Notes

Introduction

4 “We were jumped on!”: David Kritchevsky, interview with author, May 31, 2005.

6 In writing this book: The author has no conflicts of interest; she has never received any financial or in-kind support, either directly or indirectly, from any party with an interest related to any of the topics covered in this book.

1. The Fat Paradox: Good Health on a High-Fat Diet


9 “The chief occasion for vegetables . . .”: Ibid., 23.


10 “They should have been in a wretched state”: Stefansson, *Fat of the Land*, xvi.


10 would certainly die: Ibid., 71.

10 “The symptoms brought on at Bellevue”: Ibid., 69.


subsistence was “easy” . . . “labor light” . . . “seem sedentary”: Mann, “Cardiovascular Disease in the Masai,” 309.

no evidence of a heart attack: Ibid.


Nor did the Masai suffer from other: Mann, “Cardiovascular Disease in the Masai,” 303–306.


be found that he could reproduce: Ibid., 24–29.


would likely have been raised: W. W. Newcombe, Jr., The Indians of Texas: From Prehistoric to Modern Times (Austin: University of Texas Press, 1961): 92, 98, 100, 138, 160, 163, 197, and 323.

“no error could account for”: Hrdlička, Physiological and Medical Observations, 40–41.

“not one of these . . . demented or helpless”: Ibid., 158.
"some seem to assume that it does not exist": George Prentice, “Cancer among Negroes,” British Medical Journal 2, no. 3285 (1923): 1181.

“relative immunity . . . The negroes, when they can get it”: Ibid.


“if people had only rabbits . . .”: John D. Speth, Bison Kills and Bone Counts: Decision Making by Ancient Hunters (Chicago: University of Chicago Press, 1983), 151.


fat was “the determining criteria” when hunting: Philippe Max Rouja, Éric Dewailly, and Carole Blanchet, “Fat, Fishing Patterns, and Health among the Bardi People of North Western Australia,” Lipids 38, no. 4 (2003): 399–405.

was considered “rubbish” . . . “to be enjoyed”: Ibid., 400.


most of the game “were too lean for use”: Ibid., 152.

2. Why We Think Saturated Fat Is Unhealthy


Keys discovered a passion: Blackburn, interview with Keys, Health Revolutionary.


22 Contemporaries note that rabbits: Ancel Keys was one of the researchers making this objection; Ancel Keys, “Human Atherosclerosis and the Diet,” *Circulation* 5, no. 1 (1952): 115–118.


23 there was “overwhelming evidence”: Keys, “Human Atherosclerosis and the Diet,” 116.


Keys suggested that researchers: Keys, “Diet and the Epidemiology of Coronary Heart Disease,” 1914.


was far more heterogeneity: Qintão, Grundy, and Ahrens, “Effects of Dietary Cholesterol on the Regulation of Total Body Cholesterol in Man.”

one of his most “gratifying contributions”: Ahrens, “After 40 Years of Cholesterol-Watching,” 1444.


Keys’s graph suggested that: Keys, “Atherosclerosis: A Problem in Newer Public Health.”

Keys thought fat must make people fat: Keys, “Diet and the Epidemiology of Coronary Heart Disease,” 1918.


A good portion of his early papers: Keys, “Diet and the Epidemiology of Coronary Heart Disease,” 1913–1914; Ancel Keys and Francisco Grande, “Role of Dietary Fat in

30 He and his wife, Margaret . . . the locals’ cholesterol: Keys et al., “Effects of Diet on Blood Lipids in Man,” 34–52.


30 It must instead be due to diet: Keys and Grande, “Role of Dietary Fat in Human Nutrition,” 1520–1530.

30 ‘only the factor of fat appears’: Keys et al., “Effects of Diet on Blood Lipids in Man,” 42.

30 ‘dominated by the long-time effects’: Keys, “Diet and the Epidemiology of Coronary Heart Disease,” 1912.


31 Other scientists noted: George V. Mann, “Epidemiology of Coronary Heart Disease,” American Journal of Medicine 23, no. 3 (1957): 463–480.


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he had secured an appointment: Kromhout, Menotti, and Blackburn, eds., The Seven Countries Study, 196.

Keys is the only researcher he mentions by name: Ibid., 76.


“I remember the mood in the lab”: Henry Blackburn, interview with author, November 9, 2008.


national statistics were unreliable: Ancel Keys, “Epidemiologic Aspects of Coronary Artery Disease,” Journal of Chronic Diseases 6, no. 4 (1957): 552–559.


Keys was fully aware: Keys, Symposium on Atherosclerosis, 119.

“negative versus positive”: Ancel Keys, “Epidemiologic Aspects of Coronary Artery Disease,” 552.


A number of critics have since pointed out: Ravnskov, The Cholesterol Myths, 18–19; Gary Taubes, Good Calories, Bad Calories: Fats, Carbs and the Controversial Science of Diet and Health (New York: Alfred A. Knopf, 2007), 32.

as he wrote, he chose places that he thought: Alessandro Menotti, email message to author, September 10, 2008.

“where he found enthusiastic help”: Menotti, email message to author, September 10, 2008; Flaminio Fidanza, another original team member on the Seven Countries study, confirmed this assessment: Flaminio Fidanza, email message to author, September 16, 2008.

“Keys just had a personal aversion”: Blackburn, interview.


38 according to one tally: Calculation by John Aravanis, M.D., from personal communication with his father, Christos Aravanis, who directed the Greek portion of the Seven Countries Study.
38 the number was ridiculously low... was 290: Keys, Seven Countries: A Multivariate Analysis, 65.
39 Saturated fat comprised: Keys, “Coronary Heart Disease in Seven Countries.”
40 “strict adherence [to Lent] did not seem to be common”: Keys, “Coronary Heart Disease in Seven Countries,” I-166.
40 no attempt was made... “a remarkable and troublesome omission”: Katerina Sarri and Anthony Kafatos, letter to the editor, “The Seven Countries Study in Crete: Olive Oil, Mediterranean Diet or Fasting?” Public Health Nutrition 8, no. 6 (2005): 666.
41 “we should not”... “the ideal thing all the time”: Daan Kromhout, interview with author, October 4, 2007.
42 category of foods... which had a correlation coefficient: Alessandro Menotti et al., “Food Intake Patterns and 25-Year Mortality from Coronary Heart Disease: Cross-Cultural Correlations in the Seven Countries Study,” European Journal of Epidemiology 15, no. 6 (1999): 507–515.
42 “too troublesome” to recode: Alessandro Menotti, interview with author, July 24, 2008.
42 “Keys was very opposed to the sugar idea”: Kromhout, interview.
43 “He was so convinced that fatty acids”... “own point of view”: Ibid.
43 “Yudkin and his commercial backers”: Ancel Keys and Margaret Keys, How to Eat Well and Stay Well the Mediterranean Way (Garden City, NY: Doubleday, 1975), 58.
“Sugar was never discussed properly”: Menotti, interview.


