Notes

Introduction

- 1 Roald Dahl, 'Death of Olivia', on Roald Dahl's official website, accessed 13 February 2019, www.roalddahl.com/roald-dahl/timeline/1960s/november-1962.
- 2 A. J. Wakefield *et al.*, 'RETRACTED: Ileal-Lymphoid-Nodular Hyperplasia, Non-Specific Colitis, and Pervasive Developmental Disorder in Children', *Lancet* 351, no. 9103 (28 February 1998): 637–41, [https://doi.org/10.1016/S0140-6736\(97\)11096-0](https://doi.org/10.1016/S0140-6736(97)11096-0).
- 3 Lindzi Wessel, 'Four Vaccine Myths and Where They Came From', *Science*, 27 April 2017, <https://doi.org/10.1126/science.aal1110>.
- 4 Stanley Plotkin, Jeffrey S. Gerber, and Paul A. Offit, 'Vaccines and Autism: A Tale of Shifting Hypotheses', *Clinical Infectious Diseases* 48, no. 4 (15 February 2009): 456–61, <https://doi.org/10.1086/596476>.
- 5 Centers for Disease Control and Prevention, 'Measles Vaccination', last updated 22 November 2016, www.cdc.gov/measles/vaccination.html.
- 6 Heidi J. Larson *et al.*, 'The State of Vaccine Confidence 2016: Global Insights Through a 67-Country Survey', *EBioMedicine* 12 (13 September 2016): 295–301, <https://doi.org/10.1016/j.ebiom.2016.08.042>.
- 7 Kai Kupferschmidt, 'Can Skeptical Parents Be Persuaded to Vaccinate?', *Science*, 27 April 2017, <https://doi.org/10.1126/science.aal1108>.
- 8 Hans Rosling, Anna Rosling Rönnlund, and Ola Rosling, *Factfulness: Ten Reasons We're Wrong About the World – and Why Things Are Better Than You Think* (New York: Sceptre, 2018).
- 9 D. J. Flynn, Brendan Nyhan, and Jason Reifler, 'The Nature and Origins of Misperceptions: Understanding False and Unsupported Beliefs About Politics', *Political Psychology* 38 (February 2017): 127–50.
- 10 Mark Horowitz, William Yaworsky, and Kenneth Kickham, 'Whither the Blank Slate? A Report on the Reception of Evolutionary Biological Ideas among Sociological Theorists', *Sociological Spectrum* 34, no. 6 (2 November

- 2014): 489–509, <https://doi.org/10.1080/02732173.2014.947451>; also Chris Mooney, ‘Liberals Deny Science, Too’, *Washington Post*, 28 October 2014, Wonkblog, www.washingtonpost.com/news/wonk/wp/2014/10/28/liberals-deny-science-too/.
- 11 David M. Buss, *The Dangerous Passion: Why Jealousy Is as Necessary as Love and Sex*, 1st printed edn (New York: Free Press, 2000), 5.
- 12 Mikael Klintman, Thomas Lunderquist, and Andreas Olsson, *Gruppens grepp: Hur vi fördomsfulla flockvarelser kan lära oss leva tillsammans* (Stockholm: Natur & Kultur, 2018).
- 13 Horowitz, Yaworsky, and Kickham, ‘Whither the Blank Slate?’, 506; see also Mooney, ‘Liberals Deny Science, Too’.
- 14 Frank Newport and Andrew Dugan, ‘College-Educated Republicans Most Skeptical of Global Warming’, Gallup, 26 March 2015, <http://news.gallup.com/poll/182159/college-educated-republicans-skeptical-global-warming.aspx>; Frank Newport, ‘Where Americans Stand on the Environment, Energy’, Gallup, 22 March 2018, <http://news.gallup.com/opinion/gallup/231386/new-series-americans-stand-environment-energy.aspx>.
- 15 This study can be found in Dan M. Kahan *et al.*, ‘Geoengineering and Climate Change Polarization: Testing a Two-Channel Model of Science Communication’, *Annals of the American Academy of Political and Social Science* 658, no. 1 (March 2015): 192–222.
- 16 Nicole A. Cooke, *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era* (Chicago: American Library Association, 2018); Lee McIntyre, *Post-Truth* (Cambridge, MA: MIT Press, 2018).
- 17 Daniel Levitin, *A Field Guide to Lies and Statistics: A Neuroscientist on How to Make Sense of a Complex World* (New York: Penguin, 2018); Rosling, Rönnlund, and Rosling, *Factfulness*.
- 18 Pierre L. van den Berghe, ‘Why Most Sociologists Don’t (and Won’t) Think Evolutionarily’, *Sociological Forum* 5, no. 2 (June 1990): 173–85; see also McIntyre, *Post-Truth*; Cooke, *Fake News and Alternative Facts*.
- 19 See, for example, Steven Sloman, *The Knowledge Illusion: Why We Never Think Alone* (New York: Riverhead Books, 2017), on cognitive science; Carol Tavris and Elliot Aronson, *Mistakes Were Made (but Not by Me): Why We Justify Foolish Beliefs, Bad Decisions, and Hurtful Acts* (Boston: Mariner Books, 2015), on cognitive psychology; Richard H. Thaler, *Misbehaving: The Making of Behavioral Economics*, 1st edn (New York: W. W. Norton and Company, 2015); Levitin, *A Field Guide to Lies and Statistics*; Rosling, Rönnlund, and Rosling, *Factfulness*.
- 20 Carlo Prato and Stephane Wolton, ‘Rational Ignorance, Populism, and Reform’, *European Journal of Political Economy* 55 (December 2017), 119–35, <https://doi.org/10.1016/j.ejpoleco.2017.11.006>.
- 21 cf. Erin B. Godfrey, Carlos E. Santos, and Esther Burson, ‘For Better or Worse? System-Justifying Beliefs in Sixth-Grade Predict Trajectories of

- Self-Esteem and Behavior Across Early Adolescence', *Child Development* 90, no. 1 (19 June 2017): 180–95, <https://doi.org/10.1111/cdev.12854>.
- 22 Richard H. Thaler and Prof. Cass R. Sunstein, *Nudge: Improving Decisions About Health, Wealth, and Happiness*, 1st edn (New Haven: Yale University Press, 2008); Daniel Kahneman, *Thinking, Fast and Slow*, reprint edition (New York: Farrar, Straus and Giroux, 2011).
 - 23 Omer Shubert, 'Bloody Backlash: While Veganism Thrives, Meat Lovers Are Establishing a Hardcore Carnivore Underground in Israel', *Haaretz*, 13 March 2018, www.haaretz.com/israel-news/premium.MAGAZINE-backlash-to-veganism-israel-s-hardcore-carnivore-underground-1.5896025; for the latter issue of vegan–carnivore dynamics, see, for example, Dominique Lestel, 'The Carnivore's Ethics', *Angelaki: Journal of the Theoretical Humanities* 19, no. 3 (September 2014): 161–7, <https://doi.org/10.1080/0969725X.2014.976066>.
 - 24 Pilita Clark, 'Chronic Unease Is a Fine State of Mind', *Financial Times*, 20 May 2018, www.ft.com/content/354ea53c-59bb-11e8-bdb7-f6677d2e1ce8; L. S. Fruhen, R. H. Flin, and R. McLeod, 'Chronic Unease for Safety in Managers: A Conceptualisation', *Journal of Risk Research* 17, no. 8 (14 September 2014): 969–79, <https://doi.org/10.1080/13669877.2013.822924>.

