

# Notes

## INTRODUCTION

1. Catherine Malabou, *Plasticity at the Dusk of Writing: Dialectic, Destruction, Deconstruction*, trans. Carolyn Shread (New York: Columbia University Press, 2009), p. 61.
2. Martin Heidegger, "Nur noch ein Gott kann uns retten," *Der Spiegel* (May 31, 1976), pp. 193–219. English translation by Maria Alter and John D. Caputo, originally in *Philosophy Today*, 20, 1976, pp. 267–284. Quoted from *Martin Heidegger and National Socialism*, ed. Gunther Neske and Emil Kettering (New York: Paragon House, 1990), p. 51.
3. See Chris Hedges, *Empire of Illusion: The End of Literacy and the Triumph of Spectacle* (New York: Nation Books, 2010).
4. Mike Davis, *Planet of Slums* (London: Verso, 2006), p. 15.
5. Jean-Bertrand Aristide, *Eyes of the Heart: Seeking a Path for the Poor in an Age of Globalization* (Monroe, ME: Common Courage Press, 2000), p. 10. See also the powerful book on Haiti by Peter Hallward, *Damning the Flood: Haiti and the Politics of Containment* (London: Verso Books, 2010).
6. *Ibid.*, p. 36.
7. Frederick Kaufman, "The Food Bubble: How Wall Street Millions and Got Away with it," *Harper's Magazine* (July 2010), p. 33.
8. *Ibid.*, p. 34.
9. Alan Weisman, *The World Without Us* (New York: Picador, 2008).
10. In addition to Malabou's call for a new materialism, cited in the epigraph to this chapter, there are other examples of this renewed and transformed understanding of materialism, informed in various ways by Marxism, feminism and Deleuze. See *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham: Duke University Press, 2010).

11. See our recent works on political theology: Clayton Crockett, *Radical Political Theology: Religion and Politics After Liberalism* (New York: Columbia University Press, 2011) and Jeffrey W. Robbins, *Radical Democracy and Political Theology* (New York: Columbia University Press 2011), as well as the book series that we coedit along with Creston Davis and Slavoj Žižek in which these titles appear: “Insurrections: Critical Studies of Religion, Politics and Culture.” Another name for what we are advocating and writing would be Insurrectionist Theology.
12. See Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time* (Boston: Beacon Press, 2001).
13. For this new reading of Hegel, see *Hegel and the Infinite: Religion, Politics and Dialectic*, ed. Slavoj Žižek, Clayton Crockett, and Creston Davis (New York: Columbia University Press, 2011), which includes chapters by Malabou and Žižek. See also Catherine Malabou, *The Future of Hegel: Plasticity, Temporality and Dialectic*, trans. Lisabeth During (London: Routledge, 2004) and Slavoj Žižek’s massive book on Hegel, *Less Than Nothing* (London: Verso, 2012).
14. See Eric D. Schneider and Dorion Sagan, *Into the Cool: Energy Flow, Thermodynamics and Life* (Chicago: University of Chicago Press, 2006).
15. Gilles Deleuze and Felix Guattari, *A Thousand Plateaus*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), p. 509.

## 1 DIGITAL CULTURE

1. Christopher Lasch, *The Culture of Narcissism: American Life in an Age of Diminishing Expectations* (New York: W. W. Norton & Company, 1978), p. xv.
2. Slavoj Žižek, “Occupy First. Demands Come Later,” *Guardian* (October 26, 2011): <http://www.guardian.co.uk/commentisfree/2011/oct/26/occupy-protesters-bill-clinton>.
3. McKenzie Wark, “How to Occupy an Abstraction” (October 3, 2011): <http://www.versobooks.com/blogs/728>.
4. Lasch, p. 30.
5. *Ibid.*, p. 22.
6. *Ibid.*, p. 16.
7. *Ibid.*, p. 30.
8. Dan Gilmore, “Us, Not You,” Center for Citizen Media Blog (December 17, 2006): <http://citmedia.org/blog/2006/12/17/us-not-you/>.
9. Gianni Vattimo, *The Transparent Society*, trans. David Webb (Baltimore: Johns Hopkins Press, 1992), p. 4.

