

Sources

PROLOGUE

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4. R. M. Skirvin, F. Kohler, H. Steiner, D. Ayers, A. Laughnan, M. A. Norton and M. Warmund (2000). The use of genetically engineered bacteria to control frost on strawberries and potatoes. Whatever happened to all of that research? *Scientia Horticulturae*, **84**, 179.
5. Patrick Moore, Environmentalism for the 21st century. www.greenspirit.com
6. Mother Theresa was not above criticism. Apart from opposing birth control and contraception and spending most of the money she raised building convents rather than helping the poor, she refused pain-killers to those in her care because she believed that suffering pain was receiving the kisses of Jesus.
7. Jared Diamond (1998). *Guns germs and steel*. Vintage, p. 412.
8. T. Blair, *Science matters*. Speech to the Royal Society, 23 May, 2002.

CHAPTER ONE

1. Isaiah Berlin (1956). *Introduction to the age of the Enlightenment*, p. 29 New American Library.
2. Roy Porter (2000). *The Enlightenment, Britain and the creation of the modern world*. Penguin.
3. Quoted in Roy Porter, *op. cit.*, p. 6.
4. *Ibid.*, p. 8.
5. *Ibid.*, Introduction, p. xxii.
6. T. Holcroft, *Life of Thomas Holcroft* (1816 edn.; see Porter *op. cit.*, p. 508, note 27).

7. Porter, *op. cit.*, p. 70.
8. Quoted in Bryan Magee, *The story of philosophy*, Dorling Kindersley, p. 67.
9. John Henry (2003). *Knowledge is power: How magic, the Government and an apocalyptic vision inspired Francis Bacon to create modern science*. Icon Books.
10. See generally Simon Schama (1987). *Embarrassment of riches*, Harper-Collins, for a vivid account of Dutch society in the 16th and 17th centuries.
11. John Locke (1690). *Essay concerning human understanding, Epistle to the reader*.
12. *Ibid.*, p. xvii 4.
13. *Ibid.*, p. xix 1.
14. *Ibid.*, p. xvi 4.
15. *Ibid.*, p. xvii 5.
16. Isaiah Berlin (1991). *The crooked timber of humanity*, p. 237 Fontana.
17. For a variety of polling questions and answers about attitudes to science, see the House of Lords Report, Science and Society, 2000, Appendix 6, pp. 84–92. I have throughout this book frequently quoted from the reports of Select Committees of the House of Lords. They are one of the most important contributions of the upper house, as they hear evidence from leading experts in the issue under investigation and are an invaluable source of knowledge and are highly regarded in informed circles. Of equal value are similar reports from Select Committees of the House of Commons.
18. Anna Bramwell (1989). *Ecology in the 20th century*. Yale University Press.
19. *Ibid.*, p. 200ff.
20. George Steiner, *Times Literary Supplement*, 9 October, 1981. Heidegger was also one of the progenitors of the existentialist movement. See p. 197 below.
21. A. J. Lieberman and S. C. Kwon (1998). *Facts versus fears, American Council on Science and Health* (www.acsh.org). For a good summary of the effect of *The silent spring*, see Julian Morris (1999). *Fearing food*, Butterworth-Heinemann, Introduction, pp. xvi–xviii.
22. Julian Morris, *op cit*, p. xvii.
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24. Rachel Carson. *The silent spring*, p. 13, Boston, Houghton Mifflin.

25. John Maddox (1972). *The doomsday syndrome*, p. 110, Macmillan.
26. Anna Bramwell, *op. cit.*, p. 25.
27. Rachel Carson, *op. cit.*, p. 257.
28. M. V. Nadel (1971). *The politics of consumer protection*, p. 41, Bobbs Merrill.
29. S. Masterson-Allen and P. Brown (1990). Public reaction to toxic waste contamination. *International Journal of Health Services*, 20 (3), 487–97; quoted in Adam Burgess (2003) *Cellular phones, public fears and a culture of precaution*, p. 237, Cambridge University Press.
30. *Ibid.*, pp. 489–91.
31. R. Dworkin. *Playing God*. Prospect, May, 1999.