1 What knowledge resistance isn't and a hint at what it is

- 1 Søren Kierkegaard, *Kierkegaard's Writings, XVI, Volume 16: Works of Love* (Princeton: Princeton University Press, [1847] 2013), 9.
- 2 Ted Scheinman, 'What Lies Beneath: Why Do Archaeological Fraudsters Work So Hard to Deceive Us?', *Aeon*, 28 July 2015, Essays, <https://aeon.co/essays/why-do-archaeological-fraudsters-work-so-hard-to-deceive-us>.
- 3 Carol A. Heimer, 'Inert Facts and the Illusion of Knowledge: Strategic Uses of Ignorance in HIV Clinics', *Economy and Society* 41, no. 1 (February 2012): 17–41, <https://doi.org/10.1080/03085147.2011.637332>; Scheinman, 'What Lies Beneath'; Miles Russell, *Pittdown Man: The Secret Life of Charles Dawson* (Stroud: Tempus, 2004).
- 4 Doug Parr, 'Greenpeace: This Is Why We Stand Against GM Crops', *New Scientist*, 23 October 2014, www.newscientist.com/article/dn26445-greenpeace-this-is-why-we-stand-against-gm-crops/; Edward Royzman, Corey Cusimano, and Robert F. Leeman, 'What Lies Beneath? Fear vs. Disgust as Affective Predictors of Absolutist Opposition to Genetically Modified Food and Other New Technologies', *Judgment and Decision Making* 12, no. 5 (September 2017): 466–80.
- 5 Chen Zhang, R. Wohlhueter, and Han Zhang, 'Genetically Modified Foods: A Critical Review of Their Promise and Problems', *Food Science and Human Wellness* 5, no. 3 (1 January 2016): 116–23; Parr, 'Greenpeace: This Is Why We Stand against GM Crops'; Royzman, Cusimano, and Leeman, 'What Lies Beneath?'

- 6 Karl Raimund Popper, *The Logic of Scientific Discovery* (London: Psychology Press, 1959); William A. Gorton, *Karl Popper and the Social Sciences*, SUNY Series in the Philosophy of the Social Sciences (Albany: State University of New York Press, 2006).
- 7 Christian Pfeiffer, Dirk Baier, and Soeren Kliem, 'Zur Entwicklung der Gewalt in Deutschland. Schwerpunkte: Jugendliche und Flüchtlinge Als Täter und Opfer' ('Teenagers as Perpetrators and Victims'), research report (Zürich: Zürcher Hochschule für Angewandte Wissenschaften, January 2018).
- 8 John Archer, 'Does Sexual Selection Explain Human Sex Differences in Aggression?', *Behavioral and Brain Sciences* 32, no. 3–4 (August 2009): 249, <https://doi.org/10.1017/S0140525X09990951>; Anne Campbell, 'The Evolutionary Psychology of Women's Aggression', *Philosophical Transactions of the Royal Society B: Biological Sciences* 368, no. 1631 (5 December 2013), <https://doi.org/10.1098/rstb.2013.0078>; Martin Daly and Margo Wilson, *Homicide: Foundations of Human Behavior* (London: Routledge, 2017).
- 9 Kahneman, *Thinking, Fast and Slow*.
- 10 Friedrich Nietzsche, *The Birth Of Tragedy* (Whitefish: Kessinger Publishing, [1872] 2010).
- 11 S. Jouffre and J.-C. Croizet, 'Empowering and Legitimizing the Fundamental Attribution Error: Power and Legitimization Exacerbate the Translation of Role-Constrained Behaviors into Ability Differences', *European Journal of Social Psychology* 46, no. 5 (August 2016): 621–31, <https://doi.org/10.1002/ejsp.2191>.
- 12 George A. Kourvetaris, 'The Dionysian and Apollonian Dimensions of Ethnicity: A Convergence Model', *International Review of Sociology* 7, no. 2 (July 1997): 229–37.
- 13 Hugo Mercier and Christophe Heintz, 'Scientists' Argumentative Reasoning', *Topoi* 33, no. 2 (October 2014): 513–24, <https://doi.org/10.1007/s11245-013-9217-4>.
- 14 Mikael Klintman, *Human Sciences and Human Interests: Integrating the Social, Economic, and Evolutionary Sciences* (London: Routledge, 2017); cf. Antonio Damasio, *Descartes' Error: Emotion, Reason and the Human Brain* (London: Vintage, 2006).
- 15 Hardcore and softcore relativism are my less technical formulations of what the philosopher Roy Bhaskar calls judgmental and epistemic relativism; Roy Bhaskar, *Scientific Realism and Human Emancipation*, 1st edn (London: Routledge, 1986), 72.
- 16 Javier Lezaun, interview with the author, 5 February 2018.
- 17 James A. Heathcote, 'Why Do Old Men Have Big Ears?', *British Medical Journal*, no. 7021 (1995): 1668.
- 18 Juan M. Toro, Josep B. Trobalon, and Núria Sebastián-Gallés, 'Effects of

- Backward Speech and Speaker Variability in Language Discrimination by Rats', *Journal of Experimental Psychology. Animal Behavior Processes* 31, no. 1 (January 2005): 95–100.
- 19 R. A. J. Matthews, 'Tumbling Toast, Murphy's Law and the Fundamental Constants', *European Journal of Physics* 16, no. 4 (18 July 1995): 172–6, <https://doi.org/10.1088/0143-0807/16/4/005>.
- 20 cf. Alice H. Eagly and Shelly Chaiken, *The Psychology of Attitudes* (Fort Worth: Harcourt Brace Jovanovich, 1993); Elizabeth Shove, 'Beyond the ABC: Climate Change Policy and Theories of Social Change', *Environment and Planning A* 42, no. 6 (2010): 1273–85, <https://doi.org/10.1068/a42282>.
- 21 Lorraine Whitmarsh, Gill Seyfang, and Saffron O'Neill, 'Public Engagement with Carbon and Climate Change: To What Extent Is the Public "Carbon Capable"?', *Global Environmental Change* 21, no. 1 (February 2011): 56–65, <https://doi.org/10.1016/j.gloenvcha.2010.07.011>.
- 22 Gaston Godin, Mark Conner, and Paschal Sheeran, 'Bridging the Intention–Behaviour Gap: The Role of Moral Norm', *British Journal of Social Psychology* 44, no. 4 (1 December 2005): 497–512, <https://doi.org/10.1348/014466604X17452>; Whitmarsh, Seyfang, and O'Neill, 'Public Engagement with Carbon and Climate Change'.
- 23 Mikael Klintman, *Citizen-Consumers and Evolution: Reducing Environmental Harm through Our Social Motivation* (Basingstoke: Palgrave Pivot, 2012); Magnus Boström and Mikael Klintman, 'Can We Rely on "Climate-Friendly" Consumption?', *Journal of Consumer Culture*, 12 July 2017, 1–20, <https://doi.org/10.1177/1469540517717782>.
- 24 Leon Festinger, *A Theory of Cognitive Dissonance*, 1st edn (Stanford: Stanford University Press, 1957).
- 25 Pew Research Center, 'Americans, Politics and Science Issues', published on the Pew Research Center website, 1 July 2015, www.pewinternet.org/2015/07/01/americans-politics-and-science-issues/; Matthews, 'Tumbling Toast'.
- 26 Andy Borowitz, 'Scientists: Earth Endangered by New Strain of Fact-Resistant Humans', *New Yorker*, 12 May 2015, www.newyorker.com/humor/borowitz-report/scientists-earth-endangered-by-new-strain-of-fact-resistant-humans; Tiziano Gomiero, David Pimentel, and Maurizio G. Paoletti, 'Environmental Impact of Different Agricultural Management Practices: Conventional vs. Organic Agriculture', *Critical Reviews in Plant Sciences* 30, no. 1–2 (2011): 95–124, <https://doi.org/10.1080/07352689.2011.554355>.
- 27 Mike Pence, 'Theory of the Origin of Man', *Congressional Record: Proceedings and Debates of the US Congress*, 11 July 2002, www.congress.gov/congressional-record/2002/7/11/house-section/article/h4527-1; Kahneman, *Thinking, Fast and Slow*; Thaler and Sunstein, *Nudge*.
- 28 Charles Darwin, *On the Origin of Species: By Means of Natural Selection*, Dover Giant Thrift edn (Mineola: Dover Publications, [1859] 2012).