10. Ibid., p. 7.
11. Ibid., p. 4.
12. Lev Grossman, "Iran Protests: Twitter, the Medium of the Movement," *Time* (June 17, 2009): <http://www.time.com/time/world/article/0,8599,1905125,00.html>.
13. For instance, see Douglas Rushkoff, "How Iran's Hackers Killed Big Brother," *The Daily Beast* (June 6, 2009): <http://www.thedailybeast.com/articles/2009/06/16/how-irans-hackers-killed-big-brother.html>.
14. For instance, see Jared Keller, "Evaluating Iran's Twitter Revolution," *The Atlantic* (June 18, 2010): <http://www.theatlantic.com/technology/archive/2010/06/evaluating-irans-twitter-revolution/58337/>.
15. Douglas Rushkoff, "Think Occupy Wall St. Is a Phase? You Don't Get It," CNN.com: <http://www.rushkoff.com/blog/2011/10/5/think-occupy-wall-st-is-a-phase-you-dont-get-it.html>.
16. Ibid.
17. See "Warning Over 'Surveillance State,'" BBC News (February 6, 2009): <http://news.bbc.co.uk/1/hi/7872425.stm?lsm>.
18. See Joshua Fairfield, *Escape into the Panopticon: Virtual Worlds and the Surveillance Society*, 118 Yale L.J. Pocket Part 131 (2009): <http://thepocketpart.org/2009/01/19/fairfield.html>.
19. See Tanzina Vega, "Code That Tracks Users' Browsing Prompts Lawsuits," *New York Times* (September 21, 2010): B3.
20. Bruce Schneier, "Technology Shouldn't Give Big Brother a Head Start," MPR News Q (July 31, 2009): <http://www.schneier.com/essay-281.html>.
21. Ryan Tate, "Facebook's New 'Privacy' Scheme Smells Like an Anti-Privacy Plot." <http://gawker.com/5417145/facebooks-new-privacy-scheme-smells-like-an-anti-privacy-plot>.
22. Douglas Rushkoff, *Life Inc.: How the World Became a Corporation and How to Take It Back* (New York: Random House, 2009), p. 114.
23. Ibid., pp. 120–121.
24. Ibid., p. 125.
25. See Sheldon S. Wolin, *Democracy Inc.: Managed Democracy and the Specter of Inverted Totalitarianism* (Princeton: Princeton University Press, 2008).
26. Cory Doctorow, *Little Brother* (New York: A Tom Doherty Associates Book, 2008), p. 127.
27. Michael Hardt and Antonio Negri, *Multitude: War and Democracy in the Age of Empire* (New York: Penguin Press, 2004), pp. 339–340.
28. This data was compiled on September 21, 2010.
29. Rushkoff, *Life Inc.*, p. 131.

## 2 RELIGION

1. Ludwig Feuerbach, *The Essence of Christianity*, trans. George Eliot (Amherst: Prometheus Books, 1989), p. xxi. (emphasis his).
2. *Ibid.*, p. 12.
3. *Ibid.*, p. 26.
4. *Ibid.*, p. 33.
5. Van A. Harvey, *Feuerbach and the Interpretation of Religion* (Cambridge: Cambridge University Press, 1995), p. 136.
6. Karl Marx and Friedrich Engels, *On Religion* (Atlanta: Scholars Press, 1964), p. 224.
7. Harvey, *Feuerbach*, p. 136.
8. *Ibid.*, p. 41.
9. See “Theses on Feuerbach,” in Marx and Engels, *On Religion*, p. 69.
10. *Ibid.* (emphasis his).
11. *Ibid.*, p. 71.
12. *Ibid.* (emphasis his).
13. Karl Marx, “Contribution to the Critique of Hegel’s Philosophy of Right,” in Marx and Engels, *On Religion*, p. 42.
14. Ernest Jones, *The Life and Work of Sigmund Freud*, Vol. 3 (New York: Basic Books, 1957), p. 351.
15. Daniel Pals, *Eight Theories of Religion*, 2nd Edition (New York: Oxford University Press, 2006), p. 64.
16. *Ibid.*
17. *Ibid.*, p. 75.
18. Sigmund Freud, *The Future of an Illusion*, trans. James Strachey (New York: W. W. Norton, 1961), pp. 6, 8.
19. *Ibid.*, pp. 26–27.
20. *Ibid.*, pp. 24–25.
21. *Ibid.*, pp. 40, 38.
22. *Ibid.*, p. 47.
23. See Slavoj Žižek and John Milbank, *The Monstrosity of Christ: Paradox or Dialectic?*, ed. Creston Davis (Cambridge: MIT Press, 2009), p. 17.
24. *Ibid.*, p. 26.
25. *Ibid.*, p. 27.
26. See Robert Whitaker, *Anatomy of an Epidemic: Magic Bullets, Psychiatric Drugs, and the Astonishing Rise of Mental Illness in America* (New York: Crown, 2010).
27. Freud, *The Future of an Illusion*, p. 69.
28. Žižek and Milbank, *The Monstrosity of Christ*, p. 33.

29. See Giorgio Agamben, *The Coming Community* (Minneapolis: University of Minnesota Press, 1993).
30. Žižek and Milbank, *The Monstrosity of Christ*, p. 25.
31. Ibid., p. 33.
32. Ibid., p. 31.
33. Slavoj Žižek, *The Parallax View* (Cambridge: MIT Press, 2006), p. 353.
34. Ibid., p. 347.
35. Ibid., p. 348.
36. Ibid.
37. Ibid., p. 353.
38. Ibid.
39. See Slavoj Žižek, *The Sublime Object of Ideology* (London and New York: Verso, 1989), p. 34.
40. Žižek and Milbank, *The Monstrosity of Christ*, p. 18.
41. *Cross and Khôra: Deconstruction and Christianity in the World of John D. Caputo*, ed. Mark Zlomislic and Neal DeRoo (Eugene: Pickwick Publications, 2010), p. 135.
42. Žižek, *The Parallax View*, p. 351.
43. See Eric Gorski, “Ted Haggard, Disgraced Pastor, Returns as Christian Businessman,” *The Huffington Post* (November 23, 2008): [http://www.huffingtonpost.com/2008/11/23/disgraced-pastor-ted-hagg\\_n\\_145866.html?page=3](http://www.huffingtonpost.com/2008/11/23/disgraced-pastor-ted-hagg_n_145866.html?page=3).
44. Philip Goodchild, *A Theology of Money* (London: SCM Press, 2007), p. 6.
45. See Matthew 14:13–21, Mark 6:31–44, Luke 9:10–17, and John 6:5–15.
46. See Matthew 14:15b.
47. See John Dominic Crossan, *The Greatest Prayer: Rediscovering the Revolutionary Message of the Lord’s Prayer* (New York: HarperOne, 2011).
48. Žižek and Milbank, *The Monstrosity of Christ*, p. 4.
49. Ibid., p. 3.