CHAPTER TWO

1. In the following summary of early developments in medicine, I have drawn extensively on Christopher Wanjek (2003). *Bad medicine*, Wiley.
2. Raymond Tallis (2004). *Hippocratic oaths*, p. 15, Atlantic Books.
3. Elaine Shapiro (2001). *The powerful placebo: From ancient priest to modern medicine*. Johns Hopkins University Press.
4. For a graphic description of the various treatments and their effects, see Wanjek, *op. cit.*, pp. 7–10.
5. UNDP Human Development Report, 2000.
6. A detailed examination of complementary and alternative medicine was conducted by a Select Committee on Science and Technology of the House of Lords, 6th Report, 2000. A balanced view of the merits and problems of alternative medicine can be found in the evidence from the Royal Society at pp. 43–51. (For the use of reports of Select Committees of the House of Lords, see Chapter 1, Note 17.).
7. *Ibid.*, Professor Meade, giving evidence on behalf of the Royal Society Q 179.
8. Professor Bateson, House of Lords, *op. cit.*, Q 175.
9. See Wanjek, *Bad medicine*, p. 169.
10. *Ibid.*, p. 175.
11. A large-scale clinical trial of the efficacy of acupuncture in treating migraine carried out in Germany showed that it was only effective as a placebo therapy.
12. Raymond Tallis, *op. cit.*, p. 129.
13. R. P. Feynman. *Surely you're joking, Mr Feynman*, pp. 338–9. Unwin Paperbacks 1185.
14. See Wanjek, *op. cit.*, p. 171.

15. P. R. Gross, N. Levitt, and M. W. Lewis (eds.) (1996). *The flight from science and reason*, p. 183. New York Academy of Sciences.
16. National Survey of Access to Complementary Health Care, Sheffield University, cited in Raymond Tallis, *op. cit.*, p. 128.
17. *British Medical Journal* (2001) 322, p. 181, cited in Tallis, *op. cit.*, p. 128.
18. *Ibid.*, p. 128, quoting the *Observer* supplement, 29 September, 2002.
19. Sheffield Survey, *op. cit.*
20. *Journal of the American Medical Association* (1998), 280, 784–7, quoted in Tallis, *op. cit.* p. 128.
21. House of Lords, *op. cit.*, Professor Meade Q 164.
22. Richard Dawkins (2003). *A devil's chaplain*, p. 180, Weidenfeld and Nicolson.
23. L. Dossey (1995). *Alternative Therapies* 1, 2: pp. 6–10, *The flight from science and reason*, *op. cit.*, p. 195.
24. Robert Park (2000). *Voodoo Science*, p. 53, Oxford.
25. House of Lords, *op. cit.*, written evidence, p. 210.
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30. *The Guardian*, p. 8. Health Supplement 4 February, 2003.
31. B. P. Barrett, R. L. Brown, K. Locken, R. Maberry, J. A. Bobula and D. D'Alessio (2002). Treatment of the common cold with unrefined Echinacea. *Annals of internal medicine*, 137. pp. 939–46.
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33. House of Lords Committee, *op. cit.*, Q199.
34. *Ibid.*
35. Roy Porter, *The greatest benefit to mankind: A medical history of humanity from antiquity to the present*, 1997, p. 712, Harper Collins.
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37. Since this book was written a detailed history of the MMR controversy has been published: Michael Fitzpatrick, 2004, *MMR and Autism*, Routledge.
38. Tallis, *op.cit.*, p. 115.
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44. *The Guardian*, 1 February, 2003.
45. *New Scientist*, *op. cit.*
46. *Ibid.*
47. Tallis, *op. cit.*, p. 189.
48. Robert Park, 31 January, 2003 (www.butterfliesandwheels.com)
49. Wanjek, *op. cit.*, p. 173.

