 “Loose women”: Ibid., 43.
- 136 In fact, Schlaraffenland: Hinrichs, *The Glutton’s Paradise*, 21–27.
- 136 “sexual and economic predator[s]”: Carla Freccero, “A Race of Wolves,” in *Animots: Postanimality in French Thought*, edited by Matthew Senior, David L. Clark, and Carla Freccero, Yale French Studies, no. 127 (New Haven, CT: Yale University Press, 2015), 121.
- 136 a fountain of youth: Hinrichs, *The Glutton’s Paradise*, 23.
- 136 you were paid: Pleij, *Dreaming of Cockaigne*, 43–44.
- 136 you had to swim: Ben Parsons, “Fantasy and Fallacy in the Old French Cocaingne,” *Viator* 46, no. 3 (2015): 173–93.
- 136 “There is nothing”: Pleij, *Dreaming of Cockaigne*, 43–44.

### Chapter 8: The Choices of a New Generation

- 139 “*Pour avoir assez*”: Bee Wilson, *First Bite: How We Learn to Eat* (New York: Perseus, 2015), 105.
- 139 “Choose life”: *Trainspotting*, directed by Danny Boyle, based on the novel by Irvine Welsh, Miramax, 1996.
- 140 delay the annual slaughter: Alexander Tille, *Yule and Christmas: Their Place in the Germanic Year* (Glasgow, Robert MacLehose and Company, 1899), 68–70.
- 141 “Average Americans and Europeans”: Gregg Easterbrook, *The Progress Paradox: How Life Gets Better While People Feel Worse* (New York: Random House, 2003), 80–81.
- 141 More than 36 percent: Cheryl D. Fryar et al., “Fast Food Consumption Among Adults in the United States, 2013–2016,” NCHS Data Brief no. 322, October 2018.
- 141 increasing to 80 percent monthly: Adam Chandler, “What McDonald’s Does Right,” *The Atlantic*, June 25, 2019, [www.theatlantic.com/ideas/archive/2019/06/how-fast-food-can-unite-america/592441](http://www.theatlantic.com/ideas/archive/2019/06/how-fast-food-can-unite-america/592441).
- 141 “No other institution”: Ibid.

- 141 customize drive-through menus: Amelia Levin, “Tech Ushers In a Drive-Thru Renaissance,” *QSR*, October 2019, [www.qsrmagazine.com/drive-thru/tech-ushers-drive-thru-renaissance](http://www.qsrmagazine.com/drive-thru/tech-ushers-drive-thru-renaissance).
- 142 testing the use: Camilla Hodgson, “Fast-Food Chains Consider Trying License Plate Recognition in Drive-Throughs,” *Los Angeles Times*, July 11, 2019, [www.latimes.com/business/la-fi-license-plate-recognition-drive-through-restaurant-20190711-story.html](http://www.latimes.com/business/la-fi-license-plate-recognition-drive-through-restaurant-20190711-story.html).
- 142 The initial success: “Our History,” McDonald’s, [www.mcdonalds.com/us/en-us/about-us/our-history.html](http://www.mcdonalds.com/us/en-us/about-us/our-history.html).
- 142 just three items: Andrew F. Smith, *Eating History* (New York: Columbia University Press, 2009), Kindle ed.
- 142 you weren’t allowed: Ken Albala, *Food: A Cultural Culinary History*, The Great Courses, transcript book, 2013, 616.
- 142 reducing the wait time: Smith, *Eating History*, 221–22.
- 142 “A McDonald’s outlet,”: Jeremy MacClancy, *Consuming Culture: Why You Eat What You Eat* (New York: Holt, 1992), 189.
- 143 to reduce splatter: Richard Evershed and Nicola Temple, *Sorting the Beef from the Bull* (London: Bloomsbury Sigma, 2016), Kindle ed.
- 143 the same chemical: Preethi S. Raj, “Re-review of the Safety Assessment of Dimethicone, Methicone, and Substituted-Methicone Polymers,” Cosmetic Ingredient Review Memorandum, November 15, 2019.
- 143 breast implants: Evershed and Temple, *Sorting the Beef from the Bull*.
- 143 The real watershed moment: Sophie Egan, *Devoured: From Chicken Wings to Kale Smoothies—How What We Eat Defines Who We Are* (New York: HarperCollins, 2016), Apple Books ed.
- 144 “Hold the pickles”: Olivia B. Waxman, “Here’s What \$80 Worth of Extra Pickles on a Whopper Looks Like,” *Time*, February 26, 2016, <https://time.com/4238762/burger-king-whopper-80-pickles>.
- 144 2005 “Fantasy Ranch” commercial: “Burger King: Fantasy Ranch,” AdAge, February 24, 2005, <https://adage.com/creativity/work/fantasy-ranch/9247>.
- 145 “nagging wives”: Carrie Packwood Freeman and Debra Merskin, “Having It His Way: The Construction of Masculinity in Fast-Food TV Advertising,” in *Food for Thought: Essays on Eating and Culture*, edited by Lawrence C. Rubin (Jefferson, NC: McFarland, 2008), 286.
- 146 “It’s ok”: “Be Your Way at Burger King Restaurants,” Burger King, May 20, 2014, <https://company.bk.com/news-press/be-your-way-burger-king®-restaurants>.
- 146 “221,184 different ways”: Ibid.
- 146 that also brags about: John L. Hess, “A Sizzling Battle in the Burger Business,” *New York Times*, March 13, 1977, [www.nytimes.com/1977/03/13/archives/a-sizzling-battle-in-the-burger-business-sizzling-battle-in-the.html](http://www.nytimes.com/1977/03/13/archives/a-sizzling-battle-in-the-burger-business-sizzling-battle-in-the.html).
- 146 McDonald’s once owned 90 percent: Haley Peterson, “The Ridiculous