- 29 Ronald Reagan, 'A Time for Choosing' (speech, 27 October 1964), *The Constitution Reader*, accessed 13 February 2019, <http://cdn.constitutionreader.com/files/pdf/constitution/ch123.pdf>.
- 30 Jeremy A. Frimer, Linda J. Skitka, and Matt Motyl, 'Liberals and Conservatives Are Similarly Motivated to Avoid Exposure to One Another's Opinions', *Journal of Experimental Social Psychology* 72 (1 September 2017): 1–12, <https://doi.org/10.1016/j.jesp.2017.04.003>.
- 31 Raymond S. Nickerson, 'Confirmation Bias: A Ubiquitous Phenomenon in Many Guises', *Review of General Psychology* 2, no. 2 (1998): 175–220, <https://doi.org/10.1037/1089-2680.2.2.175>.
- 32 Mercier and Heintz, 'Scientists' Argumentative Reasoning'.
- 33 Michael Shermer, *Why People Believe Weird Things: Pseudoscience, Superstition, and Other Confusions of Our Time* (New York: Souvenir, 2007).
- 34 Stewart Elliott Guthrie, *Faces in the Clouds: A New Theory of Religion*, 1st edn (Oxford: Oxford University Press, 1995).
- 35 To give Shermer his dues, he later made some remarks along these lines elsewhere; see Michael Shermer, 'How to Convince Someone When Facts Fail', *Scientific American*, 1 January 2017, <https://doi.org/10.1038/scientificamerican0117-69>.
- 36 Klintman, *Human Sciences and Human Interests*.
- 37 I have examined such issues within a large Swedish research programme, MISTRA Sustainable Consumption, which is due to run from 2017 to 2021. The programme leaders are Åsa Svenfelt and Karin Bradley.

2 If you're with us, don't believe them

- 1 Frimer, Skitka, and Motyl, 'Liberals and Conservatives Are Similarly Motivated'.
- 2 Gordon Gauchat, 'Politicization of Science in the Public Sphere: A Study of Public Trust in the United States, 1974 to 2010', *American Sociological Review* 77, no. 2 (April 2012): 167–87, <https://doi.org/10.1177/0003122412438225>.
- 3 Stephanie Hanes, 'To Spank or Not to Spank: Corporal Punishment in the US', *Christian Science Monitor*, 19 October 2014, www.csmonitor.com/USA/Society/2014/1019/To-spank-or-not-to-spank-Corporal-punishment-in-the-US; E. T. Gershoff and A. Grogan-Kaylor, 'Spanking and Child Outcomes: Old Controversies and New Meta-Analyses', *Journal of Family Psychology* 30, no. 4 (June 2016): 453–69, <https://doi.org/10.1037/fam0000191>.
- 4 Bastiaan T. Rutjens, Robbie M. Sutton, and Romy van der Lee, 'Not All Skepticism Is Equal: Exploring the Ideological Antecedents of Science Acceptance and Rejection', *Personality and Social Psychology Bulletin* 44, no. 3 (2018): 384–405.
- 5 Timur Kuran, *Private Truths, Public Lies: The Social Consequences of Preference Falsification* (Cambridge, MA: Harvard University Press, 1998).

Notes

- 6 A. Shtulman, 'Qualitative Differences between Naïve and Scientific Theories of Evolution', *Cognitive Psychology* 52, no. 2 (March 2006): 170–94, <https://doi.org/10.1016/j.cogpsych.2005.10.001>.
- 7 Paul Bloom and Deena Skolnick Weisberg, 'Childhood Origins of Adult Resistance to Science', *Science* 316, no. 5827 (2007): 996–7.
- 8 Stephan Lewandowsky, Gilles E. Gignac, and Klaus Oberauer, 'The Role of Conspiracist Ideation and Worldviews in Predicting Rejection of Science', *PLOS ONE* 8, no. 10 (October 2013): e75637, <https://doi.org/10.1371/journal.pone.0075637>.
- 9 Patrick Kingsley, 'Turkey Drops Evolution from Curriculum, Angering Secularists', *New York Times*, 23 June 2017, Europe, www.nytimes.com/2017/06/23/world/europe/turkey-evolution-high-school-curriculum.html.
- 10 Jon D. Miller, Eugenie C. Scott, and Shinji Okamoto, 'Public Acceptance of Evolution', *Science* 313, no. 5788 (11 August 2006): 765–6. <https://doi.org/10.1126/science.1126746>.
- 11 See Kevin Simler and Robin Hanson, *The Elephant in the Brain: Hidden Motives in Everyday Life*. (Oxford: Oxford University Press, 2017).
- 12 Allan Dafoe, interview with the author, 26 April 2018.
- 13 P. Diethelm and M. McKee, 'Denialism: What Is It and How Should Scientists Respond?', *European Journal of Public Health* 19, no. 1 (January 2009): 2–4; cf. Simler and Hanson, *The Elephant in the Brain*.
- 14 Robert Merton, 'The Normative Structure of Science', in *The Sociology of Science: Theoretical and Empirical Investigations* (Chicago: University of Chicago Press, 1942), 267–78.
- 15 Boström and Klintman, 'Can We Rely on "Climate-Friendly" Consumption?'
- 16 Simon Jenkins, 'It's Not Only the Queen. We're All Screaming for an Answer', *Guardian*, 12 November 2008, Opinion, www.theguardian.com/commentisfree/2008/nov/12/queen-economy-recession-lse.
- 17 Walter Houston, *Purity and Monotheism: Clean and Unclean Animals in Biblical Law* (Sheffield: Sheffield Academic Press, 2009).
- 18 Mary Douglas, *Purity and Danger: An Analysis of the Concepts of Pollution and Taboo* (London: Routledge and Kegan Paul, 1978); Peter L. Berger, *The Many Altars of Modernity: Toward a Paradigm for Religion in a Pluralist Age* (Boston: De Gruyter Mouton, 2014).
- 19 Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 50th anniversary edn (Chicago: University of Chicago Press, [1962] 2012); Douglas, *Purity and Danger*; Berger, *The Many Altars of Modernity*.
- 20 Stephanie Solomon, 'Kuhn's Alternative Path: Science and the Social Resistance to Criticism', *Perspectives on Science*, no. 3 (2010): 352.
- 21 Kuhn, *The Structure of Scientific Revolutions*.
- 22 Robin Dunbar, interview with the author, 13 February 2018.
- 23 Mary Douglas, *How Institutions Think* (New York: Syracuse University Press, 1986).

- 24 Douglas, *How Institutions Think*, 76.
- 25 Linsey McGoey, 'The Logic of Strategic Ignorance', *British Journal of Sociology* 63, no. 3 (1 September 2012): 533–76, <https://doi.org/10.1111/j.1468-4446.2012.01424.X>.
- 26 Dan M. Kahan *et al.*, 'The Polarizing Impact of Science Literacy and Numeracy on Perceived Climate Change Risks', *Nature Climate Change* 2, no. 10 (27 May 2012): 732–5, <https://doi.org/10.1038/nclimate1547>.
- 27 Mike Thelwall, 'Homophily in MySpace', *Journal of the American Society for Information Science and Technology* 60, no. 2 (February 2009): 219–31, <https://doi.org/10.1002/asi.20978>.
- 28 Joshua Greene, *Moral Tribes: Emotion, Reason and the Gap between Us and Them* (London: Atlantic Books, 2015).
- 29 Angelique Chrisafis, "'France Is 50 Years Behind": The "State Scandal" of French Autism Treatment', *Guardian*, 8 February 2018, www.theguardian.com/world/2018/feb/08/france-is-50-years-behind-the-state-scandal-of-french-autism-treatment.

3 Why invalid claims can be valuable

- 1 Bob McCarthy, 'Four Audio Myths', *Sound and Video Contractor* 29, no. 6 (June 2011): 44–9.
- 2 C. Edwards, 'Believe in Better [Audio Technology Myths]', *Engineering and Technology* 6, no. 11 (December 2011): 54–7.
- 3 M. Perlman, 'Golden Ears and Meter Readers: The Contest for Epistemic Authority in Audiophilia', *Social Studies of Science* 34, no. 5 (1 December 2004): 783–807, <https://doi.org/10.1177/0306312704047613>.
- 4 Malcolm Steward, 'The Original SATA Cable Post', *Malcolm Steward: Audio Journalist*, 15 June 2011, <http://web.archive.org/web/20110615192300/http://www.malcolmsteward.co.uk/?p=2534>.
- 5 A. Gat, 'The Human Motivational Complex: Evolutionary Theory and the Causes of Hunter-Gatherer Fighting, Part II. Proximate, Subordinate, and Derivative Causes', *Anthropological Quarterly* 73, no. 2 (April 2000), 74–88.
- 6 Jaime C. Confer *et al.*, 'Evolutionary Psychology: Controversies, Questions, Prospects, and Limitations', *American Psychologist* 65, no. 2 (2010): 110–26, <https://doi.org/10.1037/a0018413>.
- 7 Robin Dunbar, 'Social Networks and Their Implications for Community Living for People with a Learning Disability', *International Journal of Developmental Disabilities* 61, no. 2 (April 2015): 101–6, <https://doi.org/10.1179/2047386914Z.00000000093>.
- 8 For a critical appraisal of the notion of 'The Original Affluent Society', see David Kaplan, 'The Darker Side of the "Original Affluent Society"', *Journal of Anthropological Research* 56, no. 3 (Autumn 2000): 301–24.