CHAPTER THREE

1. Report of Policy Commission on Farming and Food, 2002.
2. See www.foodstandards.gov.uk/science/sciencetopics/organicfood/
3. ASA Adjudications, 12 July, 2000 www.asa.org.uk/adjudications
4. Quoted in Bryan Magee (2003). *The story of philosophy*, p. 156, Dorling Kindersley.
5. A. J. Trewavas, A critical assessment of organic farming-and-food assertions with particular respect to the UK, to be published, *Crop Protection* (2004), Elsevier. This paper is a comprehensive review of the issues concerning organic farming.
6. Anna Bramwell (1989). *Ecology in the twentieth century*, p. 200, Yale University Press.
7. House of Lords Select Committee, Organic Farming and the European Union, 1999, oral evidence Q 38. (The hearings of this committee provide a treasure trove of evidence about the arguments for and against organic farming.).

8. James Duncan, Letter, *Nature*, 425, p. 15 (4 September, 2003).
9. Survey by *Health Which?*, quoted in House of Lords, *op. cit.*, p. 17.
10. A. J. Trewavas, *op. cit.* p. 4.
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12. H. Hansen, Comparison of chemical composition and taste of biodynamically and conventionally grown vegetables, *Qualitas plantarum – plant foods for human nutrition*, 30, pp. 203–11 and D. Basker (1992). Comparison of taste quality between organically and conventionally grown fruits and vegetables, *American Journal of Alternative Agriculture*, 7, pp. 129–36.
13. Aventis Crop Science UK, January, 2001. See also Higginbotham *et al.* (2000). Environmental and ecological aspects of Integrated, organic and conventional farming systems, *Aspects of Applied Biology*, 62, pp. 15–20.
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17. D. Coggon and H. Inskip, Is there an Epidemic of cancer?, *British Medical Journal*, 308, pp. 705–8.
18. Trewavas, *op cit.*, pp. 5–6.
19. Hormesis has of course no connection whatever with homeopathy and its supposed law of infinitesimals. Firstly, there is no suggestion that 'like cures like'. Secondly, the low concentrations are measurable. They have not been diluted to some infinitesimal amount (of 1 to the power of 30 or more. See p. 44 above.).
20. See for example, Jaworowski, Radiation Folly in *Environment and health, myths and realities*, p. 68, ed. Okonski and Morris, 2004.
21. *Ibid.*, pp. 7–8 and E. J. Calabrese and L. A. Baldwin (2001). Hormesis: U-shaped dose responses and their centrality in toxicology. *Trends in pharmacological sciences*, 22, pp. 285–91; (2002). Applications of hormesis in toxicology, risk assessment and chemotherapeutics. *Trends in pharmacological sciences*, 23, pp. 331–7; (2003). Toxicology rethinks its central belief. *Nature*, 421, pp. 691–2; J. Kaiser (2003). Sipping from a poisoned chalice. *Science*, 302, pp. 376–9.

When toxicologists determine the safe dose of a chemical, they do so by characterizing its dose-response relationship, that is, how the change or degree of harm it induces varies with the different amounts present. They then determine the safe dose and how great a safety factor they should set. Generally there are doses at which the

relationship is linear, but there are arguments about whether there is a threshold dose below which the chemical has no effect, or whether even one molecule induces a damaging effect, even if too small to be detectable, and the public has been led to believe that there is no safe level of exposure to many toxic agents, especially to carcinogens like radiation or dioxins. In fact it depends upon the mode of action of the substance in question. Biochemists and pharmacologists know that the dose response to many compounds, e.g. to sex hormones, opioids, antibiotics, anti-viral agents and non-steroidal anti-inflammatory drugs is U-shaped, in that small amounts have a stimulatory (or 'good') effect and large amounts are inhibitory (or bad). Ionizing radiation at low doses cures cancer, though higher doses induce cancer. Toxicologists now recognize that the same is true for many environmental chemicals regarded as poisons or as carcinogenic, in that very small amounts of arsenic, cadmium, mercuric chloride, aluminium or methanol for example, at doses below those which cause detectable damage are actually beneficial. However, the subject arouses controversy.