### 3. The Low-Fat Diet Is Introduced to America


*Procter & Gamble (P&G) designated:* H. M. Marvin, *1924–1964: The 40 Year War on Heart Disease* (New York: American Heart Association, 1964), adapted from an address originally presented before officers of affiliated Heart Associations in 1956.

“suddenly the coffers were filled . . . dreams are made of?”. Ibid., 51.

“bang of big bucks” . . . “launched”: Ibid.

three hundred chapters . . . $30 million annually: Moore, *Fighting for Life*, 77; $30 million: Marvin, *1924–1964: The 40 Year War on Heart Disease*.


Malhotra studied the disease: S. L. Malhotra, “Epidemiology of Ischaemic Heart Disease in Southern India with Special Reference to Causation,” British Heart Journal 29, no. 6 (1967): 898; S. L. Malhotra, “Geographical Aspects of Acute Myocardial Infarction in India with Special Reference to Patterns of Diet and Eating,” British Heart Journal 29, no. 3 (1967): 337–344.


The majority of the 179 Roseto men . . . the years of the survey: Ibid.

Keys concluded that the Roseto data: Ibid., 139.


The type of fat also varied dramatically: Ibid.

Resisting these “idols of the mind”: Francis Bacon, Novum Organum Scientiarum, England, 1620, Book I: XXXIV.


Ahrens was objecting: Ahrens et al., “Dietary Control of Serum Lipids in Relation to Atherosclerosis,” 1906.


high triglyceride levels were far more common: Margaret J. Albrink, “The Significance of Serum Triglycerides,” *Journal of the American Dietetic Association* 42 (1963): 29–31.


wheras a contrasting vial: Ibid.

normal chemical process which occurs”: Ibid., 134.


But let’s talk . . . No, we’re researching this” . . . “He always opposed any statement”: Jeremiah Stamler, interview with author, April 22, 2009.

And Yudkin!” . . . “soundrel”: Ibid.


cholesterol numbers were fully a quarter higher: José Day et al., “Anthropometric, Physiological and Biochemical Differences between Urban and Rural Maasai,” *Atherosclerosis* 23, no. 2 (1976): 357–361.


he thought were a better reference point: Ancel Keys and Margaret Keys, *How to Eat Well and Stay Well the Mediterranean Way* (Garden City, NY: Doubleday, 1975), xi.


ends by recommending: Ibid., xii.


could be found: Carl C. Seltzer, “The Framingham Heart Study Shows No Increases in Coronary Heart Disease Rates from Cholesterol Values of 205–264 mg/dL,” Giornale Italiano di Cardiologia (Padua) 21, no. 6 (1991): 683.

In fact, half of the people . . . : Anderson, Castelli, and Levy, “Cholesterol and Mortality.”

“There is an 11% increase”: Ibid., 2176.


“That went over . . . wanted us to find”: George V. Mann, interview with author, October 5, 2005.


“the more saturated fat one ate”: William P. Castelli, “Concerning the Possibility of a Nut . . . ” Archives of Internal Medicine 152, no. 7 (1992): 1371–1372 (emphasis added).

the problem must have been one of imprecise collection: William P. Castelli, interview with author, March 16, 2007.


“pretty devastating . . . she was right . . . forceful and persuasive”: Mann, interview.


AHA president worked closely: Moore, Fighting for Life, 99 and 271.

70 AHA presidents “almost routinely” directed: Moore, *Fighting for Life*, 98. See also, 271–276.

70 *White helped found*: “The International Society of Cardiology (ISC) and CVD Epidemiology,” Division of Epidemiology & Community Health of the School of Public Health, University of Minnesota, http://www.epi.umn.edu/evdepi/essay.asp?id=186.


70 *This was a daunting task*: George V. Mann, “A Short History of the Diet/Heart Hypothesis,” 12.


4. The Flawed Science of Saturated versus Polyunsaturated Fats


73 *and instructed them to reduce their consumption*: George Christakis et al., “Summary of the Research Activities of the Anti-Coronary Club,” *Public Health Reports* 81, no. 1 (1966): 64–70.


74 *somewhat unusual* . . . *risk factors . . . result was buried*: George Christakis et al., “Effect of the Anti-Coronary Club Program on Coronary Heart Disease Risk-Factor Status,” *Journal of the American Medical Association* 198, no. 6 (1966): 597–604.


75 *Was it not possible* . . . *that a diet*: Dayton et al., “A Controlled Clinical Trial of a Diet High in Unsaturated Fat,” II-2.


76 a top nutrition expert: Barbara V. Howard, interview with author, June 13, 2005.


78 a traditional Norwegian diet . . . 40 percent fat: Ibid., 35.

78 cholesterol-lowering diet: Ibid., 27.

78 the diets contained about the same amount of fat: Ibid., 82.

78 not with enthusiasm: Ibid., 30.

78 Leren published his findings: Ibid.

78 eating a great deal of hard margarine and hydrogenated fish oils: Ibid., 35.


81 Stamler remembers: Jeremiah Stamler, interview with author, April 22, 2009.


81 various confirmation tests: Ibid., I-10–I-11.

81 “A housewife would order . . . done so well”: Stamler, interview, April 22, 2009.


82 to promoting a “prudent” diet: Stamler, interview, April 22, 2009.


“has become a stampede”: Karl Robe, “Focus Gets Clearer on Confused Food Oil Picture,” *Food Processing* (December 1961): 62.

“higher and higher amounts of polyunsaturated oils”: Ibid.


“must make alliances with”: Stamler, interview, April 22, 2009.


easier to digest: Ibid., 5.


“lardy” flavor . . . “true taste”: Ibid., 11.

“Kitchen odors”: Ibid., 12.


““Crisco’ written in their place”: Procter & Gamble, in *The Story of Crisco*, 6.


“everything but the kitchen sink”: Jeremiah Stamler, interview with author, May 1, 2009.


floated various possible explanations: Ibid., 1476.


down the treatment group was found to have: Barbara J. Shaten et al., “Lung Cancer Mortality after 16 Years in MRFIT Participants in Intervention and Usual-Care Groups: Multiple Risk Factor Intervention Trial,” Annals of Epidemiology 7, no. 2 (1997): 125–136.


One of the things that Stamler told me: Stamler, interview, April 22, 2009.


Another early study that raised a health concern about corn oil was: Arthur J. Patek et al., “Cirrhosis-Enhancing Effect of Corn Oil,” Archives of Pathology 82, no. 6 (1966): 596–601.


clearly dismayed... “even more puzzling”: Manning Feinleib, interview with author, April 20, 2009.


When I mentioned all this to Stamler: Stamler, interview, May 1, 2009.


researchers were unable to find: Ibid.


“It had no INDEPENDENT effect”: Stamler, interview, April 22, 2009.

was to worship God: Jack H. Medalie et al., “Five-Year Myocardial Infarction Incidence—II. Association of Single Variables to Age and Birthplace,” Journal of Chronic Disease 26, no. 6 (1973): 325–349.


“no proof that such activity offsets”: “Can I Avoid a Heart Attack?,” 605.