- 9 Steven A. LeBlanc, with Katherine E. Register, *Constant Battles: The Myth of the Peaceful, Noble Savage*, 1st edn (New York: St Martin's Press, 2003).
- 10 Anne Campbell, 'Mothers Matter Most: Women and Parental Investment', in *A Mind of Her Own: The Evolutionary Psychology of Women* (Oxford: Oxford University Press, 2013).
- 11 John T. Cacioppo, Stephanie Cacioppo, and Dorret I. Boomsma, 'Evolutionary Mechanisms for Loneliness', *Cognition and Emotion* 28, no. 1 (January 2014): 3–21, <https://doi.org/10.1080/02699931.2013.837379>.
- 12 David F. Bjorklund and Anthony D. Pellegrini, 'Classifying Cognition', in *The Origins of Human Nature: Evolutionary Developmental Psychology* (Washington DC: American Psychological Association, 2002), 113–45.
- 13 Bella M. DePaulo *et al.*, 'Verbal and Nonverbal Dynamics of Privacy, Secrecy, and Deceit', *Journal of Social Issues* 59, no. 2 (July 2003): 391–410, <https://doi.org/10.1111/1540-4560.00070>; William von Hippel and Robert Trivers, 'The Evolution and Psychology of Self-Deception', *Behavioral and Brain Sciences* 34, no. 1 (2011): 1–16, <https://doi.org/10.1017/S0140525X10001354>.
- 14 Jill M. Mateo, 'Perspectives: Hamilton's Legacy: Mechanisms of Kin Recognition in Humans', *Ethology* 121, no. 5 (May 2015): 419–27, <https://doi.org/10.1111/eth.12358>.
- 15 Robert Trivers, 'Reciprocal Altruism: 30 Years Later', in *Cooperation in Primates and Humans: Mechanisms and Evolution*, ed. Peter Kappeler and Carel P. van Schaik (Berlin: Springer, 2006), 67–83.
- 16 Greene, *Moral Tribes*.
- 17 Dominic D. P. Johnson and James H. Fowler, 'The Evolution of Overconfidence', *Nature* 477, no. 7364 (14 September 2011): 317–20, <https://doi.org/10.1038/nature10384>.
- 18 Jonathan Haidt, 'Morality', *Perspectives on Psychological Science* 3, no. 1 (2008): 65–72; Jonathan Haidt, *The Righteous Mind: Why Good People Are Divided by Politics and Religion* (New York: Knopf Doubleday Publishing Group, 2012).
- 19 Mikael Klintonman and Magnus Boström, 'Framings of Science and Ideology: Organic Food Labelling in the US and Sweden', *Environmental Politics* 13, no. 3 (2004): 612–34.
- 20 Proverbs 3:12 (*New International Version*).
- 21 Eva Bergenlöv, *Drabbade barn: aga och barnmisshandel i Sverige från reformationen till nutid* (Stockholm: Nordic Academic Press, 2009); 'SOU (Statens Offentliga Utredningar)', governmental report, National Library of Sweden (Stockholm: Swedish Department of Justice, 1978).
- 22 Alan Kazdin, 'Disciplining Children Effectively', 24 September 2014, in *Speaking of Psychology* (podcast), American Psychological Association, www.apa.org/research/action/speaking-of-psychology/disciplining-children.aspx; Bergenlöv, *Drabbade barn: aga och barnmisshandel i Sverige från reformationen till nutid*; SOU, 'SOU (Statens Offentliga Utredningar)'.

- 23 Gershoff and Grogan-Kaylor, 'Spanking and Child Outcomes'.
- 24 Kazdin, 'Disciplining Children Effectively'.
- 25 Child Trends, 'Attitudes toward Spanking: Indicators of Child and Youth Well-Being', Child Trends Databank, accessed 21 February 2018, www.childtrends.org/indicators/attitudes-toward-spanking/ (article no longer on website).
- 26 Haidt, *The Righteous Mind*.
- 27 Christopher Wolsko, Hector Ariceaga, and Jesse Seiden, 'Red, White, and Blue Enough to Be Green: Effects of Moral Framing on Climate Change Attitudes and Conservation Behaviors', *Journal of Experimental Social Psychology* 65 (July 2016): 7–19, <https://doi.org/10.1016/j.jesp.2016.02.005>.
- 28 J. Graham, J. Haidt, and B. A. Nosek, 'Liberals and Conservatives Rely on Different Sets of Moral Foundations', *Journal of Personality and Social Psychology* 96, no. 5 (May 2009): 1029–46, <https://doi.org/10.1037/a0015141>; Yoel Inbar, David A. Pizarro, and Paul Bloom, 'Conservatives Are More Easily Disgusted than Liberals', *Cognition and Emotion* 23, no. 4 (June 2009): 714–25, <https://doi.org/10.1080/02699930802110007>.
- 29 Pope Francis, 'Laudato Si of the Holy Father Francis on Care for Our Common Home', Encyclical Letter, The Holy See, 24 May 2015, http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html.
- 30 Stanley G. Payne, *A History of Fascism 1914–1945* (Madison: University of Wisconsin Press, 1996), 56.
- 31 Years later it turned out that Ted himself, outside of his marriage, had practised his own bisexuality, something that he discussed on *The Oprah Winfrey Show*. 'Ted Haggard Talks', on Oprah Winfrey's official website, 30 June 2009, www.oprah.com/oprahshow/ted-haggard-and-his-wife-talk-about-the-gay-sex-scandal/1.
- 32 Von Hippel and Trivers, 'The Evolution and Psychology of Self-Deception'.
- 33 Kahneman, *Thinking, Fast and Slow*; Thaler and Sunstein, *Nudge*.
- 34 Klintman, *Citizen-Consumers and Evolution*; Klintman, *Human Sciences and Human Interests*.
- 35 Solomon E. Asch, 'Studies of Independence and Conformity: I. A Minority of One against a Unanimous Majority', *Psychological Monographs: General and Applied* 70, no. 9 (1956): 1–70, <https://doi.org/10.1037/h0093718>.
- 36 Rebecca Mead, Momna Hejmadi, and Laurence D. Hurst, 'Scientific Aptitude Better Explains Poor Responses to Teaching of Evolution than Psychological Conflicts', *Nature Ecology and Evolution* 2 (8 January 2018): 388–94, <https://doi.org/10.1038/s41559-017-0442-x>.
- 37 See Simler and Hanson, *The Elephant in the Brain*.
- 38 Emilie Buchwald, Pamela Fletcher, and Martha Roth, eds, *Transforming a Rape Culture*, revised edn (Minneapolis: Milkweed, 2005); Griet

- Vandermassen, 'A Tale of Male Bias and Feminist Denial', *European Journal of Women's Studies* 11, no. 1 (February 2004): 9–26.
- 39 Tina Uys, 'Rational Loyalty and Whistleblowing: The South African Context', *Current Sociology* 56, no. 6 (1 November 2008): 904–21, <https://doi.org/10.1177/0011392108095345>; Griet Vandermassen, 'Evolution and Rape: A Feminist Darwinian Perspective', *Sex Roles* 64, no. 9–10 (May 2011): 732–47, <https://doi.org/10.1007/s11199-010-9895-y>; Buchwald, Fletcher, and Roth, *Transforming a Rape Culture*.
- 40 Andi Hoxhaj, 'Anti-Corruption Policy in the EU and Reflexive Governance' (PhD thesis, University of Warwick, 2019).
- 41 Tenzin Gyatso (the fourteenth Dalai Lama), 'Our Faith in Science', *New York Times*, 12 November 2005, Opinion, www.nytimes.com/2005/11/12/opinion/our-faith-in-science.html.