### 3 POLITICS

1. For the clearest summation of this thesis, see Jacques Rancière, *Hatred of Democracy* (New York: Verso, 2006) and Antonio Negri, *Time for Revolution* (New York: Continuum, 2003), especially pp. 139–261.
2. Negri, *Time for Revolution*, p. 235.
3. Ibid., p. 225.
4. Hent de Vries, “Introduction: Before, Around, and Beyond the Theologico-Political,” in *Political Theologies: Public Religions in a Post-Secular World*,

- ed. Hent de Vries and Lawrence Sullivan (New York: Fordham University Press, 2006), p. 3.
5. John Caputo, *On Religion* (New York: Routledge, 2001), p. 37.
  6. Hent de Vries, *Philosophy and the Turn to Religion* (Baltimore and London: Johns Hopkins University Press, 1999), pp. 2–3.
  7. *Ibid.*, p. 3.
  8. *Ibid.*, p. 9.
  9. *Ibid.*, p. 18.
  10. Jürgen Habermas, “‘The Political’: The Rational Meaning of a Questionable Inheritance of Political Theology,” as delivered at the Symposium on the Power of Religion in the Public Sphere at New York University on October 22, 2009. This lecture, along with those from Judith Butler, Cornel West, and Charles Taylor, is scheduled for publication in a forthcoming volume edited by Eduardo Mendiata and Jonathan Van Antwerpen, *The Power of Religion in the Public Sphere* (Columbia University Press).
  11. Slavoj Žižek, “Will the Cat Above the Precipice Fall Down?” in a blog posted widely on the internet as early as June 24, 2009. See <http://www.htlblog.com/?p=519> (accessed on December 10, 2009).
  12. *Ibid.*
  13. See Anthony Shadid, “In Riddle of Mideast Upheaval, Turkey Offers Itself as an Answer,” *New York Times* (September 27, 2011): A4.
  14. Anthony Shadid and David D. Kirkpatrick, “Activists in Arab World Vie to Define Islamic State,” *New York Times* (September 30, 2011): A1.
  15. For instance, see Colin Crouch, *Post-Democracy* (Cambridge: Polity Press, 2005) and Sheldon S. Wolin, *Democracy Inc.: Managed Democracy and the Specter of Inverted Totalitarianism* (Princeton: Princeton University Press, 2008).
  16. Jason Read, “Starting from Year Zero: Occupy Wall Street and the Transformation of the Socio-Political,” *Year Zero: Occupy Wall Street and the Transformations of the Socio-Political*: <http://interactivist.autonomeia.org/node/42726>.
  17. Francis Fukuyama, *America at the Crossroads: Democracy, Power, and the Neoconservative Legacy* (New Haven: Yale University Press, 1997), p. 67.
  18. *Ibid.*, p. 72.
  19. *Ibid.*, p. 74.
  20. See Michael Hardt and Antonio Negri, *Empire* (Cambridge: Harvard University Press, 2000) and *Multitude: War and Democracy in the Age of Empire* (New York: The Penguin Press, 2004).
  21. Antonio Negri, *The Savage Anomaly: The Power of Spinoza’s Metaphysics and Politics*, trans. Michael Hardt (Minneapolis: University of Minnesota Press, 1991), p. 202.

22. Baruch Spinoza, *Political Treatise*, trans. Samuel Shirley (Indianapolis: Hackett Publishing Company, 2000), p. 44.
23. Ibid.
24. Rocco Gangle, "Sovereignty and State-Form," in *The Sleeping Giant Has Awoken: The New Politics of Religion in the United States*, ed. Jeffrey W. Robbins and Neal Magee (New York: Continuum, 2008), p. 141.
25. Slavoj Žižek, *Tarrying with the Negative: Kant, Hegel, and the Critique of Ideology* (Durham: Duke University Press, 1993), p. 171.
26. Jacques Derrida, *The Politics of Friendship*, trans. George Collins (New York: Verso Press, 1997), p. 83.
27. Ibid.
28. Ibid., p. 156.
29. Ibid., pp. 155–156.
30. Ibid., p. 158.
31. Ibid., p. 159.
32. Ibid.
33. Ibid., p. 162.
34. Ibid., p. 163.
35. Ibid., p. 83.
36. Ibid., p. 159.