22. House of Lords, *op cit.*, Q 462.
23. Aventis Crop Science UK, January, 2001. See also S. Higginbotham, A. R. Leake, V. W. L. Jordan, and S. E. Ogilvy (2000). *Aspects of Applied Biology*, 62, pp. 15–20 *et al.*
24. C. J. Drummond (2000). *Aspects of Applied Biology*, 62, pp. 165–72.
25. Trewavas, *op. cit.*, p. 17.
26. Higginbotham *et al.*, *op. cit.*
27. Trewavas, *op. cit.*, p. 10.
28. Trewavas, Urban Myths of Organic Farming (2001). *Nature*, 410, p. 409.
29. Trewavas, *op. cit.*, p. 9.
30. Dr. C. S. Prakash is Professor in Plant Molecular Genetics and Director of the Center for Plant Biotechnology Research at Tuskegee University. He was formerly on USDA's Agricultural Biotechnology Advisory Committee and is at present on the Advisory Committee for the Department of Biotechnology for the Government of India.

CHAPTER FOUR

1. Yet there are many examples of food on sale in the shops that has a GM content, or in the production of which genetic modification has been used. Thus, cheese sold as vegetarian cheese is made using the

enzyme chymosin, which is obtained from genetically modified micro-organisms instead of from calves' stomachs. Several food products contain soya from the genetically modified crop and many foods contain GM colourings, processing aids, vitamins and flavours. From April 2004 all except the processing aids have to be labelled if the amount of GM material exceeds 0.9 per cent of the total. Much livestock, hence meat, has been fed GM soya. In 2002–2003, a total of 36.5 million tonnes of soya (as beans or meal) was imported into Europe, of which about two-thirds was probably genetically modified. It is fed to livestock as a high-protein source that replaces the meat and bonemeal that was banned after the advent of BSE.

2. The survey was carried out by Cardiff University, the University of East Anglia and the Institute of Food Research. A copy can be obtained from A. Lopata (a.lopat@uea.ac.uk).
3. Alan McHughen (2000). *Pandora's picnic basket*. Oxford.
4. What the Monsanto European advertising campaign in 1998 actually said was: '... many of our needs have an ally in biotechnology and the promising advances it offers for our future. Healthier, more abundant food. Less expensive crops ... With these advances we prosper; without them we cannot thrive. As we stand on the edge of a new millennium, we dream of a tomorrow without hunger. ... Worrying about starving future generations won't feed them. Food biotechnology will' (quoted in 'Feeding or Fooling the World—Can GM crops really feed the hungry?', Report of the Genetic Engineering Alliance 2002, p. 13; see www.fiveyearfreeze.org). Monsanto's pitch overstates the case, but is not exactly the worst example of advertising hype that has ever been published.
5. Four separate reports by The Royal Society between 1999 and 2002, and most notably '*Transgenic plants and world agriculture*' a report by the Royal Society and the Brazilian, Chinese, Indian, and Mexican Academies of Sciences, the National Academy of Sciences, USA and the Third World Academy of Sciences, July, 2000.
6. Nuffield Council on Bioethics, 'The use of genetically modified crops in developing countries.' January, 2004. This was an update of an earlier report: 'Genetically modified crops: ethical and social issues', 1999.
7. ActionAid 'GM crops—Going against the Grain', May, 2003.
8. Nuffield Council on Bioethics, *op. cit.*, p. 37.
9. ActionAid, *op. cit.*, p. 17.
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13. The Royal Society, GMOs and Pusztai, May, 1999.
14. In the above account, I have drawn extensively on an illuminating paper by A. J. Trewavas FRS and C. J. Leaver FRS (2001). *EMBO Reports*, 21, p. 458. See also www.gmscience.debate.org.uk/
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16. B. Heap FRS, Essay in B. J. Ford (ed.) (2003). *The scientists speak*. Rothay House.
17. Heap contends that in the past fifty years we have lost one-fifth the world's topsoil, one-fifth of its agricultural land and a third of its forests, but these figures have been challenged by B Lomborg, *The skeptical environmentalist*, pp. 104–6, Cambridge, 2001.
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21. News release from ISAAA (International Service for the Acquisition of Agro-biotech Applications), 13 January, 2004.
22. GM Crops, An International Perspective on the Economic and Environmental Benefits, p. 1–2, Gordon Conway, to be published in Van Emden and Gray, *GMOs an international perspective*, Elsevier.
23. B. Heap, *op cit*.
24. G. Conway, *op. cit.*, p. 5.
25. *Ibid.*, p. 5.
26. Center for Global Food Issues, 30 January, 2003 (www.cgfi.org).
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32. G. Conway, *op. cit.*, p. 16.
33. Colin Tudge (2003). *So shall we reap*, p. 268, Penguin.
34. G. Conway, *op. cit.*, p. 19.
35. Jonathan Rauch, *Atlantic Monthly*, October, 2003. pp. 105–6.
36. Nuffield Council on Bioethics, *op. cit.*, pp. 35, 36.
37. The case for genetically modified crops with a poverty focus. H. J. Atkinson, J. Green, S. Cowgill, A. Levesley (2001). *Trends in biotechnology*, 18, pp. 91–6.
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40. *Ibid.*, p. 42.
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43. G. Conway, *op. cit.*, p. 8.
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CHAPTER FIVE