“cure should not be worse”: Ibid., 607.

In fact, Seymour Dayton was concerned: Dayton et al., “A Controlled Clinical Trial of a Diet High in Unsaturated Fat,” II-57.


such “unmanageable proportions”: Hans Kaunitz, “Importance of Lipids in Arteriosclerosis: An Outdated Theory,” in Select Committee on Nutrition and Human Needs of the


5. The Low-Fat Diet Goes to Washington


105 Mottern found them objectionable: Nick Mottern, interview with author, March 25, 2009.

105 And he believed the meat industry to be wholly corrupt: Mottern, interview.

105 In his eyes, the controversy pitched: Mottern, interview.


105 “I admired them”: Mottern, interview.


108 this variance alone could have explained: Rekha Garg, Jennifer H. Madans, and Joel C. Kleinman, “Regional Variation in Ischemic Heart Disease Incidence,” *Journal of Clinical Epidemiology* 45, no. 2 (1992): 149–156.


109 a research finding that just three: An Pan et al., “Red Meat Consumption and Mortality: Results from 2 Prospective Cohort Studies,” *Archives of Internal Medicine* 172, no. 7 (2012): 555–563.


110 the top meat eaters were also found: Pan et al., “Red Meat Consumption and Mortality,” 557.


111 the reported difference: World Cancer Research Fund and the American Institute for Cancer Research, *Food, Nutrition, Physical Activity, and the Prevention of Cancer: A


“rich in meat” . . . “linked to heart disease”: Ibid., 2.

“killer diseases”: Ibid., 1.


has been echoed: Geoffrey Cannon, Food and Health: The Experts Agree (London: Consumers’ Association, 1992).


“treated with equal carelessness”: Ibid., 81.

apparently so fat . . . now-extinct species: Ibid., 72.

food included beef . . . does not mention: Ibid., 87.

Infants were fed beef: Ibid., 132.

Americans ate twice as much beef: Ibid., 192.


relished the viscera . . . “highly esteemed”: Root and De Rochemont, Eating in America, 40.


Even slaves . . . “These sources do give us some confidence . . .”: Horowitz, Putting Meat on the American Table, 12.

chicken was considered . . . for their eggs: Ibid., 103.

different sources of government data: Daniel et al., “Trends in Meat Consumption in the USA.”


avoid leafy vegetables": Cummings, The American and His Food, 128.

fruit and salad were avoided: Root and De Rochemont, Eating in America, 130.


“plenty of them over 60”: Paul D. White, “Coronary Heart Disease: Then and Now,” Journal of the American Medical Association 203, no. 9 (1968): 282.


they did not revive for another twenty years: Root and De Rochemont, Eating in America, 211.

Fat intake did rise during those years: Mohamed A. Antar, Margaret A. Ohlson, and Robert E. Hodges, “Perspectives in Nutrition: Changes in Retail Market Food Supplies in the United States in the Last Seventy Years in Relation to the Incidence of Coronary Heart Disease, with Special Reference to Dietary Carbohydrates and Essential Fatty Acids,” American Journal of Clinical Nutrition 14 (1964): 169–178.


the report advised: Select Committee on Nutrition and Human Needs, Dietary Goals for the United States, 6.


“The question . . . is . . .”: Broad, “NIH Deals Gingerly with Diet-Disease Link,” 1176.


“benefits could be expected”: Broad, “NIH Deals Gingerly with Diet-Disease Link,” 1176.


The board had actually been solicited by the USDA: Broad, “NIH Deals Gingerly with Diet-Disease Link,” 1175.


“best in the world”: Broad, “NIH Deals Gingerly with Diet-Disease Link,” 1175.


academy were at odds!: Hegsted, “Washington—Dietary Guidelines.”


The Times concluded: Ibid.


129 *In addition, populations found to have very low cholesterol:* Tanaka et al., “Risk Factors for Cerebral Hemorrhage and Cerebral Infarction in a Japanese Rural Community”; Kagan et al., “Epidemiologic Studies of Coronary Heart Disease and Stroke in Japanese Men Living in Japan, Hawaii and California: Incidence of Stroke in Japan and Hawaii.”

“I can’t fully explain it and it worries”. Ibid.


pushed the data . . . it seemed more like “advocacy”: Ibid., 2091 and 2093.


“keystone in the arch”: Kolata, “Heart Panel’s Conclusions Questioned,” 40.


in March 1984, *Time* magazine ran: “Sorry It’s True: Cholesterol Really Is a Killer.”

wrote a skeptical piece: Kolata, “Heart Panel’s Conclusions Questioned,” 40–41.


there was “a price to pay”: Donald J. McNamara, interview with author, September 26, 2005.

“public is being hosed”: Quoted in Moore, *Heart Failure*, 63.

### 6. How Women and Children Fare on a Low-Fat Diet

the agency has long been influenced: Marion Nestle, *Food Politics* (Berkeley, CA: University of California Press, 2002).


two studies had contradictory results: A. Korányi, “Prophylaxis and Treatment of the Coronary Syndrome,” *Therápi*a *Hungarica* 12 (1963): 17; Research Committee, “Low-


143 Why do you want to know? . . . not the best evidence”: Dean Ornish, interview with author, May 12, 2009.


143 “we also found improvements . . . quibble about that”: Ornish, interview, May 14, 2009.


144 to compare the Masai to a neighboring tribe: John B. Orr and John L. Gilks, Studies of Nutrition: The Physique and Health of Two African Tribes, Medical Research Council

“great bulk” of their food . . . “legumes, and green leaves”: Ibid., 21.

to suffer from . . . to contract rheumatoid arthritis: Ibid., 9.

5 inches taller . . . 23 pounds . . . narrower waists . . . far more muscular . . . manual labor: Ibid.


“harmful” for certain populations: Ibid., 937.

“high risk” . . . “careful supervision”: Ibid., 938.


“The nutritional needs . . . inactive octogenarian”: Ibid.


“made an unconscionable exaggeration”: Ibid., 40.


“The proposed changes would affect”: Ibid., 521–525.

provide 60 percent of dietary calcium”: Ibid., 523.

The AAP feared that rates of iron deficiency: Ibid.


“nothing in vegetarianism per se”: Ibid., 62.


"overzealous": Ibid., 537.

"nutritional dwarfing": Ibid., 540.


authors concluded that “lower fat intakes . . .”: Obarzanek et al., “Safety of a Fat-Reduced Diet,” 58.


investigators found no vitamin deficiencies: Ibid., 1317S.


He compared some 140 Gambian infants . . . 8 pounds more than the Gambians . . . : Ibid., 1259S–1260S.

5 percent of energy as fat: Ibid., 1261S.


18 percent fat: Prentice, “Fat and Energy Needs of Children,” 1256S.