#### 4 ART

1. See John H. Zammito, *The Genesis of Kant's Critique of Judgment* (Chicago: University of Chicago Press, 1992), p. 46.
2. Immanuel Kant, *Critique of Judgment*, trans. Werner S. Pluhar (Indianapolis: Hackett Publishing, 1987), p. 15 (emphasis in original).
3. Mark C. Taylor, *Confidence Games: Money and Markets in a World Without Redemption* (Chicago: University of Chicago Press, 2004), p. 98.
4. Kant, *Critique of Judgment*, p. 115 (emphasis in original).
5. Friedrich Nietzsche, *Basic Writings of Nietzsche*, trans. Walter Kaufmann (New York: Random House, 1968), p. 256.
6. See Friedrich Nietzsche, "First Essay," *On The Genealogy of Morals and Ecce Homo*, trans. and ed. Walter Kaufmann (New York: Random House, 1957), pp. 24–56.
7. Henri, comte de St.-Simon, "The Artist, the Savant, and the Industrialist," in *Art in Theory 1815–1900: An Anthology of Changing Ideas*, ed. Charles Harrison and Paul Wood with Jason Gaiger (Oxford: Blackwell, 1998), p. 40.
8. Hakim Bey, *TAZ: The Temporary Autonomous Zone, Ontological Anarchy, Poetic Terrorism* (Brooklyn, NY: Autonomedia, 1985): [http://hermetic.com/bey/taz\\_cont.html](http://hermetic.com/bey/taz_cont.html).

9. Andre Breton and Diego Rivera, "Manifesto for an Independent Revolutionary Art": [http://www.marxists.org/subject/art/lit\\_crit/works/rivera/manifesto.htm](http://www.marxists.org/subject/art/lit_crit/works/rivera/manifesto.htm).
10. See Jean Baudrillard, *Simulacra & Simulation*, trans. Sheila Faria Glaser (Ann Arbor: University of Michigan Press, 1994).
11. See Taylor, *Confidence Games*, Chapter 1, pp. 17–53.
12. See Nicolas Bourriaud, *Relational Aesthetics*, trans. Simon Pleasance and Fronda Woods (Dijon: les presses du réel, 2002).
13. See Gabriel Vahanian, *The Death of God: The Culture of Our Post-Christian Era* (New York: George Braziller, 1957).
14. Guy Debord, "Report on the Construction of Situations," in *Situationist International Anthology*, ed. Ken Knabb (Bureau of Public Secrets, 2007), pp. 25–46.
15. Terry Eagleton, *The Ideology of the Aesthetic* (London: Wiley-Blackwell, 1991), p. 212.
16. An exception might be *The Interventionists: Art in the Social Sphere*, MASS MoCA's 2004–2005 summer exhibition, opened May 29, 2004. The exhibition surveyed recent and current interventionist practices, showcasing the work of 29 artists and collectives. See [http://www.massmoca.org/event\\_details.php?id=38](http://www.massmoca.org/event_details.php?id=38).
17. Félix Guattari, *Chaosmosis: An Ethico-aesthetic Paradigm* (Bloomington: Indiana University Press, 1995), p. 131.
18. Joseph Beuys, "I Am Searching for a Field Character," *Energy Plan for the Western Man: Joseph Beuys in America*, compiled by Carin Kuoni (New York: Four Walls Eight Windows, 1990), pp. 21–23.
19. Eagleton, *The Ideology of the Aesthetic*, p. 217.
20. *Ibid.*, pp. 214–215.
21. *Ibid.*, p. 216.
22. Joseph Beuys, *What is Art?*, trans. Matthew Barton and Shelley Sacks, ed. Volker Harlan (Forest Row: Clairview Books, 2004), p. 20.
23. *Ibid.*, p. 27.
24. Catherine Malabou, *What Should We Do with Our Brain?*, trans. Sebastian Rand (New York: Fordham University Press, 2008), p. 5.
25. *Ibid.*, p. 13.
26. Jacques Rancière, *The Politics of Aesthetics*, trans. Gabriel Rockhill (London: Continuum, 2004), p. 40.
27. *Ibid.*, p. 30.

## 5 ETHICS

1. Alain Badiou, *Ethics: An Essay on the Understanding of Evil*, trans. Peter Hallward (London: Verso, 2001), p. 2.
2. *Ibid.*, p. 28 (emphasis in original).