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CHAPTER SIX

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6. Rory Spowers (2003). *Rising Tides*. Canongate.
7. *Ibid.*, pp. 350, 351.
8. *Ibid.*, p. 208.

9. *Ibid.*, p. 226.
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11. *Ibid.*, e.g. pp. 262, 275, and 311.
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13. *Ibid.*, p. 287.
14. Quoted from the environmentalist David Suzuki, in Spowers, *op. cit.*, p. 125.
15. *Ibid.*, p. 84.
16. *Ibid.*, p. 220.
17. *Ibid.*, p. 248. See also pp. 233, 237, 240, 305, 343 and *passim*.
18. www.greenspirit.com
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32. *Ibid.*, pp. 425–7.
33. The Castles-Henderson critique is not confined to the SRES: it extends to the treatment of economic issues in the IPCC process generally. The IPCC's official response to their criticisms and proposals, in the form of a dismissive press release of December 2003, does not measure up to professional standards.

34. Robert Ehrlich (2003). *8 Preposterous Propositions*. Princeton and Oxford, p. 170. This book contains a useful summary of the main arguments on climate change, at pp. 138–87.
35. Even the link between a rise in global temperatures and a rise in sea levels is not beyond question. To offset the melting of glaciers and the thermal expansion of the oceans, a warmer world would probably mean more precipitation, more snow in Arctic regions, locking up more moisture, which would be removed from the oceans and would therefore lower sea levels. On the other hand, the current rise in sea levels is about twice what global warming levels would predict.
36. *Scientific American*, January, 2002.
37. One of these investigators, who had ‘devoted his life to the subject’, a leader of the anti-Lomborg inquisition, was Stephen Schneider. He had in fact devoted part of his earlier life to the advocacy of the view that we face a new ice age. In a paper written in the early 1970s, he argued that a vast increase in carbon dioxide emissions would have little warming effect, whereas the increase of aerosols in the atmosphere could well trigger an ice age. He continued to warn about a coming ice age until about 1978.
38. Philip Stott, *New Scientist*, 20 September, 2003.
39. S. Pimm and J. Harvey (2001). No need to worry about the future. *Nature*, **414**, 149.
40. Richard Stone in *Policy Summer*, Lomborg Review, 14 February, 2002.
41. Pimm and Harvey, *op. cit.*
42. M. Grubb, *Science*, **294**, 9 November, 2001, p. 1285.
43. A. Turner, ‘Bjorn Again’, *Prospect*, May, 2002, p. 28.
44. www.lomborg.org
45. *Spectator*, 23 February, 2002.
46. Rapid worldwide depletion of predatory fish communities. R. A. Myers and B. Worm, *Nature* 2003, Vol. 423, pp. 280–3.
47. 2003 IUCN Red List of Threatened Species. www.redlist.org. Downloaded 15 January, 2004.
48. Robert May, February 2002. ‘*Biological diversity in a crowded world: Past, present and future*’, Blue Planet Prize, Asahi Glass Foundation, Tokyo.
49. Lomborg, *op. cit.*, pp. 255–6.
50. N. Myers and F. Lanting (1999). *International Wildlife*, **29** (2), 30–9.
51. C. D. Thomas, A. Cameron, R. E. Green, M. Bakkenes, L. J. Beaumont,