- Reason McDonald's Sold Chipotle and Missed Out on Billions of Dollars," Business Insider, May 22, 2015.
- 147 "It's as though": Elizabeth Farrelly, *Blubberland: The Dangers of Happiness* (Cambridge, MA: MIT Press, 2008), 100–01.
- 147 Starbucks, for example: Egan, *Devoured*.
- 147 is made of sugar, water: "Naturally Flavored Vanilla Syrup," Starbucks at Home, <https://athome.starbucks.com/product/naturally-flavored-vanilla-syrup>.
- 147 sea salt topping: "Salted Caramel Hot Chocolate," Starbucks, [www.starbucks.com/menu/product/762/hot?parent=%2Fdrinks%2Fhot-drinks%2Fhot-chocolates](http://www.starbucks.com/menu/product/762/hot?parent=%2Fdrinks%2Fhot-drinks%2Fhot-chocolates).
- 148 "If a person orders": Heejung Kim and Hazel Rose Markus, "Deviance or Uniqueness, Harmony or Conformity? A Cultural Analysis," *Journal of Personality and Social Psychology* 77, no. 4 (1999): 785.
- 148 \$100 billion per year: Solvie Karlstrom and Christine Dell'Amore, "Why Tap Water Is Better than Bottled Water," *National Geographic*, March 13, 2010, [www.nationalgeographic.com/news/2010/3/why-tap-water-is-better](http://www.nationalgeographic.com/news/2010/3/why-tap-water-is-better).
- 148 more than 4 billion pounds: "Tap Water vs. Bottled Water," Food and Water Watch, [www.foodandwaterwatch.org/about/live-healthy/tap-water-vs-bottled-water](http://www.foodandwaterwatch.org/about/live-healthy/tap-water-vs-bottled-water).
- 148 a fraction of the cost: Karlstrom and Dell'Amore, "Why Tap Water Is Better Than Bottled Water."
- 148 no less safe or clean: Ibid.
- 148 into water systems: "National Primary Drinking Water Regulations," United States Environmental Protection Agency, February 14, 2020, [www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations](http://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations); Edward T. Furlong et al., "Nationwide Reconnaissance of Contaminants of Emerging Concern in Source and Treated Drinking Waters of the United States: Pharmaceuticals," *Science of the Total Environment*, no. 579 (2017): 1629–42; "Drugs in the Water," Harvard Health Publishing, June 2011, [www.health.harvard.edu/news/letter\\_article/drugs-in-the-water](http://www.health.harvard.edu/news/letter_article/drugs-in-the-water).
- 148 bottled from the very same source: "Tap Water vs. Bottled Water," Food and Water Watch.
- 149 "is an example": Paul Bloom, *How Pleasure Works: The New Science of Why We Like What We Like* (New York: Norton, 2010), 43.
- 149 Before the first self-service: "Food and Beverage Retailing in 19th and Early 20th Century America," Janice B. Longone Culinary Archive, William L. Clements Library, University of Michigan.
- 149 By the 1940s: Smith, *Eating History*, 180.
- 149 We can now choose: "Oreo," Snack Works, [www.snackworks.com](http://www.snackworks.com).
- 150 "stuf" inside Oreos: Olivia Tarantino, "What Really Is the White Stuff in the Center of an Oreo?" Eat This, Not That!, March 28, 2017, [www.eatthis.com/oreo-filling](http://www.eatthis.com/oreo-filling); "2 Flavors of Oreos Recalled over Undeclared Milk

- Allergen,” Fox News, October 31, 2016, [www.foxnews.com/health/2-flavors-of-oreos-recalled-over-undeclared-milk-allergen](http://www.foxnews.com/health/2-flavors-of-oreos-recalled-over-undeclared-milk-allergen).
- 150 This isn’t counting: Josh Hafner, “Oreo Launches New Hot Chicken Wing and Wasabi Flavors, but They May Not Be Easy to Find,” *USA Today*, August 28, 2018.
- 150 Halloween Whoppers: Hayley Peterson, “Burger King Is Bringing One of Its Most Bizarre Burgers to the US,” *Business Insider*, September 25, 2015, [www.businessinsider.com/burger-king-is-selling-burgers-with-black-buns-2015-9](http://www.businessinsider.com/burger-king-is-selling-burgers-with-black-buns-2015-9).
- 150 hot pink Fruity Pebbles: “National Cereal Day Magic Fruity Pebbles Cereal,” Post Consumer Brands, <http://natlcerealday.wpengine.com/?products=magic-fruity-pebbles-cereal>.
- 151 heading to grocery stores soon: David Johnson and Siobhan O’Connor, “These Charts Show Every Genetically Modified Food People Already Eat in the U.S.,” *Time*, April 30, 2015, <https://time.com/3840073/gmo-food-charts>; Sophia Chen, “Genetically Modified Animals Will Be on Your Plate in No Time,” *Wired*, July 6, 2015, [www.wired.com/2015/07/eating-genetically-modified-animals](http://www.wired.com/2015/07/eating-genetically-modified-animals); “Modified Cows to Produce ‘Human’ Milk,” *Fast Company*, March 23, 2011, [www.fastcompany.com/1742119/genetically-modified-cows-produce-human-milk](http://www.fastcompany.com/1742119/genetically-modified-cows-produce-human-milk).
- 151 “It’s no longer enough”: Sophie Egan, *Devoured*.
- 151 Starbucks’ Unicorn Frappuccino: “Starbucks Weaves Its Magic with New Color and Flavor Changing Unicorn Frappuccino,” Starbucks’ Stories & News, April 18, 2017.
- 151 KFC’s Double Down: “KFC’s ‘Double Down’ to Go Nationwide,” UPI, April 9, 2010, [www.upi.com/Odd\\_News/2010/04/09/KFCs-Double-Down-to-go-nationwide/77741270842514/](http://www.upi.com/Odd_News/2010/04/09/KFCs-Double-Down-to-go-nationwide/77741270842514/).
- 151 Chicken and Donut sandwiches: “KFC Is Rolling Out Its Viral Fried-Chicken-and-Doughnut Sandwich Nationwide,” *Business Insider*, February 20, 2020, [www.businessinsider.com/kfc-chicken-and-donuts-sandwich-basket-launches-nationwide-2020-2](http://www.businessinsider.com/kfc-chicken-and-donuts-sandwich-basket-launches-nationwide-2020-2).
- 151 Heinz’s limited-edition: “Heinz Made a Ketchup Bottle Adorned with Ed Sheeran’s Tattoo,” *AdAge*, August 14, 2019, <https://adage.com/creativity/work/heinz-ed-sheeran-tattoo-ketchup/2191451>.
- 151 Burger King’s Flamin’ Hot: “Do You Dare? BURGER KING® Restaurants and the CHEETOS® Brand Introduce Flamin’ Hot® Mac n’ Cheetos™,” *Business Wire*, November 29, 2017, [www.businesswire.com/news/home/20171129005248/en/Do-You-Dare-BURGER-KING-®-Restaurants-and-the-CHEETOS-®-Brand-Introduce-Flamin'-Hot-®-Mac-n'-Cheetos™](http://www.businesswire.com/news/home/20171129005248/en/Do-You-Dare-BURGER-KING-®-Restaurants-and-the-CHEETOS-®-Brand-Introduce-Flamin'-Hot-®-Mac-n'-Cheetos™).
- 151 had to hire fifteen thousand: Ashley Lutz, “How Taco Bell’s Lead Innovator Created the Most Successful Menu Item of All Time,” *Business Insider*, February 26, 2014, [www.businessinsider.com/taco-bell-doritos-locos-taco-story-2014-2](http://www.businessinsider.com/taco-bell-doritos-locos-taco-story-2014-2).
- 152 Malcolm Gladwell gave: Malcolm Gladwell, “Choice, Happiness and Spa-