* * * 

**scary caveat:** Prentice and Paul, “Fat and Energy Needs of Children,” 1262S.


* * * 

represented only 20 percent... 25 percent thereafter: Patrick Y. Lee et al., “Representation of Elderly Persons and Women in Published Randomized Trials of Acute Coronary Syndromes,” *Journal of the American Medical Association* 286, no. 6 (2001): 708–713.

researchers had been warning: Reviewed in Robert H. Knopp et al., “Sex Differences in Lipoprotein Metabolism and Dietary Response: Basis in Hormonal Differences and Implications for Cardiovascular Disease,” *Current Cardiology Reports* 8, no. 6 (2006): 452–459.

until ten to twenty... until after menopause: C. M. Flavell, “Women and Coronary Heart Disease,” *Progress in Cardiovascular Nursing* 9, no. 4 (Fall, 1994): 18–27.


The correlation was “striking”: Ibid., 707.


number of epidemiological studies: Castelli et al., “HDL Cholesterol and Other Lipids,” 769–770.


open secrets about statins: LaRosa et al., “Intensive Lipid Lowering Atorvastatin”; Ray et al., “Statins and All Cause Mortality in High Risk Primary Prevention.”

journal editors were known to: Robert H. Knopp, interview with author, February 5, 2009.

one oil chemist described it: Gerald McNeill, interview with author, December 10, 2012.


women also saw their HDL-cholesterol levels drop: Actually, these numbers reflect the decrease in a subfraction of HDL-cholesterol called HDL2. The average drop was 16.7 percent for women in the “hypercholesterolemic” group, which started out with high cholesterol, and 7.1 percent for the “hyperlipidemic” group, which started off with high triglycerides. Their total HDL-cholesterol levels went down, too: 7.6 percent and 3.5 percent, respectively.


Knopp summed up: Robert H. Knopp et al., “Gender Differences in Lipoprotein Metabolism and Dietary Response: Basis in Hormonal Differences and Implications for Cardiovascular Disease,” Current Atherosclerosis Reports 7, no. 6 (2005): 472–479.

“alternative dietary interventions: Ibid., 477.


169 “My personal view is that”: Arthur Schatzkin, interview with author, May 1, 2009.


170 “Rolls Royce” . . . “final word”: Ibid.

170 Robert Knopp told me: Knopp, interview.


171 Jacques Rossouw: Ibid.


7. Selling the Mediterranean Diet: What Is the Science?


175 The idea had a simple origin, she explains . . . Trichopoulou knew: Antonia Trichopoulou, interview with author, October 1, 2008.

176 “We had started cutting down olive trees” . . . She had an intuitive sense: Ibid.

176 “men of 80 to 100”: Ancel Keys et al., *Seven Countries: A Multivariate Analysis of Death and Coronary Heart Disease* (Cambridge, MA: Harvard University Press, 1980), 76.

177 “We were freezing in our unheated house”: Ancel Keys, “Mediterranean Diet and Public Health,” *American Journal of Clinical Nutrition* 61, no. 6, suppl. (1995): 1322S.

177 “All the way to Switzerland” . . . “warm all over”: Ancel Keys and Margaret Keys, *Eat Well and Stay Well the Mediterranean Way* (Garden City, NY: Doubleday, 1975), 2.

177 Keys recalled their delight in dining: Ibid., 4.

177 “that is the Mediterranean to us”: Ibid., 28.


178 “We just wanted to raise the issue”: Trichopoulou, interview.


179 It had been an uphill battle: Anna Ferro-Luzzi, interview with author, July 22, 2008.

179 WHO, which had a greater interest in working: Elisabet Helsing, interview with author, July 30, 2008.


180 “impossible enterprise”: Ibid., 25.

181 “while very attractive” . . . “should not be used”: Ibid., 26.

181 did not think of themselves as having a “diet”: Ferro-Luzzi, interview with author, July 22, 2008.

181 “And bureaucrats didn’t like the idea”: Ibid.


You cannot advise less fat!": Trichopoulou, interview.


few scientific grounds" for the claim: Ibid., 806. Ferro-Luzzi’s paper solicited a scathing reply not from Antonia Trichopoulou, but from her husband, Dimitrios, also a professor of epidemiology, with joint appointments at the Athens Medical School and Harvard School of Public Health. Dimitrios defended his wife’s research on olive oil generally but did not address any of the methodological problems that Ferro-Luzzi had pointed out in the data on Greek fat consumption. And in an example of the kind of derogatory tone sometimes used among nutrition researchers to defeat their opponents, Dimitrios concluded his letter by suggesting that Ferro-Luzzi’s paper “would have been much more useful if it were written more carefully, with more attention to scientific evidence and less arrogance.” Dimitrios Trichopoulou, “Letter to the Editor: In Defense of the Mediterranean Diet,” *European Journal of Clinical Nutrition* 56 (2002): 928–929; Ferro-Luzzi’s reply is here: Anna Ferro-Luzzi, W. Philip T. James, and Anthony Kafatos, “Response to the Letter Submitted by D. Trichopoulos Entitled, ‘In Defense of the Mediterranean Diet,’ ” *European Journal of Clinical Nutrition* 56 (2002): 930–931.


took him to a local tavern: Trichopoulou, interview, and Walter C. Willett, interview with author, February 8, 2006.


Trichopoulou remembers: Trichopoulou, interview.

“their jaws dropped”: Greg Drescher, interview with author, August 14, 2008.

“us in the culinary community” . . . “We were depressed about it”: Ibid.

“Willett was the pivotal figure”: Drescher, interview with author, August 14, 2008.


“The science just seemed to me too impressionistic”: Marion Nestle, interview with author, July 30, 2008.

correct in that the evidence”: Lawrence H. Kushi, interview with author, September 6, 2008.

they had only one reviewer: Marion Nestle, email message to author, August 5, 2008.


Ferro-Luzzi explained to me: Ferro-Luzzi, interview.


while the Hale-Bopp comet: Narsai David, email message to author, August 17, 2008.


remembers Laura Shapiro: Laura Shapiro, interview with author, August 5, 2008.

“not just a bunch of slides”: Drescher, interview.

says Shapiro: Shapiro, interview.

IOOC tried to generate: Fausto Luchetti, interview with author, November 16, 2008.

the IOOC was glad: Ibid.

tucked into flower arrangements . . . shopping bags: Julian, “Mediterranean Diet: A Healthy Alternative?”

“We'd start with the IOOC money”: Drescher, interview.

“aligning the interests”: Ibid.


as Henry Blackburn recounts: Blackburn, interview.


in a later publication, only one: Den C. Hartog et al., Dietary Studies and Epidemiology of Heart Disease (The Hague, Holland: Stichting tot wetenschappelijke Voorlichting op Voedingsgebied, 1968), 57.

“what was good for commodities”: Ferro-Luzzi, interview with author, July 22, 2008.


also targeted European doctors . . . researchers to complain: Ibid.


“the fact that it was laundered”: Kushi, interview.

“couldn’t get with the program” . . . “couldn’t justify my presence”: Shapiro, interview.

“little olive oil ambassador”: Ibid.

“food world is particularly prey to corruption”: Nancy Harmon Jenkins, interview with author, August 6, 2008.


next “nutritional eden”: Ibid.