4 Knowledge belief first, confirming evidence second

- 1 Robert Bellah *et al.*, *The Good Society* (New York: Random House, 2011).
- 2 H. L. Tuomisto *et al.*, 'Does Organic Farming Reduce Environmental Impacts? – A Meta-Analysis of European Research', *Journal of Environmental Management* 112 (15 December 2012): 309–20, <https://doi.org/10.1016/j.jenvman.2012.08.018>.
- 3 Bent Flyvbjerg, interview with the author, 22 January 2018.
- 4 Tobias Greitemeyer, 'I Am Right, You Are Wrong: How Biased Assimilation Increases the Perceived Gap between Believers and Skeptics of Violent Video Game Effects', *PLoS ONE* 9, no. 4 (10 April 2014): e93440, <https://doi.org/10.1371/journal.pone.0093440>.
- 5 Kahneman, *Thinking, Fast and Slow*.
- 6 Klintman, *Citizen-Consumers and Evolution*; Mikael Klintman, Kjell Mårtensson, and Magnus Johansson, 'Bioenergi För Uppvärmning – Hushållens Perspektiv' (research report, Lund University, Department of Sociology, 2003).
- 7 Steven Pinker, *The Blank Slate: The Modern Denial of Human Nature*, 1st edn (New York: Viking Press, 2002).
- 8 J. Henrich *et al.*, "'Economic Man" in Cross-Cultural Perspective: Behavioral Experiments in 15 Small-Scale Societies', *Behavioral and Brain Sciences* 28, no. 6 (2005): 795–815.
- 9 J. Henrich, S. J. Heine, and A. Norenzayan, "The Weirdest People in the World?", *Behavioral and Brain Sciences* 33, no. 2–3 (June 2010): 61–83.
- 10 Max Weber, *The Protestant Ethic and the Spirit of Capitalism: And Other Writings* (New York: Penguin, [1905] 2002).
- 11 Alexis de Tocqueville, *Democracy in America: The Complete and Unabridged Volumes I and II* (New York: Bantam Classics, [1835] 2000), 625–6; Henrich *et al.*, "'Economic Man" in Cross-Cultural Perspective'.

- 12 See John Bargh, *Before You Know It: The Unconscious Reasons We Do What We Do* (New York: Penguin, 2017).
- 13 C. G. Lord, L. Ross, and M. R. Lepper, 'Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence', *Journal of Personality and Social Psychology* 37, no. 11 (1979): 2098–109, <https://doi.org/10.1037//0022-3514.37.11.2098>; de Tocqueville, *Democracy in America*, 625–6.
- 14 Scott Plous, 'Biases in the Assimilation of Technological Breakdowns: Do Accidents Make Us Safer?', *Journal of Applied Social Psychology* 21, no. 13 (1991): 1058–82; cf. Bargh, *Before You Know It*; Henrich, Heine, and Norenzayan, 'The Weirdest People in the World?.'
- 15 Xiaoli Nan and Kelly Daily, 'Biased Assimilation and Need for Closure: Examining the Effects of Mixed Blogs on Vaccine-Related Beliefs', *Journal of Health Communication* 20, no. 4 (3 April 2015): 462–71.
- 16 Festinger, *A Theory of Cognitive Dissonance*.
- 17 Tavis and Aronson, *Mistakes Were Made*.
- 18 C. Leor Harris, *Evolution, Genesis and Revelations* (Albany: State University of New York Press, 1981).
- 19 Xiang Chen and Peter Barker, 'Process Concepts and Cognitive Obstacles to Change: Perspectives on the History of Science and Science Policy', *Centaurus* 51, no. 4 (November 2009): 314–20, <https://doi.org/10.1111/j.1600-0498.2009.00155.x>.
- 20 Lezaun, interview.
- 21 Julian Baggini, 'Dan Dennett and the New Atheism', *Philosophers' Magazine*, 8 May 2017, www.philosophersmag.com/interviews/31-dan-dennett-and-the-new-atheism.
- 22 George Gaskell, interview with the author, 27 February 2018.
- 23 Deborah Kelemen, 'The Scope of Teleological Thinking in Preschool Children', *Cognition* 70, no. 3 (April 1999): 241–72, [https://doi.org/10.1016/S0010-0277\(99\)00010-4](https://doi.org/10.1016/S0010-0277(99)00010-4).
- 24 Guy de Maupassant, 'In the Moonlight' (n.p.: CreateSpace Independent Publishing Platform, 2014).
- 25 Charles Darwin, *The Descent of Man* (London: Penguin Classics, [1879] 2004), 612.
- 26 Allen MacNeill, 'The Capacity for Religious Experience Is an Evolutionary Adaptation to Warfare', in *The Psychology of Resolving Global Conflicts: From War to Peace*, ed. F. A. Stout (Westport: Praeger Security International, 2006), 257–84.
- 27 Dominic Johnson, *God Is Watching You: How the Fear of God Makes Us Human* (Oxford: Oxford University Press, 2016).
- 28 Jared M. Diamond, *Guns, Germs and Steel: The Fates of Human Societies*, 20th anniversary edn (New York: Norton, 2017).
- 29 Johnson and Fowler, 'The Evolution of Overconfidence'.

- 30 Johnson, *God Is Watching You*.
- 31 Chen and Barker, 'Process Concepts and Cognitive Obstacles to Change'.
- 32 J. Bohr, 'Is It Hot in Here or Is It Just Me? Temperature Anomalies and Political Polarization over Global Warming in the American Public', *Climatic Change* 142, no. 1-2 (May 2017): 271-85, <https://doi.org/10.1007/s10584-017-1934-z>.
- 33 Matthew A. Cronin, Cleotilde Gonzalez, and John D. Sterman, 'Why Don't Well-Educated Adults Understand Accumulation? A Challenge to Researchers, Educators, and Citizens', *Organizational Behavior and Human Decision Processes* 108, no. 1 (January 2009): 116-30, <https://doi.org/10.1016/j.obhdp.2008.03.003>.
- 34 Bloom and Weisberg, 'Childhood Origins of Adult Resistance to Science'; Cronin, Gonzalez, and Sterman, 'Why Don't Well-Educated Adults Understand Accumulation?'.
- 35 Frank C. Keil, *Semantic and Conceptual Development: An Ontological Perspective*, reprint edn (Cambridge, MA: Harvard University Press, 2014).
- 36 Xiang Chen, 'The Object Bias and the Study of Scientific Revolutions: Lessons from Developmental Psychology', *Philosophical Psychology* 20, no. 4 (1 August 2007): 479-503.
- 37 Avnika B. Amin *et al.*, 'Association of Moral Values with Vaccine Hesitancy', *Nature Human Behaviour* 1, no. 12 (December 2017): 873, <https://doi.org/10.1038/s41562-017-0256-5>.
- 38 Gavin I. Clark and Adam J. Rock, 'Processes Contributing to the Maintenance of Flying Phobia: A Narrative Review', *Frontiers in Psychology* 7 (1 June 2016), <https://doi.org/10.3389/fpsyg.2016.00754>.
- 39 Marianna Masiero, Claudio Lucchiari, and Gabriella Pravettoni, 'Personal Fable: Optimistic Bias in Cigarette Smokers', *International Journal of High Risk Behaviors and Addiction* 4, no. 1 (20 March 2015), <https://doi.org/10.5812/ijhrba.20939>.
- 40 E. Scott Fruehwald, *Overcoming Cognitive Biases: Thinking More Clearly and Avoiding Manipulation by Others* (n.p.: CreateSpace Independent Publishing Platform, 2017); D. Kahneman, J. L. Knetsch, and R. H. Thaler, 'Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias', *Journal of Economic Perspectives* 5, no. 1 (1991): 193-206; Masiero, Lucchiari, and Pravettoni, 'Personal Fable: Optimistic Bias in Cigarette Smokers'.
- 41 Steven Pinker, *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress* (New York: Viking, 2018).
- 42 Gaskell, interview.
- 43 See Noel T. Brewer and William K. Hallman, 'Subjective and Objective Risk as Predictors of Influenza Vaccination during the Vaccine Shortage of 2004-2005', *Clinical Infectious Diseases* 43, no. 11 (2006): 1379-86.
- 44 Bloom and Weisberg, 'Childhood Origins of Adult Resistance to Science'.