- ghetti Sauce,” TED2004, [www.ted.com/talks/malcolm\\_gladwell\\_choice\\_happiness\\_and\\_spaghetti\\_sauce](http://www.ted.com/talks/malcolm_gladwell_choice_happiness_and_spaghetti_sauce).
- 152 “that sounds like”: Ibid.
- 153 Prego alone now offers: “Sauces,” Prego, [www.prego.com/sauces](http://www.prego.com/sauces).
- 153 “embracing the diversity”: Gladwell, “Choice, Happiness and Spaghetti Sauce.”
- 154 “In evolutionary terms”: Farrelly, *Blubberland: The Dangers of Happiness*, 14.
- 154 “To whom a little”: William Wallace, *Epicureanism* (London: Society for Promoting Christian Knowledge, 1880), 48.
- 154 adding food options: Sheena Iyengar, *The Art of Choosing* (New York: Hachette, 2010), 190.
- 154 “The more choice”: Ibid., 204.
- 155 “When people have”: Barry Schwartz, *The Paradox of Choice: Why More Is Less* (New York: HarperCollins, 2004), 2.
- 155 Iyengar drew her conclusions: Iyengar, *The Art of Choosing*, 184–86.
- 155 “supplier of jams”: Ibid., 184.
- 156 “the relative merits”: Ibid., 186.
- 156 “When the options”: Ibid., 204–05.
- 157 “prose and recipes”: Molly O’Neill, “Food Porn,” *Columbia Journalism Review*, September–October 2003, 39.
- 157 Today, *food porn*: Anne E. McBride, “Food Porn,” *Gastronomica* 10, no. 1 (2010): 38–46.
- 157 lipstick to redden berries: Angelina Chapin, “WD-40 and Microwaved Tampons: Secrets of Food Photography Revealed,” *The Guardian*, January 4, 2016, [www.theguardian.com/lifeandstyle/2016/jan/04/food-stylist-photography-tricks-advertising](http://www.theguardian.com/lifeandstyle/2016/jan/04/food-stylist-photography-tricks-advertising).
- 157 eyeliner to paint in grill marks: Shaunacy Ferro, “How Fake Is Food Styling?,” *Fast Company*, September 9, 2014, [www.fastcompany.com/3034644/how-fake-is-food-styling](http://www.fastcompany.com/3034644/how-fake-is-food-styling).
- 158 personal lubricants: Delores Custer, *Food Styling: The Art of Preparing Food for the Camera* (Hoboken, NJ: John Wiley and Sons, 2010), 130.
- 158 vegetable shortening: Chapin, “WD-40 and Microwaved Tampons: Secrets of Food Photography Revealed.”
- 158 shaving cream: Michael Zhang, “Tricks Food Photographers Use to Make Food Look Delicious.” Petapixel, November 20, 2018, <https://petapixel.com/2018/11/30/tricks-food-photographers-use-to-make-food-look-delicious>.
- 158 Scotchgard: Perri O. Blumberg, “16 Secrets a Food Stylist Won’t Tell You,” *Reader’s Digest*, November 18, 2019, [www.rd.com/food/fun/food-stylist-secrets/](http://www.rd.com/food/fun/food-stylist-secrets/).
- 158 might actually be: Zhang, “Tricks Food Photographers Use to Make Food Look Delicious.”

- 158 lit cigarettes: Chapin, “WD-40 and Microwaved Tampons: Secrets of Food Photography Revealed.”
- 158 wet, microwaved tampons: Ibid.
- 158 they’re not pretty enough: Suzanne Goldenberg, “Half of All US Food Produce Is Thrown Away, New Research Suggests,” *The Guardian*, July 13, 2016, [www.theguardian.com/environment/2016/jul/13/us-food-waste-ugly-fruit-vegetables-perfect](http://www.theguardian.com/environment/2016/jul/13/us-food-waste-ugly-fruit-vegetables-perfect).
- 158 “abnormal physical characteristics”: Elysha Enos, “Ugly Fruit and Vegetables Can Now Be Sold in Quebec,” CBC, July 26, 2016, [www.cbc.ca/news/canada/montreal/ugly-fruit-vegetables-quebec-produce-1.3695059](http://www.cbc.ca/news/canada/montreal/ugly-fruit-vegetables-quebec-produce-1.3695059).
- 158 American farmers report: Dana Gunders, “Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill,” issue paper IP:12–06–B, Natural Resources Defense Council, August 2012, 8.
- 158 are often sprayed: P. V. Mahajan et al., “Postharvest Treatments of Fresh Produce,” *Philosophical Transactions of the Royal Society A* 372, no. 2017 (2014).
- 158 spraying too much water: C. Claiborne Ray, “Keeping Greens Green,” *New York Times*, November 14, 2011, [www.nytimes.com/2011/11/15/science/does-spraying-greens-with-water-keep-them-fresh.html](http://www.nytimes.com/2011/11/15/science/does-spraying-greens-with-water-keep-them-fresh.html).
- 158 in the 1990s: Peter Applebome, “Mist in Grocery’s Produce Section Is Linked to Legionnaires’ Disease,” *New York Times*, January 11, 1990, [www.nytimes.com/1990/01/11/us/mist-in-grocery-s-produce-section-is-linked-to-legionnaires-disease.html](http://www.nytimes.com/1990/01/11/us/mist-in-grocery-s-produce-section-is-linked-to-legionnaires-disease.html).
- 158 the real purpose: Jake Rossen, “The Real Reason Grocery Stores Spray Water on Their Produce,” Mental Floss, May 22, 2019, [www.mentalfloss.com/article/583777/real-reason-grocery-stores-spray-water-on-their-produce](http://www.mentalfloss.com/article/583777/real-reason-grocery-stores-spray-water-on-their-produce).
- 159 Seventy percent of the French fries: Paul C. Bethke et al., “History and Origin of Russet Burbank (Netted Gem) a Sport of Burbank,” *American Journal of Potato Research* 91, no. 6 (2014): 594–609.
- 159 McDonald’s, the largest buyer: Albala, *Food*, 619–20.
- 159 wants their fries: Charles R. Brown, “Russet Burbank: No Ordinary Potato,” *Hortscience* 50, no. 2 (2015): 157–60.
- 159 “retention of good fry quality”: Ibid.
- 159 “Down to World War I”: B. W. Higman, *How Food Made History* (West Sussex, UK: Wiley-Blackwell, 2012), 71–72.
- 159 “Store-bought tomatoes”: Rachel Herz, *Why You Eat What You Eat: The Science Behind Our Relationship with Food* (New York: Norton, 2017), Kindle ed.
- 160 “are bulldozed”: Martin Teitel, *Rain Forest in Your Kitchen* (Washington, DC: Island Press, 1992), 62.
- 160 McDonald’s is also: *Food, Inc.*, directed by Robert Kenner, Magnolia Pictures, 2008.
- 160 yet 94 percent: “Do You Know This About Holstein Cattle?,” Holstein Association USA, [www.holsteinusa.com](http://www.holsteinusa.com).

- 160 bred for its industrial uniformity: “Holstein Breed Characteristics,” Holstein Association USA, [www.holsteinusa.com/holstein\\_breed/breed\\_history.html](http://www.holsteinusa.com/holstein_breed/breed_history.html).
- 160 “To think that”: Michael Symons, *A History of Cooks and Cooking* (Champaign: University of Illinois Press, 2000), 339.
- 161 “We always knew”: Farrelly, *Blubberland*, 154.