“a velvet glove around the steely reality”: Ibid.


Ferro-Luzzi recorded: Ibid.

might help prevent . . . evidence so far is very weak: Lawrence Kushi and Edward Giovannucci, “Dietary Fat and Cancer,” American Journal of Medicine 113, no. 9, suppl. 2 (2002): 635–70S.


“a high intake of olive oil” . . . “significant and substantial”: Ibid., 2607.
never actually measured the olive oil: Antonia Trichopoulou, email message to author, December 13, 2013.


“estimated” its use: Katsouyanni, ibid.

one of the paper’s tables: Trichopoulou et al., “Adherence to a Mediterranean Diet,” 2602.


“low level of comfort”: Ibid.


wrote a French historian: Hamis Forbes, “Ethnoarchaeology and the Place of Olive in the Economy of the Southern Argolid, Greece,” in *La Production du Vin et L’huile en


204 In Spain, too: Grigg, “Olive Oil, the Mediterranean and the World,” 168.


205 as Ancel Keys originally proposed: Keys, “Coronary Heart Disease in Seven Countries,” I-88.


208 Trichopoulou replies that her efforts: Antonia Trichopoulou, interview with author, October 1, 2008.

208 “This is our cry”: Ibid.

208 motivated as much by “Mother Greece”: James, interview; Nestle, interview with author, July 30, 2008; Serra-Majem, interview.

208 “Antonia is perhaps guilty”: Elisabet Helsing, interview with author, July 30, 2008.


NOTES


“Suspected Research Fraud”: White, “Suspected Research Fraud.”


“We have to take care”: Lluís Serra-Majem, interview with author, October 1, 2008.


“I wanted to leave the door open”: Serra-Majem, interview.


“So my conservative conclusion is”: Stampfer, interview.


PREDIMED’s appendix: Ibid.


“absorbed into the clay”: Ibid., and Christos Aravanis, letter to author, October 6, 2008.

“If the thirty-three lined up perfectly”: Sander Greenland, email message to author, January 5, 2008.


Keys had published a paper: Ibid.

“high in saturated fatty acids”: Kushi et al., “Health Implications of Mediterranean Diets in Light of Contemporary Knowledge. 1,” 1410S.


“major hallmark” of his pyramid: Kushi, “Health Implications of the Mediterranean Diets in Light of Contemporary Knowledge. 2,” 1416S.

Willett and his colleagues don’t cite: Ibid. Willett, “Health Implications of Mediterranean Diets in Light of Contemporary Knowledge. 2.”

Willett told me: Walter Willett, email message to author, November 29, 2008.


“consisted chiefly of foods of vegetable origins”: Ibid., 100.

“We are hungry most of the time . . . 72% of the families questioned”: Ibid., 105.


Teti to conclude: Ibid., 9.


“Meat is what . . . who had eaten meat”: Ibid., 15.


223 *hardly any pastries were eaten*: Kromhout et al., “Food Consumption Patterns in the 1960s in Seven Countries,” 892.


8: Exit Saturated Fats, Enter Trans Fats

227 *drop by his office to “ok”:* Mark Matlock, interview with author, November 7, 2005.


his “greatest triumph”: Quoted in ibid.

“We want to hold this market”: D. G. Wing, Testimony on Behalf of the American Soybean Association, to the US Congress, House Agricultural Committee, Hearings in March, 1948, printed in Soybean Digest (April 1948): 22.


the name “tree lard” for it: Drake, interview.


the Wall Street Journal described it: Ibid.


“racist picture . . . to tell you the truth”: Drake, interview.

“only 5 percent to 10 percent”: Kalyana Sundram, interview with author, January 8, 2008.

have a chilling effect: Sundram, interview.


“a trade issue under the guise”: Ong, interview.

Ronk’s testimony . . . was widely credited: Crossette, “International Report: Malaysia Opposes Labels on Palm Oil.”


Nabisco spokeswoman: Ibid.

yet some products: Ibid.


236 his “nuclear” option: Ong, interview.


236 ASA was well-aware: Drake, interview.

236 “pretty scary,” “really shook us up” . . . “attacking one oil”: Ibid.


237 the end of a “bitter, two-year feud”: Ibid.

237 explained Ron Harris: Ron Harris, interview with author, August 20, 2007.


237 “Over my career . . . leaps and bounds”: Ibid.

237 18 billions pounds . . . more than 80 percent: Robert Reeves, email message to author, February 2, 2004.


For posing in an ad with a bottle of Crisco: Fred A. Kummerow, letter to Campell Moses, July 11, 1968, in author’s possession.


Had 150,000 dietary-guideline pamphlets printed up: American Heart Association, Committee on Nutrition, “Diet and Heart Disease: This Statement was Developed by the Committee on Nutrition and Authorized for Release by the Central Committee for Medical and Community Program of the American Heart Association,” American Heart Association, 1968.


"the ringleader on trans": Applewhite, interview.


Kummerow found them intimidating: Kummerow, interview with author, August 21, 2007.


as a USDA chemist . . . described it to me: Gary List, interview with author, February 15, 2008.

"We spent lots of time" . . . "nothing either wrong or immoral": Wiedermann, letter to author, March 19, 2008.

set off "alarm bells": Wiedermann, interview with author, February 7, 2008.


Kummerow’s disturbing finding: Ibid., 29.


when the reality was 22 percent: Mary G. Enig, Trans Fatty Acids in the Food Supply: A Comprehensive Report Covering 60 Years of Research, 2nd ed. (Silver Spring, MD: Enig Associates, 1995), 152.

According to her measurements: Ibid., 108.


“trans fatty acids do not pose any harm”: Ibid.

publicly wondered in a letter: Ibid.


read and been troubled . . . to look into it: Martijn B. Katan, interview with author, September 27, 2005.


“It took some persuasion”: Ibid.


“I thought the HDL-effect must be incorrect”: Katan, interview.


NOTES

“not totally convincing”: Hunter, interview.

says Katan: Katan, interview.


“close all of them”: Korver, interview.

observes Katan: Katan, interview.


“therefore neutralize them”: Joseph T. Judd, interview with author, October 27, 2005.


recalled Judd: Judd, interview.


acknowledged Hunter: Hunter, interview.

found himself transferred: George Wilhite, interview with author, February 26, 2008.

said Michael Mudd: Michael Mudd, interview with author, September 30, 2005.

said Mudd: Ibid.

yet another review: Penny M. Kris-Etherton and Robert J. Nicolosi, “Trans Fatty Acids and Coronary Heart Disease Risk,” International Life Sciences Institute, Technical Committee on Fatty Acids, ILSI Press, 1995; reprinted in “Trans Fatty Acids and


Katan considered the report: Katan, interview.

9. Exit Trans Fats, Enter Something Worse?


“I’ll never forget as long as I live”: Michael Mudd, interview with author, September 30, 2005.

“It’s a month that will live with me in infamy”: Rick Cristol, interview with author, October 27, 2005.