3. See Alain Badiou, *Being and Event*, trans. Ray Brassier (London: Continuum, 2006).
4. Badiou, *Ethics*, p. 42.
5. Ibid., p. 71.
6. Ibid., p. 16.
7. Friedrich Nietzsche, *The Birth of Tragedy & The Genealogy of Morals*, trans. Francis Golffing, (New York: Anchor Books, 1956), p. 298 (emphasis in original).
8. Ibid., p. 297.
9. Ibid.
10. Carl Schmitt, *The Concept of the Political*, trans. George Schwab (Chicago: University of Chicago Press, 1995), p. 26.
11. Ibid., p. 35.
12. Michael Hardt and Antonio Negri, *Multitude: War and Democracy in the Age of Empire* (New York: Penguin Press, 2004), p. 239.
13. Philip Goodchild, *A Theology of Money* (London: SCM Press, 2007), p. 7.
14. See *ibid.*, p. 10.
15. Ibid., p. 12.
16. Ibid., pp. 13–14.
17. David Graeber, *Debt: The First 5,000 Years* (Brooklyn, NY: Melville House Publishing, 2011), p. 391.
18. Ibid., p. 96.
19. Ibid., p. 121.
20. Martin Heidegger, *The Question Concerning Technology and Other Essays*, trans. William Lovitt (New York: Harper & Row, 1977), p. 17.
21. Martin Heidegger, *Discourse on Thinking*, trans. John M. Anderson and E. Hans Freund (New York: Harper & Row, 1966), p. 47 (emphasis in original).
22. Ibid., p. 54.
23. For a contemporary discussion of Heidegger in relation to later French philosophy, as well as ethics, religion, and politics, see Mary-Jane Rubenstein, *Wondrous Strange: The Closure of Metaphysics and the Opening of Awe* (New York: Columbia University Press, 2009). See also Gianni Vattimo and Santiago Zabala, *Hermeneutic Communism* (New York: Columbia University Press, 2011) in which they provide a compelling defense of the positive value of Heidegger as a political thinker. Finally, see Catherine Malabou's extraordinary reading of Heidegger in terms of change, transformation, metamorphosis, and exchange in *The Heidegger Change: On*

- the Fantastic in Philosophy*, trans. Peter Skafish (Albany: State University of New York Press, 2011).
24. Baruch Spinoza, *Ethics, Treatise on The Emendation of the Intellect and Selected Letters*, trans. Samuel Shirley (Indianapolis: Hackett Publishing, 1992), p. 31 (Definition 6).
  25. *Ibid.*, p. 48.
  26. See *ibid.*, p. 63, Definitions 1 and 3.
  27. *Ibid.*, p. 52 (Proposition 29, Scholium).
  28. Gilles Deleuze, *Nietzsche and Philosophy*, trans. Hugh Tomlinson (New York: Columbia University Press, 1983), p. 40.
  29. *Ibid.*, p. 57.
  30. *Ibid.*, p. 111.
  31. Spinoza, *Ethics*, p. 201, Preface to Book V.
  32. See *ibid.*, p. 90 (Scholium 2).
  33. *Ibid.*, p. 214, Proposition 24.

## 6 ENERGY

1. See Clayton Crockett, "Beyond Heat: Energy for Life," in *Cosmology, Ecology and the Energy of God*, ed. Donna Bowman and Clayton Crockett (New York: Fordham University Press, 2011). This chapter covers some of the same ground.
2. See R. McNeill Alexander, *Energy for Animal Life* (Oxford: Oxford University Press, 1999), p. 5.
3. *Ibid.*, p. 24.
4. J. C. Heesterman, *The Broken World of Sacrifice: An Essay in Ancient Indian Ritual* (Chicago: University of Chicago Press, 1993), p. 23.
5. George Monbiot, *Heat: How to Stop the Planet From Burning* (Cambridge, MA: South End Press, 2007), p. 6.
6. *Ibid.*, p. 13.
7. See Herman E. Daly, *Beyond Growth: The Economics of Sustainable Development* (Boston: Beacon Press, 1996).
8. See Kenneth S. Deffeyes, *Beyond Oil: The View From Hubbert's Peak* (New York: Hill and Wang, 2005), p. 49.
9. Oil was initially developed primarily because of its greater convenience. Coal is far bulkier, dirtier, and requires greater amounts to carry and burn than oil. Oil is comparatively far easier to carry and burn with far greater performance locked in its volume. Not only must bulky coal be considered but also the massive amounts of freshwater supplies necessary for

- steam engines to operate. Both are obviated by the direct work performed by internal combustion engines.
10. In the Pacific theater, Japan's imperial designs upon China were mainly driven by oil supplies in Manchuria.
  11. Million barrels per day (mb/d) on average of oil from US Lower 48, inner continental shelves, and the Gulf of Mexico.
  12. Deffeyes, *Beyond Oil*, p. 44.
  13. At its peak, Alaska North Slope extraction in 1984–1985 was 2.1 mb/d, which is not coincidentally the design maximum capacity of the trans-Alaska Pipeline. Now extraction is hovering around 650,000 b/d, and an effective shutdown of the pipeline will occur when volume falls below 350,000 b/d. See Kim Murphy, "Future of trans-Alaska pipeline murky," *Arkansas Democrat–Gazette* (August 22, 2010).
  14. M. King Hubbert, "Nuclear Energy and the Fossil Fuels," Publication 95 (Houston, TX: Shell Development Company, June 1956), figures 20 and 21. Available online at [www.hubbertpeak.com/hubbert/1956/1956pdf](http://www.hubbertpeak.com/hubbert/1956/1956pdf).
  15. On Saudi Arabia, see Matthew R. Simmons, *Twilight in the Desert: The Coming Saudi Oil Shock and the World Economy* (New York: John Wiley & Sons, 2005).
  16. 2005 was the global peak year according to James Murray and David King, "Oil's Tipping Point has Passed," *Nature* (January 26, 2012), Vol. 481, pp. 433–435. 2005 was the global peak year as stated by Kenneth Deffeyes in an article according to Joel Achenbach, "The BP Disaster—84 Days and Counting: Rare Mix of Geological Factors Created Rich But Dangerous Reserves," *The Washington Post* (July 13, 2010). Here is another source that puts the peak year at 2006, as announced by CNN: "The German-based Energy Watch Group released a report on Tuesday saying the world's oil production peaked in 2006 and from now on will drop by around 3 percent a year." CNN International Desk Editors, "Report: 'World at peak oil output,'" *CNN International* (October 24, 2007), updated 11:41 GMT, 19:41 HKT: <http://edition.cnn.com/2007/BUSINESS/10/24/oil.decline/index.html>.
  17. Murray and King, *Nature*, Vol. 481, pp. 433–435.
  18. See Thom Hartmann, *The Last Hours of Ancient Sunlight: The Fate of the World and What We Can Do About It before It's Too Late* (New York: Three Rivers Press, 2004), pp. 10–11.
  19. *Ibid.*, p. 7.
  20. This is the argument made by Kenneth Deffeyes in the *Washington Post* in the summer of 2010 during the unfolding of the worst petroleum oceanic disaster to ever occur in human history—namely, that the maximum