### Chapter 9: Forbidden Berries (or Appetite for Distraction)

- 163 “Healthy, sane humans”: Jason G. Goldman, “On Capsaicin: Why Do We Love to Eat Hot Peppers?,” *Scientific American*, November 30, 2011.
- 164 botanically they’re fruits: Maricel E. Presilla, *Peppers of the Americas* (Berkeley, CA: Ten Speed Press, 2017), 13.
- 164 Sanskrit *pippali*: John F. Mariani, *The Encyclopedia of American Food and Drink* (New York: Bloomsbury, 2013), 388.
- 164 called capsaicinoids: Shane T. McDonald, David A. Bolliet, and John E. Hayes, eds., *Chemesthesis: Chemical Touch in Food and Eating* (West Sussex: Wiley Blackwell, 2016), 32–33.
- 165 also eliminates: Presilla, *Peppers of the Americas*, 18.
- 165 nearly 400 percent better odds: Evan C. Fricke et al., “When Condition Trumps Location: Seed Consumption by Fruit-Eating Birds Removes Pathogens and Predator Attractants,” *Ecology Letters* 16, no. 8 (2013): 1031–36.
- 165 can sense capsaicin: Jeff Potter, *Cooking for Geeks: Real Science, Great Cooks, and Good Food*, 2nd ed. (Sebastopol, CA: O’Reilly Media, 2015), 59.
- 165 the human threshold: Ibid.
- 165 our trigeminal or chemical sense: McDonald et al., *Chemesthesis*, 268.
- 165 the same pain sensor: Michaelen Doucleff, “Sriracha Chemistry: How Hot Sauces Perk Up Your Food and Your Mood,” NPR, February 24, 2014, [www.npr.org/sections/thesalt/2014/02/24/281978831/sriracha-chemistry-how-hot-sauces-perk-up-your-food-and-your-mood](http://www.npr.org/sections/thesalt/2014/02/24/281978831/sriracha-chemistry-how-hot-sauces-perk-up-your-food-and-your-mood).
- 165 trigger a series: McDonald et al., *Chemesthesis*, 268.
- 166 “The traditional view”: Personal interview with Gary K. Beauchamp, September 17, 2019.
- 166 “Anyone who has”: Jean Anthelme Brillat-Savarin, *The Physiology of Taste; or, Meditations on Transcendental Gastronomy*, translated by M.F.K. Fisher (New York: Knopf, 2009).
- 166 Capsaicin is an effective: Joshua J. Tewksbury et al., “Evolutionary Ecology of Pungency in Wild Chilies,” *Proceedings of the National Academy of Sciences of the United States of America* 105, no. 33 (2008): 11808–11.
- 166 no match for elephants: Matthew Mutinda et al., “Detusking Fence-Breaker Elephants as an Approach in Human-Elephant Conflict Mitigation,” *PLOS ONE* 9, no. 3 (2014): e91749.
- 166 some farmers in Africa: Shreya Dasgupta, “How to Scare Off the Biggest Pest in the World,” BBC, [www.bbc.com/earth/story/20141204-five-ways-to-scare-off-elephants](http://www.bbc.com/earth/story/20141204-five-ways-to-scare-off-elephants).

- 166 burn bricks: Rachael Bale, “How Chili Condoms and Firecrackers Can Help Save Elephants,” *National Geographic*, June 23, 2016, [www.nationalgeographic.com/news/2016/06/elephant-conflict-deterrent-chili-condoms-firecrackers](http://www.nationalgeographic.com/news/2016/06/elephant-conflict-deterrent-chili-condoms-firecrackers).
- 167 Ranchers smear capsaicin: Rebecca Rupp, “Peppers: Can You Take the Heat?,” *National Geographic*, November 3, 2014, [www.nationalgeographic.com/culture/article/hot-hotter-hottest](http://www.nationalgeographic.com/culture/article/hot-hotter-hottest).
- 167 manufacturers have put it: Alexandra W. Logue, *The Psychology of Eating and Drinking*, 4th ed. (New York: Taylor and Francis, 2015), 266.
- 167 some carmakers have started: Bob Weber, “Squirrels Love the New Chevy Traverse, But There’s a Way to Stop Them,” *Chicago Tribune*, January 3, 2019, [www.chicagotribune.com/autos/sc-auto-motormouth-0102-story.html](http://www.chicagotribune.com/autos/sc-auto-motormouth-0102-story.html).
- 167 keep mussels from attaching: Maj-Britt Angarano et al., “Exploration of Structure-Antifouling Relationships of Capsaicin-like Compounds That Inhibit Zebra Mussel (*Dreissena Polymorpha*) Macrofouling,” *Biofouling* 23, no. 5 (2007): 295–305.
- 167 natives of the San Blas Islands: Jean Andrews, *Peppers: The Domesticated Capsicums* (Austin: University of Texas Press, 1990), 79.
- 167 numerous attempts: José I. Castro, “Historical Knowledge of Sharks: Ancient Science, Earliest American Encounters, and American Science, Fisheries, and Utilization,” *Marine Fisheries Review* 75, no. 4 (2013): 1–26.
- 167 help of Julia Child: “Julia Child: Cooking Up Spy Ops for OSS,” Central Intelligence Agency, March 30, 2020, <https://www.cia.gov/stories/story/julia-child-cooking-up-spy-ops-for-oss/>.
- 167 In the 1960s: Stuart Casey-Maslen and Sean Connolly, *Police Use of Force Under International Law* (Cambridge, UK: Cambridge University Press, 2017), 161.
- 168 to their breasts: Paul Bloom, *How Pleasure Works: The New Science of Why We Like What We Like* (New York: Norton, 2010), 28.
- 168 or to children’s thumbs: Andrews, *Peppers*, 78.
- 168 in the 1980s: Ari L. Goldman, “Youths Stealing Subway Tokens by Sucking on Turnstile Slots,” *New York Times*, February 7, 1983, [www.nytimes.com/1983/02/07/nyregion/youths-stealing-subway-tokens-by-sucking-on-turnstile-slots.html](http://www.nytimes.com/1983/02/07/nyregion/youths-stealing-subway-tokens-by-sucking-on-turnstile-slots.html).
- 168 about thirty hours: “History of the General Hourly Minimum Wage in New York State,” New York State Department of Labor, [https://labor.ny.gov/stats/minimum\\_wage.shtm](https://labor.ny.gov/stats/minimum_wage.shtm).
- 168 Repeated attempts to induce: Paul Rozin, Leslie Gruss, and Geoffrey Berk, “Reversal of Innate Aversions: Attempts to Induce a Preference for Chili Peppers in Rats,” *Journal of Comparative and Physiological Psychology* 93, no. 6 (1979): 1001–14.
- 168 “One cannot fail”: Ibid.
- 169 space peppers: C. M. Wade, “China Grows Green Peppers from Outer Space,” UPI, December 25, 2000.