- 45 Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence* (London: Allen Lane, 2017), chapter 2.
- 46 Tegmark, *Life 3.0*, chap. 2.
- 47 Klintman, *Human Sciences and Human Interests*, 30.
- 48 Bargh, *Before You Know It*.
- 49 Mercier and Heintz, 'Scientists' Argumentative Reasoning', 514.
- 50 Mercier and Heintz, 'Scientists' Argumentative Reasoning', 514.
- 51 See Hugo Mercier and Helene E. Landmore, 'Reasoning Is for Arguing: Understanding the Successes and Failures of Deliberation', *Political Psychology* 33, no. 2 (April 2012): 243–58, <https://doi.org/10.1111/j.1467-9221.2012.00873.x>.
- 52 Daniel Kahneman, 'A Perspective on Judgment and Choice: Mapping Bounded Rationality', *American Psychologist* 58, no. 9 (September 2003): 699, <https://doi.org/10.1037/0003-066X.58.9.697>.
- 53 Hugo Mercier, 'Using Evolutionary Thinking to Cut Across Disciplines', in *Comparative Decision Making*, ed. Thomas R. Zentall and Philip H. Crowley (Oxford: Oxford University Press, 2013), 279–304.
- 54 James R. Flynn, *What Is Intelligence?: Beyond the Flynn Effect*, 1st edn (Cambridge and New York: Cambridge University Press, 2007).
- 55 Geir Kirkebøen, Erik Vasaasen, and Karl Halvor Teigén, 'Revisions and Regret: The Cost of Changing Your Mind', *Journal of Behavioral Decision Making* 26, no. 1 (January 2013): 1–12, <https://doi.org/10.1002/bdm.756>.

5 Knowledge: what's in it for me?

- 1 See Michael J. Sandel, *What Money Can't Buy: The Moral Limits of Markets*, reprint edn (New York: Farrar, Straus and Giroux, 2013).
- 2 Milton Friedman, *There's No Such Thing as a Free Lunch* (LaSalle: Open Court Publishing, 1977), 178–80.
- 3 Tegmark, *Life 3.0*, chap. 2.
- 4 George Stigler, 'The Economics of Information', *Journal of Political Economy*, no. 3 (1961): 213.
- 5 Bryan Caplan, 'Rational Ignorance versus Rational Irrationality', *Kyklos* 54, no. 1 (1 February 2001): 3–26, <https://doi.org/10.1111/1467-6435.00138>.
- 6 Senja Post, 'Communicating Science in Public Controversies: Strategic Considerations of the German Climate Scientists', *Public Understanding of Science* 25, no. 1 (2016): 61–70.
- 7 Alexander Elbittar *et al.*, 'Ignorance and Bias in Collective Decisions', *Journal of Economic Behavior and Organization*, 27 December 2016, <https://doi.org/10.1016/j.jebo.2016.12.011>.
- 8 Ilya Somin, *Democracy and Political Ignorance: Why Smaller Government Is Smarter*, 1st edn (Stanford: Stanford Law Books, 2013), 61.
- 9 Somin, *Democracy and Political Ignorance*, 64.

Notes

- 10 Somin, *Democracy and Political Ignorance*, 65; see also Tom Hoffman, 'Rational Choice and Political Irrationality in the New Millennium', *Critical Review* 27, no. 3–4 (2 October 2015): 299–315, <https://doi.org/10.1080/08913811.2015.1111679>.
- 11 Garrett Hardin, 'The Tragedy of the Commons', *Science*, New Series, 162, no. 3859 (13 December 1968): 1243–8.
- 12 Anthony J. Evans and Jeffrey Friedman, "Search" vs. "Browse": A Theory of Error Grounded in Radical (Not Rational) Ignorance', *Critical Review* 23, no. 1–2 (March 2011): 73–104, <https://doi.org/10.1080/08913811.2011.574471>.
- 13 Evans and Friedman, "Search" vs. "Browse", 75.
- 14 Martha Augoustinos, 'Ideology, False Consciousness and Psychology', *Theory and Psychology* 9, no. 3 (1999): 295–312.
- 15 Wilbert E. Moore and Melvin M. Tumin, 'Some Social Functions of Ignorance', *American Sociological Review* 14, no. 6 (December 1949): 787–95.
- 16 Øistein Anmarkrud, Ivar Bråten, and Helge I. Strømsø, 'Multiple-Documents Literacy: Strategic Processing, Source Awareness, and Argumentation When Reading Multiple Conflicting Documents', *Learning and Individual Differences* 30 (February 2014): 64–76, <https://doi.org/10.1016/j.lindif.2013.01.007>.
- 17 'Interesting Facts about Sydney Opera House', on the Sydney Opera House official website, accessed 18 July 2018, www.sydneyoperahouse.com/content/soh/our-story/sydney-opera-house-facts.html.
- 18 Flyvbjerg, interview.
- 19 Evans and Friedman, "Search" vs. "Browse", 78; Stephen Earl Bennett and Jeffrey Friedman, 'The Irrelevance of Economic Theory to Understanding Economic Ignorance', *Critical Review: An Interdisciplinary Journal of Politics and Society* 20, no. 3 (1 January 2008): 195–258.
- 20 'DoD News Briefing – Secretary Rumsfeld and Gen. Myers', Transcript, DoD News Briefing (Washington, DC: US Department of Defense, 12 February 2002), <http://archive.defense.gov/Transcripts/Transcript.aspx?TranscriptID=2636>.
- 21 Juan D. Carrillo and Thomas Mariotti, 'Strategic Ignorance as a Self-Disciplining Device', *Review of Economic Studies* 67, no. 3 (July 2000): 529; Jonathan Haidt, 'The Age of Outrage', *City Journal*, 17 December 2017, www.city-journal.org/html/age-outrage-15608.html.
- 22 W. Kip Viscusi, 'Do Smokers Underestimate Risks?', *Journal of Political Economy* 98, no. 6 (1990): 1253–69; cf. Joan Costa-Font and Joan Rovira, 'When Do Smokers "Underestimate" Smoking Related Mortality Risks?', *Applied Economics Letters* 12, no. 13 (20 October 2005): 789–94, <https://doi.org/10.1080/13504850500190279>.
- 23 Carrillo and Mariotti, 'Strategic Ignorance as a Self-Disciplining Device', 529–30.
- 24 James M. Griffin, ed., *Global Climate Change: The Science, Economics*

- and Politics*, Bush School Series in the Economics of Public Policy, vol. 4 (Cheltenham and Northampton, MA: Edward Elgar, 2003); William Nordhaus, 'Critical Assumptions in the Stern Review on Climate Change', *Science* 317, no. 5835 (2007): 201–2.
- 25 Flyvbjerg, interview.
 - 26 Magnus Boström and Mikael Klintman, *Eco-Standards, Product Labelling and Green Consumerism* (Basingstoke: Palgrave Macmillan, 2008).
 - 27 Pierre Lemieux, 'Following the Herd', *Regulation* 26, no. 4 (Winter 2003–4): 16–21.
 - 28 Robert Trivers, *Deceit and Self-Deception: Fooling Yourself the Better to Fool Others* (New York: Penguin, 2011).
 - 29 'Sincere Deceivers', *The Economist*, 15 July 2004, Leaders, www.economist.com/node/2921794.
 - 30 Haidt, 'The Age of Outrage'.
 - 31 Dunbar, interview.
 - 32 Dunbar, interview.