- global output of extracted petroleum out of the ground had plateaued in 2005. See Achenbach, *The Washington Post* (Tuesday, July 13, 2010): <http://www.washingtonpost.com/wp-dyn/content/article/2010/07/12/AR2010071204239.html?hpid=topnews>.
21. David Goodstein, *Out of Gas: The End of the Age of Oil* (New York: W.W. Norton & Company, 2004).
  22. *A Crude Awakening: The Oil Crash*, written, produced, and directed by Basil Gelpke and Ray McCormack, codirected by Reto Caduff, 2006: <http://www.oilcrashmovie.com/index2.html>.
  23. “Professor Goodstein Discusses Lowering Oil Reserves,” interview with Tony Jones: [www.energybulletin.net/node/3322](http://www.energybulletin.net/node/3322).
  24. Matthew L. Wald, “Sluggish Economy Curtails Prospects for Building Nuclear Reactors,” *New York Times* (Sunday, October 10, 2010): [http://www.nytimes.com/2010/10/11/business/energy-environment/11power.html?\\_r=1&pagewanted=all](http://www.nytimes.com/2010/10/11/business/energy-environment/11power.html?_r=1&pagewanted=all).
  25. *A Crude Awakening*: <http://www.oilcrashmovie.com/index2.html>.
  26. *Ibid.*

## 7 A RADICAL PROPOSAL FOR NUCLEAR ENERGY

1. For a good resource and overview of nuclear power, see Richard L. Garwin and Georges Charpak, *Megawatts + Megatons: The Future of Nuclear Power and Nuclear Weapons* (Chicago: University of Chicago Press, 2002). The authors reasonably want to emphasize the former and deemphasize the latter, but we argue that there is a shared assumption driving contemporary thinking about nuclear power that feeds into both nuclear energy and nuclear bombs, and we need to think about nuclear energy differently from bombs and boilers, both of which are driven by heat.
2. See George Monbiot, *Heat: How to Stop the Planet from Burning* (Cambridge, MA: South End Press, 2007).
3. Albert Einstein and Leopold Infeld, *The Evolution of Physics: From Early Concepts to Relativity and Quanta* (New York: Simon & Schuster, 1938, renewed 1966), pp. 151–152.
4. Albert Einstein, “On the Electrodynamics of Moving Bodies,” received on June 30, 1905; published in the original German September 26, 1905, *Annalen der Physik* 17: <http://www.fourmilab.ch/etexts/einstein/specrel/specrel.pdf>.
5. Albert Einstein, “On a Heuristic Viewpoint Concerning the Production and Transformation of Light,” received on May 11, 1905; published in

- the original German June 9, 1905, *Annalen der Physik* 17: <http://www.scribd.com/doc/10571708/Albert-Einstein-On-a-Heuristic-Point-of-View-Concerning-the-Production-and-Transformation-of-Light>.
6. Albert Einstein, "Does the Inertia of a Body Depend Upon Its Energy Content?," received on September 27, 1905; published in the original German November 12, 1905, *Annalen der Physik* 18: [http://www.fourmilab.ch/etexts/einstein/E\\_mc2/e\\_mc2.pdf](http://www.fourmilab.ch/etexts/einstein/E_mc2/e_mc2.pdf).
  7. Albert Einstein, "On the Motion of Small Particles Suspended in a Stationary Liquid, as Required by the Molecular Kinetic Theory of Heat," received on May 11, 1905; published in German July 18, 1905, *Annalen der Physik* 17: <http://lyle.smu.edu/ee/5375/downloads/Lectures/Lecture11/einstein-bm.pdf>.
  8. See Eric D. Schneider and Dorion Sagan, *Into the Cool: Energy Flow, Thermodynamics, and Life* (Chicago: University of Chicago Press, 2005), Chapter One: "The Schrödinger Paradox," pp. 11–24 .
  9. See Ilya Prigogine, *From Being to Becoming: Time and Complexity in the Physical Sciences* (San Francisco: W.H. Freeman and Company, 1980) and *The End of Certainty: Time, Chaos, and the New Laws of Nature* (New York: The Free Press, 1997).
  10. See Schneider and Sagan, *Into the Cool*, chapters 1–10, pp. 11–139, for the best overview and presentation of this new twenty-first-century nonequilibrium thermodynamics.
  11. See James Gleick, *Chaos: Making a New Science* (New York: Penguin Books, 1987).
  12. The initial moves toward developing an alternative way to explain earth's magnetic field began with this and several theoreticians' work in the early 1960s, F. A. Goldsworthy, "Magnetohydrodynamic Flows of a Perfectly Conducting, Viscous Fluid," *Journal of Fluid Dynamics*, Vol. 11, 1961, pp. 519–528.
  13. Christopher J. Talbot and Martin P. Jackson, "Salt Tectonics," *Scientific American* (1987), Vol. 257, No. 2, pp. 70–79.
  14. Schneider and Sagan, *Into the Cool*, p. 72.
  15. You can see this self-organization for yourself in a storm in a bottle. It's very easy to make. Take two Crystal Clear<sup>®</sup> carbonated flavored water bottles, and wash them out thoroughly. Go to a hardware store, and buy a PVC ½"-diameter pipe external splice coupler. Put a drop of blue food coloring in one of the bottles. Add distilled bottled water and fill 2/3–3/4. Place the PVC coupler into the mouth of one bottle, and fit firmly the mouth of the other bottle to the remaining end of the PVC coupler. You can epoxy the bottles to the coupler, or just carefully hold them together.