- 169 if we count a greenhouse: “Record Harvest and Instructive Challenges,” EDEN-ISS, September 13, 2018, <https://eden-iss.net/index.php/2018/09/13/record-harvest-and-instructive-challenges>.
- 169 roughly a third: Goldman, “On Capsaicin.”
- 169 six thousand years after: Brendan Borrell, “What’s So Hot About Chili Peppers?,” *Smithsonian*, April 2009, [www.smithsonianmag.com/science-nature/whats-so-hot-about-chili-peppers-116907465](http://www.smithsonianmag.com/science-nature/whats-so-hot-about-chili-peppers-116907465).
- 169 up to four hundred times: Chris Malloy, “Flavor Tripping on the Pepper So Spicy It’ll Give You Visions of the Cosmos,” *Saveur*, September 15, 2017, [www.saveur.com/carolina-reaper-hottest-chile-pepper](http://www.saveur.com/carolina-reaper-hottest-chile-pepper).
- 169 They revered chilies: Ken Albala, *Food: A Cultural Culinary History*, The Great Courses, transcript book, 2013, 297.
- 169 used them medicinally: Heather Arndt Anderson, *Chillies: A Global History* (London: Reaktion, 2016), Apple Books ed.
- 169 rubbing chilies on the genitals: Albala, *Food*, 297.
- 170 holding their children over piles: Rupp, “Peppers.”
- 170 Other Aztec punishments: “Disciplining Children—Codex Mendoza [Painting],” *Children & Youth in History*, Item 277, <http://chnm.gmu.edu/cyh/items/show/277>.
- 170 “The majority of adults”: Paul Rozin and Deborah Schiller, “The Nature and Acquisition of a Preference for Chili Pepper by Humans,” *Motivation and Emotion* 4, no. 1 (1980): 77–101.
- 170 the latter of which: Earl Carstens et al., “It Hurts So Good: Oral Irritation by Spices and Carbonated Drinks and the Underlying Neural Mechanisms,” *Food Quality and Preference* 13, no. 7 (2002): 431–43.
- 170 chilies also happen: Logue, *The Psychology of Eating and Drinking*, 268.
- 170 spicy foods tend to be: Anderson, *Chillies*.
- 170 they found that the number: Jennifer Billing and Paul W. Sherman, “Antimicrobial Functions of Spices: Why Some Like It Hot,” *The Quarterly Review of Biology* 73, no. 1 (1998): 3–49.
- 171 inhibiting around 67 percent: *Ibid*.
- 171 compared to 80 percent: Logue, *The Psychology of Eating and Drinking*, 268.
- 171 Surprisingly, sour acids: Billing and Sherman, “Antimicrobial Functions of Spices.”
- 171 has a cooling effect: McDonald et al., *Chemesthesis*, 228.
- 171 *akutuq*: Zona Spray Starks, “What Is Eskimo Ice Cream?,” *Smithsonian*, July 25, 2016, [www.smithsonianmag.com/travel/eskimo-ice-cream-atlas-of-eating-native-cuisine-food-eats-smithsonian-journeys-travel-quarterly-180959431](http://www.smithsonianmag.com/travel/eskimo-ice-cream-atlas-of-eating-native-cuisine-food-eats-smithsonian-journeys-travel-quarterly-180959431).
- 171 described by Anthony Bourdain: “10 Questions for Anthony Bourdain,” *Time*, October 31, 2007, <http://content.time.com/time/magazine/article/0,9171,1680149,00.html>.
- 171 another low-tech way: John D. Speth, “Putrid Meat and Fish in the Eurasian

- Middle and Upper Paleolithic: Are We Missing a Key Part of Neanderthal and Modern Human Diet?," *PaleoAnthropology*, 2017, 44–72.
- 172 It could also be: Morten L. Kringelbach and Kent C. Berridge, *Pleasures of the Brain* (Oxford: Oxford University Press, 2009), 325–27.
- 172 feel-good chemicals: Bloom, *How Pleasure Works*, 51–52.
- 172 “Only hot water”: John Launer, “The Itch,” *QJM: An International Journal of Medicine* 97, no. 6 (2004): 383–84.
- 172 a common ingredient: Rachel Herz, *Why You Eat What You Eat: The Science Behind Our Relationship with Food* (New York: Norton, 2017), Kindle ed.
- 172 the Aztecs used chilies: Anderson, *Chillies: A Global History*.
- 172 “*Quæ fuit durum*”: W. Gurney Benham, *Cassell’s Book of Quotations*, rev. ed. (London: Cassell, 1914), 645.
- 172 “The evolutionary advantages”: Terry Burnham and Jay Phelan, *Mean Genes: From Sex to Money to Food: Taming Our Primal Instincts* (New York: Perseus, 2000), 116.
- 173 research shows a correlation: Laurent Bègue, “Some Like It Hot: Testosterone Predicts Laboratory Eating Behavior of Spicy Food,” *Physiology and Behavior* 139 (2015): 375–77.
- 173 personality constructs associated: Nadia K. Byrnes and John E. Hayes, “Personality Factors Predict Spicy Food Liking and Intake,” *Food Quality and Preference* 28, no. 1 (2013): 213–21.
- 173 Back in Aztec times: Elizabeth Morán, *Sacred Consumption: Food and Ritual in Aztec Art and Culture* (University of Texas Press, 2016), 26.
- 173 “Mardudjara aboriginal boys”: Chip Brown, “Making a Man,” *National Geographic Magazine* 231, no. 1 (2017): 75–103.
- 173 the intercollegiate goldfish-swallowing competitions: Laura Clark, “The Great Goldfish Swallowing Craze of 1939 Never Really Ended,” *Smithsonian*, February 27, 2015, [www.smithsonianmag.com/smart-news/great-goldfish-swallowing-craze-1939-180954429](http://www.smithsonianmag.com/smart-news/great-goldfish-swallowing-craze-1939-180954429).
- 174 “the seeking of varied”: Marvin Zuckerman, *Behavioral Expressions and Biosocial Bases of Sensation Seeking* (Cambridge, UK: Cambridge University Press, 1994), 27.
- 174 This would explain: Talia Mindich, “In Space, ‘Take Your Protein Pills’ and Get Your Sriracha On,” PBS, May 21, 2014, [www.pbs.org/newshour/science/astronauts-crave-tabasco](http://www.pbs.org/newshour/science/astronauts-crave-tabasco).
- 174 boredom likely plays: “Even Astronauts Get the Blues: Or Why Boredom Drives Us Nuts,” NPR, March 15, 2016, <https://www.npr.org/transcripts/470416797>.
- 174 canned biscuits: Charles Perry, “MREs: Meals Really Edible?,” *Los Angeles Times*, July 1, 1998.
- 174 Many soldiers found Spam: Carolyn Wyman, *SPAM: A Biography* (New York: Harcourt, Brace, 1999), 23.
- 174 rations included things: Andrew F. Smith, *The Oxford Companion to American Food and Drink* (Oxford: Oxford University Press, 2007), 141.



- 174 Today's MREs: "MRE 39 (2019)," Defense Logistics Agency, [www.dla.mil/TroopSupport/Subsistence/OperationalRations/mre.aspx](http://www.dla.mil/TroopSupport/Subsistence/OperationalRations/mre.aspx).
- 175 It's also why Tabasco sauce: Caitlin Kearney, "Tabasco and the War Against Bland Military Meals," National Museum of American History Behring Center, April 30, 2015, <https://americanhistory.si.edu/blog/tabasco-and-war-against-bland-military-meals>.
- 175 jalapeño ketchup: Julian E. Barnes, "Army Orders Up MREs with Kick in the Pesto," *Chicago Tribune*, June 16, 2006, [www.chicagotribune.com/news/ct-xpm-2006-06-16-0606160092-story.html](http://www.chicagotribune.com/news/ct-xpm-2006-06-16-0606160092-story.html).
- 175 *benign masochism*: Kendra Pierre-Louis, "Mayonnaise Is Disgusting, and Science Agrees," *Popular Science*, October 31, 2017, [www.popsci.com/mayonnaise-disgust](http://www.popsci.com/mayonnaise-disgust).
- 175 "initially negative experiences": Paul Rozin et al., "Glad to be Sad, and Other Examples of Benign Masochism," *Judgment and Decision Making* 8, no. 4 (2013): 439–47.
- 175 "Some teenage girls": Bloom, *How Pleasure Works*, xi.
- 175 "It's not that we like": *Ibid.*, 51.
- 176 "We watch movies": Burnham and Phelan, *Mean Genes*, 84.
- 176 "descended from the humans": *Ibid.*, 88.