6 When knowledge is responsibility and ignorance freedom

- 1 J. Ely, A. Frankel, and E. Kamenica, 'Suspense and Surprise', *Journal of Political Economy* 123, no. 1 (2015): 215–60. <https://doi.org/10.1086/677350>.
- 2 A. J. A. Kooper *et al.*, 'Why do parents prefer to know the fetal sex as part of invasive prenatal testing?' *Obstetrics and Gynecology* (2012). <http://dx.doi.org/10.5402/2012/524537>.
- 3 Ralph Hertwig and Christoph Engel, 'Homo Ignorans: Deliberately Choosing Not to Know.' *Perspectives on Psychological Science* 11, no. 3 (May 2016): 359–72. <https://doi.org/10.1177/174569161663559>.
- 4 Christina Leuker and Wouter Van Den Bos, 'We Need to Save Ignorance From AI.' *Nautilus Magazine*, 14 June 2018.
- 5 Abraham H. Maslow, 'The Need to Know and the Fear of Knowing', in *Toward a Psychology of Being*. (Princeton, NJ, US: D Van Nostrand, 1962), 62, <https://doi.org/10.1037/10793-005>.
- 6 G. Gigerenzer and R. Garcia-Retamero, 'Cassandra's Regret: The Psychology of Not Wanting to Know', *Psychological Review* 124, no. 2 (January 2017): 179–96, <https://doi.org/10.1037/rev0000055>.
- 7 John Brockman, ed., *This Will Make You Smarter: New Scientific Concepts to Improve Your Thinking*, 1st edn (New York: Harper Perennial, 2012).
- 8 Pamela J. McKenzie, 'Justifying Cognitive Authority Decisions: Discursive Strategies of Information Seekers', *Library Quarterly* 73, no. 3 (July 2003): 261; Hann *et al.*, 'Awareness, Knowledge, Perceptions, and Attitudes towards Genetic Testing'.
- 9 Donald O. Case *et al.*, 'Avoiding versus Seeking: The Relationship of Information Seeking to Avoidance, Blunting, Coping, Dissonance, and

- Related Concepts', *Journal of the Medical Library Association* 93, no. 3 (July 2005): 353–62; Brockman, ed., *This Will Make You Smarter*.
- 10 Karine Nyborg, 'I Don't Want to Hear about It: Rational Ignorance among Duty-Oriented Consumers', *Journal of Economic Behavior and Organization* 79, no. 3 (August 2011): 263–74, <https://doi.org/10.1016/j.jebo.2011.02.004>.
- 11 Festinger, *A Theory of Cognitive Dissonance*.
- 12 Nyborg, 'I Don't Want to Hear about It', 268.
- 13 Dr Steven Garber, 'The Politics of Self-Deception', Washington Institute for Faith, Vocation and Culture, 15 April 2013, www.washingtoninst.org/4138/the-politics-of-self-deception-2/.
- 14 Bent Flyvbjerg, 'How Planners Deal with Uncomfortable Knowledge: The Dubious Ethics of the American Planning Association', *Cities* 32 (June 2013): 157–63, <https://doi.org/10.1016/j.cities.2012.10.016>.
- 15 Flyvbjerg, interview.
- 16 Flyvbjerg, interview.
- 17 Steve Rayner, 'Uncomfortable Knowledge: The Social Construction of Ignorance in Science and Environmental Policy Discourses', *Economy and Society* 41, no. 1 (1 February 2012): 107–25, <https://doi.org/10.1080/03085147.2011.637335>.
- 18 Rachael Revesz, 'MPs Voted That Animals Cannot Feel Pain or Emotions', *Independent*, 20 November 2017, www.independent.co.uk/news/uk/home-news/brexit-bill-latest-animal-sentence-cannot-feel-pain-emotion-vote-mps-agree-eu-withdrawal-bill-a8064676.html.
- 19 Rayner, 'Uncomfortable Knowledge'.
- 20 McGoe, 'The Logic of Strategic Ignorance'.
- 21 cf. Sissela Bok, *Lying: Moral Choice in Public and Private Life*, updated edn (New York: Vintage, 1999).
- 22 cf. Kenneth Dauber, 'Bureaucratizing the Ethnographer's Magic', *Current Anthropology* 36, no. 1 (1995): 75–95.
- 23 Heimer, 'Inert Facts and the Illusion of Knowledge'.
- 24 Matthias Gross and Alena Bleicher, "'It's Always Dark in Front of the Pickaxe": Organizing Ignorance in the Long-Term Remediation of Contaminated Land', *Time and Society* 22, no. 3 (1 November 2013): 316–34, <https://doi.org/10.1177/0961463X12444059>; Matthias Gross, "'Objective Culture" and the Development of Nonknowledge: Georg Simmel and the Reverse Side of Knowing', *Cultural Sociology* 6, no. 4 (2012): 422–37.
- 25 Gross and Bleicher, "'It's Always Dark in Front of the Pickaxe'", 318.
- 26 Popper, *The Logic of Scientific Discovery*.
- 27 Piet Hein, *Grooks* (London: Hodder and Stoughton, 1969).
- 28 Robert K. Merton, 'Three Fragments from a Sociologist's Notebooks: Establishing the Phenomenon, Specified Ignorance, and Strategic Research Materials', *Annual Review of Sociology* 13, no. 1 (August 1987): 1–29, <https://doi.org/10.1146/annurev.so.13.080187.000245>.

- 29 Samira Shackle, 'Science and Serendipity: Famous Accidental Discoveries', *New Humanist (Online)*, 2 April 2015, <https://newhumanist.org.uk/4852/science-and-serendipity-famous-accidental-discoveries>.
- 30 Kuhn, *The Structure of Scientific Revolutions*, 89–90.
- 31 John Rawls, *A Theory of Justice* (Cambridge, MA: Harvard University Press, 1971).
- 32 Paul Matthews and Rob Stephens, 'Sociable Knowledge Sharing Online: Philosophy, Patterns and Intervention', *Aslib Proceedings* 62, no. 6 (23 November 2010): 539–53, <https://doi.org/10.1108/00012531011089667>.
- 33 Niklas Arevik *et al.*, 'Pojkar missgynnas i betygsättningen', *Lärarnas tidning* (Swedish teachers' magazine), 9 February 2011, <https://lararnastidning.se/pojkar-missgynnas-i-betygsattningen/>.
- 34 Lin Bian *et al.*, 'Messages about Brilliance Undermine Women's Interest in Educational and Professional Opportunities', *Journal of Experimental Social Psychology* 76 (May 2018), <https://doi.org/10.1016/j.jesp.2017.11.006>.
- 35 Thomas Hobbes, *Leviathan* (Harmondsworth: Penguin Classics, [1651] 1982); Francis Bacon, *Meditationes Sacrae and Human Philosophy* (Whitefish: Kessinger Publishing, [1597] 1996).
- 36 Klintman, *Citizen-Consumers and Evolution*.
- 37 Boström and Klintman, *Eco-Standards*.
- 38 Greene, *Moral Tribes*.
- 39 Peter Singer, 'The Man Who Didn't Save the World', *Project Syndicate*, 12 December 2017, www.project-syndicate.org/commentary/salvator-mundi-purchase-price-world-s-poor-by-peter-singer-2017-12.

7 What if the earth is round? Concerns about cultural consequences

- 1 Paul Raeburn, 'Lying to Yourself Helps You Lie to Others', *Discover Magazine*, 17 December 2013, <http://discovermagazine.com/2013/june/01-lying-to-yourself-helps-you-lie-to-others>.
- 2 Trivers, *Deceit and Self-Deception*, 307.
- 3 Lynn L. Bergeson, 'The Montreal Protocol Is Amended and Strengthened', *Environmental Quality Management* 26, no. 3 (Spring 2017): 137–41, <https://doi.org/10.1002/tqem.21496>.
- 4 Thomas Huxley, 'Evolution and Ethics', in *The Essays of Thomas Henry Huxley* (New York: Appleton-Century-Crofts, [1893] 1948), 81–3.
- 5 Herbert Spencer and J. D. Y. Peel, *On Social Evolution: Selected Writings* (Chicago: University of Chicago Press, 1983).
- 6 Rudyard Kipling, *Kipling: Poems* (London: Knopf Doubleday Publishing Group, 2013), 96. The poem 'The White Man's Burden' was written in 1899.
- 7 David Hume, *A Treatise of Human Nature: Being an Attempt to Introduce*

the Experimental Method of Reasoning into Mor (London: Penguin Classics, [1739] 1986).