“The industry went nuclear over it”: Martijn B. Katan, interview with author, September 27, 2005.


After Willett presented his epidemiological findings: Ibid., and Samuel Shapiro, interview with author, December 27, 2005.

No one really knows exactly: Ibid.


Michael Pariza . . . said: Michael Pariza, interview with author, February 6, 2008.


“We are really conducting a very large human-scale”: “Trans Fatty Acids and Risk of Myocardial Infarction,” Toxicology Forum Annual Meeting.


would have excessively disparaged: FDA, Federal Register 68, 41459.

“scientifically inaccurate and misleading”: Ibid., 41452.

“sufficient” to conclude: Ibid., 41444.

were deemed secondary: Ibid., 41448.


Mark Matlock . . . described to me: Mark Matlock, interview with author, November 7, 2005.

“had to confess them”: Bruce Holub, interview with author, September 23, 2007.


said ADM’s Mark Matlock: Matlock, interview, October 9, 2005.


said Martijn Katan: Martijn Katan, interview with author, September 27, 2005.

exclaimed Gil Leveille: Gil Leveille, interview with author, February 27, 2008.


creamy middle melted . . . wafers tended to break: Ibid.

what he wanted was an injunction: Stephen L. Joseph, interview with author, November 2003.


Interesterification is akin to”: Gil Leveille, interview with author, June 24, 2006.

“We just don’t know” . . . another trans lurking”: Ibid.


the oil may actually be beneficial for health: See the entire supplement, Pramad Khasla and Kalyanan Sundram, eds., “A Supplement on Palm Oils,” Journal of the American College of Nutrition 29, no. 3, suppl. (2010): 237S–342S. Note that the editors are employed by the palm oil industry.


AHA most recent dietary review: William S. Harris et al., “Omega-6 Fatty Acids and Risk for Cardiovascular Disease. A Scientific Advisory from the American Heart Association Nutrition Subcommittee of the Council of Nutrition, Physical Activity, and Metabo-


277 **“As those oils are heated”:** Ibid.


278 **“Anybody that has a fryer has this problem”:** Ibid.


279 **“stuck to the wire floor”:** Crampton et al., “Studies to Determine the Nature of the Damage to Nutritive Value,” 18.


280 **in 1991, he took stock of the field:** Hermann Esterbauer, Rudolf Jörg Schaur, and Helmut Zollner, “Chemistry and Biochemistry of 4-Hydroxynonenal, Malonaldehyde and

Aldehydes are “very reactive compounds . . . reacting constantly”: A. Saari Csallany, interview with author, February 21, 2013.

one of the reasons that aldehydes were ignored: Earl G. Hammond, interview with author, October 9, 2007.


not detected by the standard tests: Csallany, interview; Mark Matlock, interview with author, February 19, 2013; Kathleen Warner, interview with author, November 8, 2013.

One of Csallany’s recent projects: A. Saari Csallany et al., “4-Hydroxynonenal (HNE), a Toxic Aldehyde in French Fries from Fast Food Restaurants,” poster presentation at the HNE Symposium of the 16th Bi-Annual Conference of the Free Radical Society and HNE Symposium, London, September 1–9, 2012.

She would like to do more studies: Csallany, interview.

says Giuseppe Poli: Giuseppe Poli, interview with author, February 12, 2014.


282 told me he was “stunned” to find: Daniel J. Conklin, interview with author, November 8, 2013.


282 “First they were alarmed, then nothing”: Csallany, interview.


282 “Since I am not a food chemist”: Rudolf Jörg Schaur, email message to author, February 10, 2014.


283 Large fast-food chains also employ sophisticated: Bob Wainright, email message to author, February 9, 2014.

283 he couldn’t understand. . . so preoccupied: Poli, interview.

283 “how deadly used frying oils are”: Lars Wiedermann, email message to author, November 9, 2013.
Mark Matlock at ADM: Mark Matlock, interview with author, February 19, 2013.


10. Why Saturated Fat Is Good for You


once told Larry King: Atkins, Larry King Live.


Alice Lichtenstein told me: Alice C. Lichtenstein, interview with author, October 11, 2005.


was then commonly treated in France: Alfred W. Pennington, “Treatment of Obesity: Developments of the Past 150 Years,” *American Journal of Digestive Diseases* 21, no. 3 (1954): 65.

Banting took to eating three meals a day: Ibid., 65–69.


“fattest meat they could kill”: Ibid., 34.

“upper level” . . . “never found it”: Ibid., 35.

“antiobesity treatments”: Ibid.


Pennington wrote extensively: Ibid., 959–964.


“attack” and “devour it” . . . “tigerish appetite”: Ibid., 549.

Similar results were found: Ibid., 541–559. Also see A. W. Hetherington and S. W. Ranson, “The Spontaneous Activity and Food Intake of Rats with Hypothalamic Lesions,” *American Journal of Physiology—Legacy Content* 136, no. 4 (1942): 609.


insulin . . . appeared to trump all others: C. Von Noorden, *Clinical Treatises on Pathology and Therapy of Disorders of Metabolism and Nutrition, Part VIII. Diabetes Mellitus* (New York: E. B. Treat, 1907), 60.


an animal that had been deprived of insulin: Wilhelm Falta, *Endocrine Diseases: Including Their Diagnosis and Treatment* (Philadelphia: P. Blakiston’s Son, 1923), 584.


One of the more startling revelations . . . “obesity sextette”: Donaldson, Strong Medicine, 2.

“resorting less and less to drugs”: Ibid., 7.

The population he found on Baffin Island: Otto Schaefer, “Medical Observations and Problems in the Canadian Arctic: Part II,” Canadian Medical Association Journal 81, no. 5 (1959): 387


“consists of fresh meat”: Schaefer, “Medical Observations and Problems in the Canadian Arctic: Part II,” 386.

Heart disease . . . “does not appear to exist”: Ibid., 387.

were unable to cope: Gerald W. Hankins, Sunrise Over Pangnirtung: The Story of Otto Schaefer, M.D. (Calgary, Canada: Arctic Institute of North America of the University of Calgary, 2000), 160.


called all chronic illnesses the “saccharine diseases”: Thomas L. Cleave and George Dun- can Campbell, Diabetes, Coronary Thrombosis, and the Saccharine Disease (Bristol: John Wright & Sons, 1966).


“Hey doctor, all I’m eating is steak and eggs!”: Eric C. Westman, interview with author, September 12, 2004.

he recounted to me: Gary Foster, interview with author, August 18, 2005.

“heretic” in the field . . . “reasons that were not serious”: Stephen D. Phinney, email message to author, August 28, 2012.