#### Chapter 10: Attack of the Killer Tomatoes

- 177 "There are known knowns": "Donald Rumsfeld," *Oxford Essential Quotations*, 5th ed. (Oxford: Oxford University Press, 2017).
- 178 three hundred years after: Andrew F. Smith, *The Tomato in America: Early History, Culture, and Cookery* (Champaign, University of Illinois Press, 2001), 17.
- 178 it took the US Supreme Court: *Nix v. Hedden*, 149 U.S. 304, 1893.
- 179 this argument was contested: Smith, *The Tomato in America*, 151.
- 179 "are, like potatoes": *Nix v. Hedden*, 149 U.S. 304, 1893.
- 179 "without cheese is": Jean Anthelme Brillat-Savarin, *The Physiology of Taste; or, Meditations on Transcendental Gastronomy*, translated by M.F.K. Fisher (New York: Knopf, 2009).
- 179 tomato dessert recipes: Smith, *The Tomato in America*, 187–88.
- 179 tomatoes weren't poisonous: Matt Blitz, "How Witches and Expensive Dishes Stopped People from Eating Tomatoes," *Food and Wine*, July 31, 2017, <https://www.foodandwine.com/lifestyle/how-witches-and-expensive-dishes-stopped-people-eating-tomatoes>.
- 179 *Solanum lycopersicum*: "Lycopersicum," *Johnson's Gardener's Dictionary*, edited by C. H. Wright and D. Dewar (London: George Bell & Sons, 1894), 582.
- 179 *Wolfspflirsich*: Rolf H. J. Schlegel, *History of Plant Breeding* (Boca Raton, FL: CRC Press, 2018), Kindle ed.
- 179 tomato crops infested: Smith, *The Tomato in America*, 58.
- 179 causing them to leach: *Ibid.*, 59.

- 180 “sour trash”: Ibid., 41–42.
- 180 they were once thought: E. J. Kahn, Jr., *The Staffs of Life* (Boston: Little, Brown, 1984), 111.
- 180 bearing a resemblance to: Tom Standage, *An Edible History of Humanity* (New York: Bloomsbury, 2009), Apple Books ed.
- 180 “the Devil’s apples”: Kahn, *The Staffs of Life*, 109.
- 180 caused mothers to bear children: Ibid., 111.
- 180 growing potato plants: Ibid., 110.
- 180 wearing potato flowers: Ibid., 113.
- 180 widespread famine and crop failures: Standage, *An Edible History of Humanity*.
- 180 “were threatened with forty lashes”: Ibid.
- 180 Friedrich Wilhelm I threatened: Kahn, *The Staffs of Life*, 90.
- 180 Antoine-Augustin Parmentier took: Standage, *An Edible History of Humanity*.
- 180 per capita annual consumption: “Loss-Adjusted Food Availability—Vegetables,” Food Availability (Per Capita) Data System, US Department of Agriculture Economic Research Service, September 23, 2020.
- 181 led largely by French fries: “Potatoes and Tomatoes Are the Most Commonly Consumed Vegetables,” US Department of Agriculture Economic Research Service, August 28, 2019.
- 181 the consumption of onions: Ibid.
- 181 is only about nine pounds: “Loss-Adjusted Food Availability—Vegetables.”
- 181 consumption of corn: “Loss-Adjusted Food Availability—Grains,” “Loss-Adjusted Food Availability—Sugar and sweeteners (added),” Food Availability (Per Capita) Data System, US Department of Agriculture Economic Research Service, January 5, 2021.
- 181 “death by fruit”: Bee Wilson, *First Bite: How We Learn to Eat* (New York: Basic Books, 2015), Kindle ed.
- 181 a 1569 ban: Kate Colquhoun, *Taste: The Story of Britain through Its Cooking* (New York: Bloomsbury, 2007), 107.
- 181 it was common practice: Terence Scully, *The Art of Cookery in the Middle Ages* (Woodbridge, UK: Boydell Press, 1995), 20.
- 181 they were rebranded: G. Bruce Knecht, *Hooked: Pirates, Poaching, and the Perfect Fish* (Emmaus, PA: Rodale, 2006), 9.
- 181 they’re neither technically a bass: Ibid.
- 181 many come from waters: “Patagonian toothfish (*Dissostichus eleginoides*),” Food and Agriculture Organization of the United Nations, [www.fao.org/3/y5261e/y5261e09.htm](http://www.fao.org/3/y5261e/y5261e09.htm).
- 181 579 metric tons in 1979: “Global Capture Production for Species (Tonnes)” graph, “Species Fact Sheets: *Dissostichus eleginoides* (Smitt, 1898),” Food and Agriculture Organization of the United Nations, FAO FishStat.
- 181 when they were known: Paul Greenberg, “The Catch,” *New York Times*,

- October 23, 2005, [www.nytimes.com/2005/10/23/magazine/the-catch.html](http://www.nytimes.com/2005/10/23/magazine/the-catch.html).
- 182 more than 44,000 tons in 1995: “Global Capture Production for Species (Tonnes).”
- 182 The same thing happened: Jennifer L. Jacquet and Daniel Pauly, “Trade Secrets: Renaming and Mislabeled of Seafood,” *Marine Policy* 32, no. 3 (2008): 309–18.
- 182 “whore’s eggs”: Christa Weil, “More than One Way to Crack an Urchin” in *Eggs in Cookery: Proceedings of the Oxford Symposium on Food and Cookery 2006*, edited by Richard Hosking (Devon, UK: Prospect, 2007), 266.
- 182 “Today’s seafood is often”: David A. Fahrenthold, “Unpopular, Unfamiliar Fish Species Suffer From Become Seafood,” *Washington Post*, July 31, 2009.
- 182 “spaghetti plantations”: “Is This the Best April Fool’s Ever?,” BBC News, March 31, 2014.
- 182 where they could buy: “On This Day: 1 April 1957: BBC Fools the Nation,” BBC News.
- 182 In the 1980s: Elizabeth Green, “Why Do Americans Stink at Math?,” *New York Times Magazine*, July 23, 2014, <https://www.nytimes.com/2014/07/27/magazine/why-do-americans-stink-at-math.html>.
- 182 lawmakers in West Virginia: Nathan Takitch, “DHHR: Results Inconclusive in Raw Milk Investigation,” WSAZ NewsChannel 3, March 8, 2016.
- 183 among them: “Raw (Unpasteurized) Milk,” Centers for Disease Control and Prevention, [www.cdc.gov/features/rawmilk/index.html](http://www.cdc.gov/features/rawmilk/index.html).
- 183 Scott Cadle: Eric Eyre and David Gutman, “Agency Investigates Lawmaker Who Distributed Raw Milk to Celebrate Bill Passage,” *Charleston Gazette-Mail*, March 8, 2016.
- 183 “It didn’t have”: Jonathan Mattise, “Lawmakers Celebrate Raw Milk, Deny Being Sickened by It,” Associated Press, March 9, 2016.
- 183 “It ain’t because”: Eyre and Gutman, “Agency Investigates Lawmaker Who Distributed Raw Milk to Celebrate Bill Passage.”
- 183 he flushed the remainder: Eric Eyre, “Results of Raw Milk Inquiry at WV Capitol Inconclusive, DHHR Says.”
- 183 a twenty-page pamphlet: “Nutrition and Your Health: Dietary Guidelines for Americans,” US Department of Agriculture, February 1980.
- 183 Their 2015 guidelines: *2015–2020 Dietary Guidelines for Americans*, US Department of Agriculture, January 7, 2016.
- 183 “The U.S. has joined”: “New Dietary Guidelines Remove Daily Limit on Cholesterol and Include Eggs in Recommended Eating Patterns,” press release, American Egg Board, January 7, 2016.
- 183 “makes more than enough”: *2015–2020 Dietary Guidelines for Americans*, U.S. Department of Agriculture, 32.
- 184 Appendix 3, Table A3-1: *Ibid.*, 79–82.
- 184 Appendix 2, Table A2-1: *Ibid.*, 77–78.