- 8 Diamond, *Guns, Germs and Steel*.
- 9 Gagan Flora, Deepesh Gupta, and Archana Tiwari, 'Toxicity of Lead: A Review with Recent Updates', *Interdisciplinary Toxicology* 5, no. 2 (June 2012): 47–58, <https://doi.org/10.2478/v10102-012-0009-2>.
- 10 George Yancy and Noam Chomsky, 'Noam Chomsky: On Trump and the State of the Union', *New York Times*, 5 July 2017, Opinion, www.nytimes.com/2017/07/05/opinion/noam-chomsky-on-trump-and-the-state-of-the-union.html.
- 11 This study can be found in Kahan *et al.*, 'Geoengineering and Climate Change Polarization'.
- 12 Rob Bellamy, interview with the author, 25 January 2018.
- 13 Gaskell, interview.
- 14 Shaun W. Elsassner and Riley E. Dunlap, 'Leading Voices in the Denier Choir: Conservative Columnists' Dismissal of Global Warming and Denigration of Climate Science', *American Behavioral Scientist* 57, no. 6 (2013): 754–76.
- 15 Horowitz, Yaworsky, and Kickham, 'Whither the Blank Slate?'
- 16 Horowitz, Yaworsky, and Kickham, 'Whither the Blank Slate?', 499; also in Klintman, *Human Sciences and Human Interests*.
- 17 Horowitz, Yaworsky, and Kickham, 'Whither the Blank Slate?', 499.
- 18 Jack Zenger and Joseph Folkman, 'Are Women Better Leaders Than Men?', *Harvard Business Review*, 15 March 2012, <https://hbr.org/2012/03/a-study-in-leadership-women-do>.

8 How to resist knowledge resistance – and when

- 1 Kahneman, *Thinking, Fast and Slow*.
- 2 Alison Flood, 'Bill Gates Gives a Book to Every US Student Graduating in 2018', *Guardian*, 8 June 2018, www.theguardian.com/books/2018/jun/08/bill-gates-gives-a-book-to-every-us-student-graduating-in-2018.
- 3 J. R. Keene *et al.*, 'The Biological Roots of Political Extremism: Negativity Bias, Political Ideology, and Preferences for Political News', *Politics and the Life Sciences* 36, no. 2 (Fall 2017): 37–48, <https://doi.org/10.1017/pls.2017.16>.
- 4 D. Bahn *et al.*, 'Age-Dependent Positivity-Bias in Children's Processing of Emotion Terms', *Frontiers in Psychology* 8 (26 July 2017), <https://doi.org/10.3389/fpsyg.2017.01268>.
- 5 Steven Pinker, *The Better Angels of Our Nature: Why Violence Has Declined*, 1st edn (New York: Viking Adult, 2011); Pinker, *Enlightenment Now*.
- 6 Rosling, Rönnlund, and Rosling, *Factfulness*.
- 7 Rosling, Rönnlund, and Rosling, *Factfulness*.
- 8 Klintman, *Human Sciences and Human Interests*.
- 9 Rosling, Rönnlund, and Rosling, *Factfulness*.

- 10 George Gaskell *et al.*, 'GM Foods and the Misperception of Risk Perception', *Risk Analysis* 24, no. 1 (February 2004): 185–94, <https://doi.org/10.1111/j.0272-4332.2004.00421.x>.
- 11 Gaskell, interview.
- 12 Jonathon P. Schuldt, Peter K. Enns, and Victoria Cavaliere, 'Does the Label Really Matter? Evidence That the US Public Continues to Doubt "Global Warming" More Than "Climate Change"', *Climatic Change* 143, no. 1–2 (July 2017): 271–80, <https://doi.org/10.1007/s10584-017-1993-1>.
- 13 Michael Shellenberger, 'In Wake of Terrifying Climate Report, German Environmentalists Will, in a Twist, Rally for Nuclear', *Forbes*, 15 October 2018, www.forbes.com/sites/michaelshellenberger/2018/10/15/in-wake-of-terrifying-climate-report-german-environmentalists-will-in-a-twist-rally-for-nuclear/.
- 14 Shellenberger, 'In Wake of Terrifying Climate Report'.
- 15 See Martin Rein, 'Reframing Problematic Policies', in *The Oxford Handbook of Public Policy*, ed. Michael Moran, Martin Rein, and Robert E. Goodin (Oxford: Oxford University Press, 2006), 389–408; K. Bickerstaff *et al.*, 'Reframing Nuclear Power in the UK Energy Debate: Nuclear Power, Climate Change Mitigation and Radioactive Waste', *Public Understanding of Science* 17, no. 2 (April 2008): 145–69, <https://doi.org/10.1177/0963662506066719>.
- 16 Dunbar, interview.
- 17 Bud Ward, 'The Evolution of a One-Time Climate Skeptic', *Yale Climate Connections* (blog), 20 February 2018, www.yaleclimateconnections.org/2018/02/the-evolution-of-a-one-time-climate-skeptic/.
- 18 Cary Funk and Meg Hefferon, 'Many Republican Millennials Differ with Older Party Members on Climate Change and Energy Issues', Pew Research Center, 14 May 2018, www.pewresearch.org/fact-tank/2018/05/14/many-republican-millennials-differ-with-older-party-members-on-climate-change-and-energy-issues/.
- 19 Kathryn Applegate and J. B. Stump, eds, *How I Changed My Mind About Evolution: Evangelicals Reflect on Faith and Science* (Downers Grove: IVP Academic, 2016).
- 20 Michael Specter, 'An Environmentalist's Conversion', *New Yorker*, 7 January 2013, www.newyorker.com/news/daily-comment/an-environmentalists-conversion.
- 21 Omri Ben-Shahar, 'The Environmentalist Case in Favor of GMO Food', *Forbes*, 26 February 2018, www.forbes.com/sites/omribenshahar/2018/02/26/the-environmentalist-case-in-favor-of-gmo-food/.
- 22 Joaquin Navajas *et al.*, 'Aggregated Knowledge from a Small Number of Debates Outperforms the Wisdom of Large Crowds', *Nature Human Behaviour* 2 (2018): 126–32, <https://doi.org/10.1038/s41562-017-0273-4>.
- 23 Hélène Landemore and Jon Elster, *Collective Wisdom: Principles and Mechanisms* (New York: Cambridge University Press, 2012); Dražen Prelec,

- H. Sebastian Seung, and John McCoy, 'A Solution to the Single-Question Crowd Wisdom Problem', *Nature* 541, no. 7638 (January 2017): 532–5, <https://doi.org/10.1038/nature21054>.
- 24 The project is called 'Beyond the market stalls and ivory towers: A study on integrated science for sustainable provision of knowledge'. It is supported financially by the Swedish Foundation for Humanities and the Social Sciences (RJ). The project is part of a larger programme called 'Framtidens kunskapsförsörjning' (Knowledge supply for the future).
 - 25 This research project is part of the MISTRA Sustainable Consumption research programme.
 - 26 Nazli Choucri, *Cyberpolitics in International Relations* (Cambridge, MA: MIT Press, 2012).
 - 27 Nickerson, 'Confirmation Bias'.
 - 28 Reagan, 'A Time for Choosing'.
 - 29 Ivar R. Hannikainen, 'Ideology between the Lines: Lay Inferences about Scientists' Values and Motives', *Social Psychological and Personality Science*, 25 July 2018, <https://doi.org/10.1177/1948550618790230>.
 - 30 Greg Lukianoff and Jonathan Haidt, *The Coddling of the American Mind: How Good Intentions and Bad Ideas Are Setting Up a Generation for Failure* (New York: Penguin Press, 2018).

9 On whether knowledge resistance is always bad, and other questions

- 1 Dunbar, interview.
- 2 Michelle N. Meyer and Christopher Chabris, 'Why Psychologists' Food Fight Matters', *Slate*, 31 July 2014, www.slate.com/articles/health_and_science/science/2014/07/replication_controversy_in_psychology_bullying_file_drawer_effect_blog_posts.html.