“We were pretty sure we’d prove” . . . “concept was correct”: Ibid.


can be created by the liver: Combined Staff Clinic, “Obesity,” American Journal of Medicine 19, no. 1 (1955): 117


Phinney showed that this phenomenon: Phinney et al., “The Human Metabolic Response to Chronic Ketosis.”


endothelial function . . . has also been shown: Jeff S. Volek et al., “Effects of Dietary Carbohydrate Restriction versus Low-Fat Diet on Flow-Mediated Dilation,” Metabolism 58, no. 12 (2009): 1769–1777.


solid scientific backing to the treatment: One suggestive study that predated Westman’s is Bruce R. Bistrian et al., “Nitrogen Metabolism and Insulin Requirements in Obese Diabetic Adults on a Protein-Sparing Modified Fast,” Diabetes 25, no. 6 (1976): 494–504.


Volek says . . . “people are just quiet”: Jeff Volek, interview with author, April 18, 2006.


Four years after the experiment ended, Shai conducted a follow-up evaluation to see how her subjects had fared. By most measures, the former Mediterranean dieters looked the healthiest and were the slimmest, while those who had been eating an Atkins-style diet gained back most of the weight they had lost. The low-fat group continued to fare the least well on all outcome measures. However, given that four years had elapsed...
since the end of the trial and that no follow-up efforts had been made to sustain dietary changes (or measure voluntary continued adherence to those changes), these results must be interpreted with caution. It’s quite likely, for instance, that the Mediterranean-diet subjects had an easier time continuing their dietary intervention, because this was their local fare. By contrast, the Atkins’ group was on an atypical diet, believed by most medical professionals to endanger health, and therefore may have been less likely to maintain any dietary changes. Four years after the trial, one can’t know whether outcome measures reflect the original diets. Dan Schwarzfuchs, Rachel Golan, and Iris Shai, Letter to the Editor, “Four-Year Follow-Up After Two-Year Dietary Interventions,” New England Journal of Medicine 367, no. 14 (2012): 1373–1374.


314 “borders on inexcusable”: Ibid.


314 made the case recently that the fructose found in fruit: Richard J. Johnson, The Fat Switch (Mercola.com, 2012).


317 more than a few major studies: Michel de Lorgeril et al., “Mediterranean Alpha-Linolenic Acid-Rich Diet in Secondary Prevention of Coronary Heart Disease,” Lancet 343,


319 He understood that even after: Krauss, interview with author, June 12, 2006.

319 it had been successfully replicated: Benoît Lamarche et al., “Small, Dense Low-Density Lipoprotein Particles as a Predictor of the Risk of Ischemic Heart Disease in Men,” Circulation 95, no. 1 (1997): 69–75.


319 Lichtenstein countered: Krauss, interview; Eric B. Rimm, interview with author, January 7, 2008; Lichtenstein, interview.


320 “it was too complicated”: Krauss, interview, August 20, 2012.

320 Krauss was able to move: Ibid.


“became disenchanted”: Krauss, interview, August 20, 2012.

as had others before him: Smith and Pinckney, Diet, Blood Cholesterol and Coronary Heart Disease. Before Taubes’s book, this self-published compendium was the most important reference for doubters of the diet-heart hypothesis. See also Michael F. Oliver, “It Is More Important to Increase the Intake of Unsaturated Fats than to Decrease the Intake of Saturated Fats: Evidence from Clinical Trials Relating to Ischemic Heart Disease,” American Journal of Clinical Nutrition 66, no. 4, suppl. (1997): 980S–986S.

“a long row to hoe”: Krauss, email message to author, January 4, 2009.

Krauss told me: Krauss, email message to author, June 14, 2009.

“agonizing series” . . . five “major permutations”: Ibid.


Dariush Mozaffarian, announced: Dariush Mozaffarian, “Taking the Focus off of Saturated Fat,” presented as part of the “Great Fat Debate” at a conference and exposition of the Academy of Nutrition and Dietetics, Boston, Massachusetts, November 8, 2010 (available from the Academy as an audio recording).


healthy diets are high in carbohydrates”: Ibid., 311.


Conclusion


**Glossary**

**AAP**—American Academy of Pediatrics, the leading professional society of pediatricians.

**AHA**—American Heart Association, the nation’s oldest voluntary organization dedicated to fighting heart disease and stroke; also the largest not-for-profit group in the country.

**Case control study**—a type of epidemiological study where subjects diagnosed with a disease or condition are compared to healthy controls and risk factors (e.g., diet, exercise, serum cholesterol) are assessed, usually retroactively. This type of study can be relatively inexpensive, since subjects are often assessed only once and are not followed over time.

**Clinical trial**—a type of study in which participants are assigned to receive one or more interventions so that researchers can evaluate the effects of the interventions on health-related outcomes. A “randomized” trial is one that assigns participants to different study arms by chance. A “controlled” trial has a control group that does not receive the intervention(s). A “randomized controlled clinical trial” is considered the gold standard of clinical trials and of scientific evidence generally.

**Dietary Goals for the United States**—the five goals issued by the US Senate Select Committee on Nutrition and Human Needs in 1977 (the “McGovern report”).

**Dietary Guidelines for Americans**—periodic reports, starting in 1980, issued jointly by the US Department of Agriculture and US Department of Health and Human Services, that advise Americans about nutrition for good health. The USDA food pyramid was based on these guidelines.

**Double bond**—a chemical term referring to the way that two atoms are linked together. A double bond is like a double handshake between atoms. Fatty acid molecules with one or more double bonds are called “unsaturated” and are the dominant type found in olive oil and vegetable oils, while fatty acids without double bonds are called “saturated” and prevail in the fats found in animal foods. Double bonds come in two formations, “trans” and “cis.”

**Epidemiological study**—a type of study that identifies the incidence of disease or some other condition across a population. Nutritional epidemiology involves assessing the diet of a population, sometimes periodically, and correlating that information with eventual health outcomes. These studies can demonstrate associations but not causation. Also known as an “observational” study.
**Fatty acids**—chains of carbon atoms surrounded by hydrogen atoms. Individual fatty acids can be saturated or unsaturated. Three fatty acids bound together like a pitchfork are called triglycerides.

**FDA**—Food and Drug Administration, which is part of the US Department of Health and Human Services. The FDA is entrusted with protecting the nation’s food supply.

**HDL-cholesterol**—the type of cholesterol in high density lipoproteins that is known as “good” because people with higher levels tend to have a lower risk for heart disease. HDL-cholesterol is a fraction of total cholesterol.

**LDL-cholesterol**—the type of cholesterol in low density lipoproteins that is known as “bad” because people with very high levels tend to have a higher risk of heart disease.

**Low-fat diet**—a regime usually defined as one with between 25 percent and 35 percent of total calories as fat. The low-fat diet is different from the “prudent” diet, which restricts only saturated fats as well as the dietary cholesterol found in eggs, animal foods, and shellfish, but does not restrict fat overall.

**Monounsaturated fats**—fats in which the fatty acids contain only one double bond. The most common monounsaturated fat is called “oleic,” the type most abundant in olive oil.

**NCEP**—National Cholesterol Education Program, a program managed by the National Heart, Lung, and Blood Institute within the National Institutes of Health. NCEP was created in 1985 with the objective of instructing Americans about how to avoid atherosclerotic cardiovascular disease. Until 2013, NCEP periodically published the nation’s most important guidelines for doctors on how to lower cholesterol with diet and/or drugs.