- 184 Appendix 4, Table A4-1: Ibid., 83–85.
- 184 One large egg, for example: Ibid., 19.
- 184 an egg has to weigh: “Specifications for Shell Eggs: A ‘How to’ Guide for Food Service Suppliers and Volume Food Buyers,” US Department of Agriculture, November 10, 2017, 4.
- 184 4 ounces of pork: *2015–2020 Dietary Guidelines for Americans*, U.S. Department of Agriculture, 19.
- 184 still about 300 milligrams: Ibid., 32.
- 184 they’re simultaneously charged: Marion Nestle, *What to Eat* (New York: Farrar, Straus and Giroux, 2010), Apple Books ed.
- 185 The USDA is responsible: “Exhibit 3-1: FDA/USDA Jurisdiction,” *Investigations Operations Manual 2021*, US Food and Drug Administration, 2021.
- 185 while the FDA is responsible: Ibid.
- 185 fish other than catfish: “FDA Transfers Siluriformes Fish Inspection to USDA,” US Food and Drug Administration, constituent update, May 2, 2016.
- 185 The division of eggs: “Exhibit 3-1: FDA/USDA Jurisdiction.”
- 185 roughly 78 percent: “Fact Sheet: FDA at a Glance,” US Food and Drug Administration, November 2020.
- 185 the FDA oversees: Ibid.
- 186 the use of medicinal maggots: Bob Carlson, “Crawling Through the Millennium: Maggots and Leeches Come Full Circle,” *Biotechnology Healthcare* 3, no. 1 (2006): 14–17.
- 186 go more than five years: *The Role and Performance of FDA in Ensuring Food Safety* (Washington, DC: US Government Printing Office, 2012), 67.
- 186 a much larger percentage: Neal D. Fortin, *Food Regulation: Law, Science, Policy, and Practice* (Hoboken, NJ: Wiley, 2011).
- 186 “48 million people”: “Burden of Foodborne Illness: Overview,” Centers for Disease Control and Prevention, November 5, 2018.
- 186 “so opaque or confusing”: Barbara Presley Noble, “All About/Product Labeling; After Years of Deregulation, a New Push to Inform the Public,” *New York Times*, October 27, 1991, [www.nytimes.com/1991/10/27/business/all-about-product-labeling-after-years-deregulation-new-push-inform-public.html](http://www.nytimes.com/1991/10/27/business/all-about-product-labeling-after-years-deregulation-new-push-inform-public.html).
- 186 research tends to negate this: F. De Alzaa, C. Guillaume, and L. Ravetti, “Evaluation of Chemical and Physical Changes in Different Commercial Oils During Heating,” *Acta Scientifica Nutritional Health* 2, no. 6 (2018): 2–11.
- 186 an ability to lower: “Olive Oil 101: Health and Nutrition,” California Olive Oil Council, [www.cooc.com/health-nutrition](http://www.cooc.com/health-nutrition).
- 187 analysts estimate: Larry Olmsted, *Real Food/Fake Food* (Chapel Hill, NC: Algonquin Books of Chapel Hill, 2016), 91.

- 187 “virtually every investigation”: Ibid.
- 187 Fredrick Accum warned: Fredrick Accum, *A Treatise on Adulterations of Food and Culinary Poisons* (London: Mallett, 1820), 334–35.
- 187 an estimated ten thousand: Spencer D. Segalla, *Empire and Catastrophe: Decolonization and Environmental Disaster in North Africa and Mediterranean France Since 1954* (Lincoln: University of Nebraska Press, 2020), 78.
- 187 turned out to be machine oil: Richard Lorant, “Mass Poisoning in Spain Still Steeped in Mystery,” *Los Angeles Times*, June 16, 1991.
- 187 faking its graded virginity: Rodney J. Mailer and Stefan Gafner, “Adulteration of Olive (*Olea europaea*) Oil,” *Botanical Adulterants Prevention Bulletin*, Botanical Adulterants Prevention Program, October 2020.
- 187 there’s a lot of methylmercury: Nestle, *What to Eat*.
- 187 high levels of omega-3: Peter Wehrwein, “High Intake of Omega-3 Fats Linked to Increased Prostate Cancer Risk,” *Harvard Health Blog*, Harvard Medical School, August 1, 2013.
- 187 “that grows upon”: Henry Butts, *Dyets Dry Dinner* (London: Creede, 1599).
- 188 which was mostly a precaution: Joanna Klein, “Oysters, Despite What You’ve Heard, Are Always in Season,” *New York Times*, May 5, 2017, [www.nytimes.com/2017/05/05/science/oysters-summer-safe-r-months.html](http://www.nytimes.com/2017/05/05/science/oysters-summer-safe-r-months.html).
- 188 as Anthony Bourdain advised: Anthony Bourdain, *Kitchen Confidential: Adventures in the Culinary Underbelly* (New York: Bloomsbury, 2000), 64–65.
- 188 Bourdain revised: “Anthony Bourdain Tells Us It’s OK to Eat Fish on Mondays Now—Here’s Why,” *Business Insider*, October 31, 2016.
- 188 “To make an intelligent choice”: Nestle, *What to Eat*.
- 188 two high school girls: John Schwartz, “A Fish Story with a DNA Hook,” *New York Times*, August 22, 2008, A1.
- 188 collected 142 fish samples: Kimberly Warner, Walker Timme, and Beth Lowell, “Widespread Seafood Fraud Found in New York City,” *Oceana*, December 2012.
- 189 “ex-lax fish”: Olmsted, *Real Food/Fake Food*, 48.
- 189 contains toxins: *Fish and Fishery Products: Hazards and Controls Guidance*, 4th ed., Department of Health and Human Services, Public Health Service, Food and Drug Administration, Center for Food Safety and Applied Nutrition, Office of Food Safety, March 2020, 6–2.
- 189 “women who are”: Warner et al., “Widespread Seafood Fraud Found in New York City.”
- 189 In 2007, samples: “Tetrodotoxin,” *Bad Bug Book: Handbook of Foodborne Pathogenic Microorganisms and Natural Toxins*, US Food and Drug Administration, 2012.
- 189 an *Inside Edition* investigation: “A Third of Tested Restaurant Lobster Dishes Actually Contain Cheaper Seafood, Investigation Shows,” *Inside Edition*, February 8, 2016, [www.insideedition.com/headlines/14518-a](http://www.insideedition.com/headlines/14518-a)

-third-of-tested-restaurant-lobster-dishes-actually-contain-cheaper-sea food-investigation-shows.