- Y. C. Collingham, B. F. N. Erasmus, M. F. De Siqueira, A. Grainger, L. Hannah, L. Hughes, B. Huntley, A. S. Van Jaarsveld, G. F. Midgley, L. Miles, M. A. Ortega-Huerta, A. T. Peterson, O. L. Phillips and S. E. Williams (2004). Extinction risk from climate change. *Nature*, **427**, pp. 145–8. For a note of caution about the interpretation of these figures, see a letter from R. J. Ladle, P. Jepson, M. B. Araújo and R. J. Whittaker, *Dangers of crying wolf over risk of extinctions*, *Nature* **428**.
52. In his book *The Population Bomb*, published in 1968—admittedly a long time ago—Paul Ehrlich argued that India was a hopeless case, a country which could never feed its hungry, that there was no point in the rest of the world sending it aid.
53. www.lomborg.org
54. Turner, *op. cit.*, p. 335.
55. Spowers, *op. cit.*, p. 110. It is there claimed that this figure is rising at 7 per cent per year. A report in *The Guardian* of 5 March, 2004, gives a figure of 8 million.
56. See Prologue pp. 6–7.
57. Jay Byrne, 'Tactics and Tips', September, 2003, AgBioView, www.agbioworld.org

CHAPTER SEVEN

1. *British Medical Journal* (2003). **327**, p. 694.
2. House of Lords, Science and Society, 2000, p. 22, para. 2.56.
3. Helene Guldberg, *Spiked Online*, 1 July, 2003.
4. *The Lancet* (2000). **356**, p. 265. This is a less qualified version of the Wingspread statement produced by a gathering of scientists, philosophers, lawyers and environmental activists in the United States in 1998, in which the final words 'not fully established scientifically' were used. See Guldberg, *op. cit.* In practice the qualification 'fully' tends to be left out.
5. European Environmental Agency, Earthscan (2002). 'The Precautionary Principle in the 20th Century, Late Lessons From Early Warnings'.
6. *Ibid.*, p. 31.
7. *Ibid.*, pp. 139–40.
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10. *Ibid.*, p. 58.
11. *Ibid.*, pp. 26–32.
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13. An Introduction to Radiation Hormesis, S.M. Javad Mortazavi, www.angelfire.com/mo/radioadaptive/inthorm.html
14. *Ibid.*, p. 88.
15. *Ibid.*, p. 89.
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22. *Nature* (2002) 416, p. 123.
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CHAPTER NINE

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31. Richard Tomkins, *Financial Times*, 6 June, 2003.
32. For this description, I am indebted to Dennis Dutton, who teaches philosophy at the University of Canterbury, New Zealand.
33. John Vidal, *The Guardian*, 11 November, 2002.
34. Naomi Klein, *The Guardian*, 1 February, 2003.
35. *Ibid.*
36. Martin Wolf 'Klein's Clangers', *Prospect*, February 2003, p. 74.
37. The cry 'Take to the streets' was proclaimed by the columnist George Monbiot in *The Guardian* (2 March, 2004) and anti-GM activists advocate 'Trash the crops' as a response to the official licensing of GM maize in the UK.
38. Naomi Klein, *The Guardian*, 9 November, 2002.
39. *Ibid.*
40. John Kay (2003). *The truth about markets*, p. 323, Allen Lane.
41. *Ibid.*, p. 8.
42. Hutton, *op. cit.*, p. 26.