- Now turn the whole thing upside-down. Watch carefully. If you don't disturb the bottles, you'll most likely see and hear loudly gurgling bubbles that slowly rise as the water inefficiently falls into the bottom bottle. This is disorganized, inefficient gradient degradation. Sometimes the bottles will self-organize into efficient gradient degradation by the spontaneous formation of a siphon whirlpool. Notice how much faster and silently the water flows down, and air flows up through the siphon. Most times a very gentle rotation of the top bottle will start the self-organization.
16. H. -P. Bunge, C. R. Hagelberg, and B. J. Travis, "Mantle Convection with Variational Data-Assimilation," *GJI* (2003), Vol. 152, pp. 1–22, LMU—Ludwig-Maximilians-Universität München—Geophysics Department of Earth and Environmental Sciences. Last modified September 7, 2006 21:53 EU WDT—GMT+1. Accessed November 21, 2008 19:27 USA CST—GMT-6. This has been computer modeled. See: <http://www.geophysik.lmu.de/research/geodynamics/data-assimilation>.
  17. See the recent article on "Polar Magnetic Upwelling" by Arnaud Chulliat and his colleagues, which supports this hypothesis: A. Chulliat, G. Hulot, and L. R. Newitt, "Magnetic Flux Expulsion from the Core as a Possible Cause of the Unusually Large Acceleration of the North Magnetic Pole during the 1990s," *Journal of Geophysical Research* (2010), Vol. 115, B07101, doi:10.1029/2009JB007143.
  18. Tony Phillips, "Earth's Inconstant Magnetic Field," *Science@NASA* (December 29, 2003): [http://science.nasa.gov/headlines/y2003/29dec\\_magneticfield.htm](http://science.nasa.gov/headlines/y2003/29dec_magneticfield.htm). The way that this was surmised is that the ship's logs of transoceanic navigators recorded two datapoints for each geomagnetic observation. They did this consistently for more than two centuries. Not only was the declination in the horizontal plane recorded but also the inclination relative to the normal axis of the instrument, indicating a field strength, which has changed over the centuries.
  19. Remember that you gently rotate the top bottle to get the self-organized siphon whirlpool to form? Earth's rotation does exactly the same thing for the formation and maintenance of the mantle/core structures.
  20. Kevin Mequet elaborates on the context of his insight: "This is a good case of something in the back of my subconsciousness making connections my conscious mind was not. I had read James Gleick's biography of Richard Feynman in 1992 when it was first published but I had forgotten the important theoretical physical stuff since. Consciously, that is. Then Clayton Crockett had told me he'd finished Gleick's book at my insistence in the summer of 2009. I immediately pulled out my copy and reread it. A lot of frustration could have been avoided if I'd just reread it earlier. But