- 189 Meanwhile, a lot of restaurants: “Lobstermen Seeing Red over Langostinos,” NPR, October 27, 2006, [www.npr.org/transcripts/6394216](http://www.npr.org/transcripts/6394216).
- 189 “As a seafood expert”: “A Third of Tested Restaurant Lobster Dishes Actually Contain Cheaper Seafood, Investigation Shows.”
- 190 In 1499, King Henry VII: J. Lawrence-Hamilton, “Fish Frauds,” *The Lancet* 2, November 16, 1889, 1024–25.
- 190 “as to make skinny”: Ibid.
- 190 stuffing fresh haddock: Ibid.
- 190 plugging the holes: George Smeeton, *Doings in London; Or, Day and Night Scenes of the Frauds, Frolics, Manners, and Depravities, of the Metropolis* (Southwark, UK: Smeeton, 1828), 141.
- 190 in 1272, Edward I: J. Lawrence-Hamilton, “Ice Spoils Fish,” *The Lancet* 2, September 21, 1889, 614–16.
- 190 Corrupt vendors who were caught: J. Lawrence-Hamilton, “‘Fish’ and ‘Fish’ Inspection,” *Public Health, the Journal of the Incorporated Society of Medical Officers of Health*, 6, no. 1 (1893): 20–21.
- 190 nearly half of the advertised weight: “Have Some Oranges with That Liquid,” *Consumer Reports*, February 2013, [www.consumerreports.org/cro/magazine/2013/02/have-some-oranges-with-that-liquid/index.htm](http://www.consumerreports.org/cro/magazine/2013/02/have-some-oranges-with-that-liquid/index.htm).
- 190 frozen chicken breasts: Felicity Lawrence, “Supermarkets Selling Chicken That Is Nearly a Fifth Water,” *The Guardian*, December 6, 2013, [www.theguardian.com/world/2013/dec/06/supermarket-frozen-chicken-breasts-water](http://www.theguardian.com/world/2013/dec/06/supermarket-frozen-chicken-breasts-water).
- 190 taken by more than half: “Poll Finds 86% of Americans Take Vitamins or Supplements Yet Only 21% Have a Confirmed Nutritional Deficiency,” American Osteopathic Association, January 16, 2019.
- 190 orange juice with added calcium: “Tropicana Pure Premium® Calcium + Vitamin D (No Pulp),” Tropicana, [www.tropicana.com/products/pure-premium/no-pulp-calcium-vitamin-d](http://www.tropicana.com/products/pure-premium/no-pulp-calcium-vitamin-d).
- 190 healthy heart orange juice: “Tropicana Pure Premium® Healthy Heart,” Tropicana, [www.tropicana.com/products/pure-premium/healthy-heart](http://www.tropicana.com/products/pure-premium/healthy-heart).
- 191 vitamin C and zinc orange juice: “Tropicana Pure Premium® Vitamin C + Zinc (No Pulp),” Tropicana, <https://www.tropicana.com/products/trop50/vitamin-c-zinc-no-pulp-trop50>.
- 191 pineapple mango juice with probiotics: “Tropicana Essentials® Pineapple Mango Probiotics,” Tropicana, [www.tropicana.com/products/tropicana-essentials/pineapple-mango-tep](http://www.tropicana.com/products/tropicana-essentials/pineapple-mango-tep).
- 191 apple cherry juice with fiber: “Tropicana Essentials® Apple Cherry Fiber,” Tropicana, [www.tropicana.com/products/tropicana-essentials/apple-cherry-fiber](http://www.tropicana.com/products/tropicana-essentials/apple-cherry-fiber).
- 191 Dannon makes probiotic yogurt: “Probiotic Yogurt,” Activia, [www.activia.us.com/probiotic-yogurt](http://www.activia.us.com/probiotic-yogurt).

- 191 cotton candy–flavored smoothies: “Cotton Candy Smoothie,” Dannon Company, <http://danimals.com/kids-yogurt-and-smoothies/kids-smoothies/cotton-candy>.
- 191 Nestlé even has: “Fortification: It’s All About Defenses!,” Nestlé, [www.nestle-cereals.com/me/en/ingredients/our-cereal-ingredients/fortified-cereals](http://www.nestle-cereals.com/me/en/ingredients/our-cereal-ingredients/fortified-cereals).
- 191 “We believe”: “Nestlé Nesquik: Nourishing Possibility,” Nestlé, [www.nestle-cereals.com/global/en/nesquikr](http://www.nestle-cereals.com/global/en/nesquikr).
- 191 one study published: Theodore M. Brasky, Emily White, and Chi-Ling Chen, “Long-Term, Supplemental, One-Carbon Metabolism-Related Vitamin B Use in Relation to Lung Cancer Risk in the Vitamins and Lifestyle (VITAL) Cohort,” *Journal of Clinical Oncology* 35, no. 30 (2017): 3440–48.
- 191 Another study found: Alice Park, “Vitamins and Supplements Linked to Higher Risk of Death,” *Time*, October 11, 2011, <https://healthland.time.com/2011/10/11/vitamins-and-supplements-linked-to-higher-risk-of-death-in-older-women>.
- 191 large doses of vitamin B: Shawn Bishop, “Take Vitamin Supplements with Caution: Some May Actually Cause Harm,” Mayo Clinic, January 4, 2013, <https://newsnetwork.mayoclinic.org/discussion/take-vitamin-supplements-with-caution-some-may-actually-cause-harm>.
- 191 too much calcium and vitamin D: “The Truth About Heart Vitamins and Supplements,” Johns Hopkins Medicine, [www.hopkinsmedicine.org/health/wellness-and-prevention/the-truth-about-heart-vitamins-and-supplements](http://www.hopkinsmedicine.org/health/wellness-and-prevention/the-truth-about-heart-vitamins-and-supplements).
- 191 a 2014 analysis: “How Much Is Too Much? Excess Vitamins and Minerals in Food Can Harm Kids’ Health,” Environmental Working Group, June 2014, [www.ewg.org/research/how-much-is-too-much](http://www.ewg.org/research/how-much-is-too-much).
- 191 “a non-profit, non-partisan organization”: “About Us,” Environmental Working Group, [www.ewg.org/about-us](http://www.ewg.org/about-us).
- 192 “woefully outdated”: “How Much Is Too Much? Excess Vitamins and Minerals in Food Can Harm Kids’ Health,” 3.
- 192 A 2015 investigation: “A.G. Schneiderman Asks Major Retailers to Halt Sales of Certain Herbal Supplements as DNA Tests Fail to Detect Plant Materials Listed on Majority of Products Tested,” New York State Office of the Attorney General, February 3, 2015, <https://ag.ny.gov/press-release/2015/ag-schneiderman-asks-major-retailers-halt-sales-certain-herbal-supplements-dna>.
- 192 Other studies have found: Gerry Schwalfenberg, Ilia Rodushkin, and Stephen J. Genuis, “Heavy Metal Contamination of Prenatal Vitamins,” *Toxicology Reports* 5 (2018): 390–95.