CHAPTER TEN

1. Quoted in Lesley Stephen (1962). *History of English thought in the Eighteenth Century*, vol. 1, p. 197, Harbinger.
2. A. Sokal and J. Bricmont (2003). *Intellectual impostures*, p. 191, Profile.
3. In the Presidential election of 2000 in the USA, 45 per cent of the electorate voted. In Britain in the General Election of 2001, 58 per cent voted, much the lowest turn-out in a general election since World War II. However, on the continent of Europe, where the electoral system is one of proportional representation that makes each individual vote count for more, turn-out in elections is much higher.
4. Thomas Patterson, Out of Order, quoted in John Lloyd, *Prospect*, October, 2002, p. 49.
5. *Ibid.*, p. 52. Since this book was written, John Lloyd has published *What the Media are doing to our Politics*, Constable and Robinson, 2004.
6. John Stuart Mill (1859). *On liberty and other essays* (Oxford University Press edn., 1991).
7. I regard *Zen* as one of the great, bad books of its time. It operates at a number of levels, as a moderately readable novel about a man who may commit suicide and his relations with his son, as a travelogue about part

of America, and as a rather unconvincing discussion of the philosophy of Sophism and Zen. The most interesting part for me was about motorcycle maintenance. It altered my attitude towards engines. Instead of reacting with fury when the outboard on my dinghy did not work, which made me want to throw it overboard, I realized there was an intellectual problem capable of intelligent solution even by those with limited technical knowledge like myself.

8. Karl Popper (1966). *The open society and its enemies*. Routledge and Kegan Paul.
9. The argument in the paragraph that follows is a summary of the relevant part of Bryan Magee's excellent booklet, *Popper* (1973), pp. 74–7.
10. The twenty most prosperous nations in the world are all democracies. One apparent exception to the rule that freedom plays an important part in enabling economic growth is China, where economic liberalisation and rapid growth has not been accompanied by more democracy. However, the Chinese economy has been extensively decentralised. It seems likely that this will make autocratic political control increasingly difficult. The government is also concerned about the widespread corruption that is a threat to sustained growth. It is unlikely that corruption can be brought under control without the relaxation of political dictatorship.
11. P. Dasgupta (2001). *Human well-being and the natural environment*, p. 75, Oxford.
12. John Kay (2003). *The truth about markets*, p. 88, Allen Lane.
13. Walter Gratzer (2000). *The undergrowth of science*. pp. 177ff., Oxford.
14. *Ibid.*, pp. 177–204.
15. *Ibid.*, pp. 204–12.
16. *Ibid.*, pp. 219ff.
17. Quoted in G. Holton (1993). *Can science be at the centre of modern culture? Public understanding of science*, vol. 2, p. 302.
18. Mario Bunge, in Gross, Levitt, and Lewis (1996). *The flight from science and reason*, p. 110, New York Academy of Sciences.
19. Quoted in B. A. O. Williams (2002). *Truth and truthfulness*, p. 144, Princeton University Press.
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21. *Ibid.*, p. 301.
22. *Ibid.*, p. 226.
23. Jason Burke (2003). *Al-Qaeda*, p. 14, Tauris.

24. Douglas Adams, quoted in Richard Dawkins (2003). *A devil's chaplain*, p. 156, Weidenfeld and Nicolson.
25. *The Guardian*, 25 November, 2002.
26. Victoria Clark 'The Christian Zionists', *Prospect*, July, 2003, p. 54.
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28. *The Economist*, 8 February, 2003, p. 55.
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32. Bernard Lewis (2002). *What went wrong? The clash between Islam and modernity in the Middle East*. p. 174, Penguin.
33. *Ibid.*, p. 8.
34. *The Economist*, Special Survey of Islam, 13 September, 2003, p. 6.
35. Vincenzo Oliveti (2003). *Terror's Source*, p. 10ff., Amadeus.
36. *Ibid.*, p. 5.
37. *Ibid.*, p. 7.
38. Bernard Lewis, *op. cit.*, p. 51.
39. *Ibid.*, p. 113.
40. Burke, *op. cit.*, p. 38.
41. Oliveti, *op. cit.*, p. 8.
42. Burke, *op. cit.*, p. 38.
43. MORI poll, March 2001.