**NHI**—National Heart Institute, an agency in the National Institutes of Health devoted to fighting cardiovascular disease. Founded by President Harry S. Truman in 1948, it was renamed the National Heart, Lung, and Blood Institute (NHLBI) in 1969.

**NHLBI**—National Heart, Lung, and Blood Institute, the agency at the National Institutes of Health devoted to the prevention and treatment of heart, lung and blood diseases, including cardiovascular disease. Formerly the National Heart Institute (NHI).

**NIH**—National Institutes of Health, the US government’s primary agency responsible for biomedical and health-related research, located in Bethesda, Maryland.

**Nurses Health Study**—the largest and longest epidemiological study in the United States. Begun in 1976, the study (“Nurses I”) was expanded in 1989 (“Nurses II”) and has altogether follow more than 200,000 women. “Food frequency questionnaires” on diet and lifestyle are sent out every two years, with responses being voluntary. The study is funded by the NIH and directed by Walter C. Willett at the Harvard School of Public Health.

**Polyunsaturated fats**—fats in which the fatty acids contain multiple double bonds. Polyunsaturated fats include vegetable oils, such as soybean, corn, safflower, sunflower, cottonseed and rapeseed, the main oil in Canola.

**Prudent diet**—the first officially recommended diet for the prevention of heart disease, widely employed in the United States from the late 1940s through the 1970s, at which point, the low-fat diet took precedence. The prudent diet restricted saturated fats and the dietary cholesterol found in eggs, animal foods and shellfish but unlike the “low-fat diet,” did not restrict fat overall. Prudent diets typically had 40 percent of total calories as fat.

**Saturated fats**—the fats that have no double bonds in the fatty acids they contain. These fats are found predominantly in animal foods, such as eggs, dairy, and meat, as well as in palm and coconut oils.
**Trans fats**—the fats that contain fatty acids with a double bond in the “trans” configuration. A “trans” bond creates a molecule in a zigzag shape, allowing adjacent fatty acids to lie neatly against each other, resulting in a fat that can be a solid at room temperature. The other type of double bond, called “cis,” creates U-shaped molecules that cannot stack together and therefore create oils.

**Triglycerides**—a form of fatty acids circulating in the blood. Triglycerides are comprised of three fatty acids joined together at their ends by a glycerol molecule, in the shape of a pitchfork. Since the 1940s, high triglycerides have been considered a biomarker for heart disease.

**Unsaturated fats**—the fats with fatty acids that contain either one double bond (mono-unsaturated) or more (polyunsaturated).

**USDA**—United States Department of Agriculture. Since 1980, the USDA has been the co-author of the *Dietary Guidelines for Americans*. From 1992–2011, the USDA published its food pyramid based on these guidelines. The pyramid was then replaced by a graphic called “My Plate.”

**WHI**—Women’s Health Initiative. The largest-ever clinical trial of the low-fat diet, conducted on nearly fifty thousand women over seven years, with results published in 2006. The NIH-funded study, estimated to cost upwards of $700 million, was conducted by health centers across the country and had three arms with different interventions: hormone replacement therapy, calcium/vitamin D supplementation, and the low-fat diet.

**WHO**—World Health Organization, an agency of the United Nations devoted to international public health.


Albrink, Margaret J. “Triglycerides, Lipoproteins, and Coronary Artery Disease.” Archives of Internal Medicine 109, no. 3 (March 1962): 345–359.


BIBLIOGRAPHY 411


BIBLIOGRAPHY


Castelli, William P. “Concerning the Possibility of a Nut . . .” *Archives of Internal Medicine* 152, no. 7 (July 1992): 1371–1372.


Flavell, C. M. “Women and Coronary Heart Disease.” *Progress in Cardiovascular Nursing* 9, no. 4 (Fall 1994): 18–27.


Gardner, Christopher D., Alexandre Kiazand, Sofiya Alhassan, et al. “Comparison of the Atkins, Zone, Ornish, and LEARN Diets for Change in Weight and Related Risk Factors


Gordon, Tavia, William P. Castelli, Marthana C. Hjortland, William B. Kannel, and Thomas R. Dawber. “High Density Lipoprotein as a Protective Factor Against Coronary Heart


Keys, Ancel, ed. “Coronary Heart Disease in Seven Countries.” *Circulation* 41 and 42, no. 1 suppl. 1, American Heart Association Monograph No. 29 (April 1970): 1–211.


———. “Sex Differences in Lipoprotein Metabolism and Dietary Response: Basis in Hormonal Differences and Implications for Cardiovascular Disease.” *Current Cardiology Reports* 8, no. 6 (November 2006): 452–459.


Lamarche, Benoit, A. Tchernof, Sital Moorjani, et al. “Small, Dense Low-Density Lipoprotein Particles as a Predictor of the Risk of Ischemic Heart Disease in Men: Prospective Results From the Quebec Cardiovascular Study.” Circulation 95, no. 1 (January 7, 1997): 69–75.


———. “Epidemiology of Ischaemic Heart Disease in Southern India with Special Reference to Causation.” *British Heart Journal* 29, no. 6 (November 1967): 895–905.


Mann, George V., Georgiana Pearson, Tavia Gordon, Thomas R. Dawber, Lorna Lyell, and Dewey Shurtleff. “Diet and Cardiovascular Disease in the Framingham Study I. Mea-


Mozaffarian, Dariush. “Taking the Focus off of Saturated Fat.” Presented as part of the “Great Fat Debate” at a conference and exposition of the Academy of Nutrition and Dietetics, Boston, Massachusetts, November 8, 2010. Available from the Academy as an audio recording.


———. “Obesity: Overnutrition or Disease of Metabolism?” *American Journal of Digestive Diseases* 20, no. 9 (September 1953): 268–274.


Dietary Modification Trial." *Journal of the American Medical Association* 295, no. 6 (February 8, 2006): 629–642. 
———. Presentation at a conference hosted by the Institute of Shortening and Edible Oils, Las Vegas, August 2007. 

**BIBLIOGRAPHY**


———. “When the Eskimo Comes to Town.” *Nutrition Today* 6, no. 6 (November–December 1971): 8–16.


Seltzer, Carl C. “The Framingham Heart Study Shows No Increases in Coronary Heart Disease Rates from Cholesterol Values of 205–264 mg/dL.” Giornale Italiano di Cardiologia (Padua) 21, no. 6 (1991): 683.


BIBLIOGRAPHY


BIBLIOGRAPHY


BIBLIOGRAPHY


Young, C. D., ed. and trans. The Deipnosophists, or, Banquet of the Learned, of Athenæus. London: Henry G. Bohn, 1854.


Young, Shun-Chieh, Louis W. Chang, Hui-Ling Lee, Lung-Hung Tsai, Yin-Chang Liu, and Pinpin Lin. “DNA Damages Induced by Trans, Trans-2, 4-Decadienal (tt-DDE), a