- then I've found that information arrives exactly at the right time and had I reread it earlier I might very well have missed the importance of Feynman's later theoretical work. One must accept that a lot of sweat and frustration goes with the territory when blazing a new path in the wilderness."
21. Richard Feynman and Murray Gell-Mann, "Theory of the Fermi Interaction," also known colloquially as the "Strange Theory," *Physical Review* (January 1, 1958), Vol. 109, No. 1. See also the discussion in James Gleick, *Genius: The Life and Science of Richard Feynman* (New York: Pantheon Books, 1992), pp. 335–341.
  22. See Kevin Mequet's technical proposal, "A Revolutionary View to the Chronic Energy Problem," 2009: <http://www.scribd.com/doc/33017213/KDM-Proposal-NuMEgen-Ver03-Academic-20100605-Final>.
  23. Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (New York: Columbia University Press, 1994), p. 216.
  24. Part of the difficulty of reading *Difference and Repetition* is the fact that it draws on such technical, mathematical, and scientific knowledge and draws upon it to create an extraordinary philosophical synthesis. In the United States, the divide between the Humanities and the Sciences is so extreme that most scholars lack either the scientific expertise to read Deleuze in a competent manner in relation to mathematics and physics—Manuel De Landa, *Intensive Science and Virtual Philosophy* (London: Continuum, 2002) is an important exception—or the inability to engage philosophically with the ideas that Deleuze presents. Our claim is that even though it was published in French in 1968, the importance of *Difference and Repetition* has not yet been made fully apparent. For an interpretation of Deleuze over against Alain Badiou's influential critique, see Clayton Crockett, *Deleuze Beyond Badiou: Ontology, Multiplicity and Event* (New York: Columbia University Press, 2013).
  25. See Deleuze, *Difference and Repetition*, p. 229: "Once depth is grasped as an extensive quantity, it belongs to engendered extensity and ceases to include in itself its own heterogeneity in relation to the other two [length and breadth of a horizontal plane]." See also Gilles Deleuze and Félix Guattari, *A Thousand Plateaus*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), p. 40.
  26. This can be easily visualized by applying the Fleming right hand rule to your right hand. Point your index finger straight forward. Point your middle finger to your left 90°. Point your thumb straight up. Now you have modeled the axes of this arrangement.
  27. *The Matrix: Revolutions*, written, produced, and directed by The Wachowski Brothers, 2003.

## 8 BEING (A BRAIN)

1. *The Basic Works of Aristotle*, ed. Richard McKeon (New York: Modern Library, 2001), p. 732 (Aristotle, *Metaphysics* 2, 1003b, pp. 16–17).
2. *Ibid.* (Aristotle, *Metaphysics* 2, 1003a, p. 33).
3. Martin Heidegger, *Being and Time*, trans. John Macquarrie and Edward Robinson (New York: Harper & Row, 1962), p. 375.
4. See Jürgen Habermas, *Post-Metaphysical Thinking: Philosophical Essays*, trans. William Mark Hohengarten (Cambridge: MIT Press, 1992), p. 7.
5. Martin Heidegger, *Basic Writings*, ed. David Farrell Krell (New York: HarperCollins, 1977), p. 424.
6. See Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge*, trans. Geoff Bennington and Brian Massumi (Minneapolis: University of Minnesota Press, 1984), p. xiv.
7. Alain Badiou, *Being and Event*, trans. Ray Brassier (London: Continuum, 2006), p. 4 (emphasis in original).
8. See *ibid.*, pp. 400–409.
9. *Ibid.*, p. 316. See also the Deleuzian critique of Badiou by Clayton Crockett, *Deleuze Beyond Badiou: Ontology, Multiplicity and Event* (New York: Columbia University Press, 2012).
10. Lee Smolin, *Three Roads to Quantum Gravity* (New York: Basic Books, 2001), p. 63.
11. *Ibid.*
12. Smolin, *Three Roads to Quantum Gravity*, p. 9.
13. Albert Einstein, *Relativity: The Special and the General Theory* (New York: Three Rivers Press, 1961), p. 48.
14. *Ibid.*, p. 84.
15. Smolin, *Three Roads to Quantum Gravity*, p. 112.
16. *Ibid.*, p. 120.
17. *Ibid.*, p. 126.
18. *Ibid.*, p. 149.
19. Lee Smolin, *The Trouble with Physics: The Rise of String Theory, The Fall of a Science, and What Comes Next* (Boston: Houghton Mifflin, 2005), p. 151. See also Einstein, *Relativity*, pp. 153–154.
20. Smolin, *The Trouble with Physics*, p. 150.
21. *Ibid.*, p. 256.
22. *Ibid.*, p. 257.
23. *Ibid.*, p. 294.
24. G. W. F. Hegel, *Phenomenology of Spirit*, trans. A. V. Miller (Oxford: Oxford University Press, 1979), p. 33.

25. On self-emergent complexity, see Stuart Kauffman, *At Home in the Universe: The Search for the Laws of Self-Organization and Complexity* (New York: Oxford University Press, 1995). On complex adaptive systems, see Murray Gell-Mann, *The Quark and the Jaguar: Adventures in the Simple and the Complex* (New York: Henry Holt, 1994).
26. See Antonio Damasio, *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain* (Orlando: Harcourt, 2003), p. 198.
27. See Catherine Malabou, *What Should We Do with Our Brain?*, trans. Sebastian Rand (New York: Fordham University Press, 2008), p. 5.
28. *Ibid.*, p. 8.
29. Gilles Deleuze, *The Fold: Leibniz and the Baroque*, trans. Tom Conley (Minneapolis: University of Minnesota Press, 1993), p. 13.
30. Gilles Deleuze and Félix Guattari, *What is Philosophy?*, trans. Hugh Tomlinson and Graham Burchell (New York: Columbia University Press, 1994), p. 201.
31. *Ibid.*, p. 210.
32. Gilles Deleuze, *Cinema 2: The Time-Image*, trans. Hugh Tomlinson and Robert Galeta (Minneapolis: University of Minnesota Press, 1989), p. 17.
33. *Ibid.*, p. 81.
34. *Ibid.*
35. *Ibid.*, p. 99.
36. Jacques Derrida, *Of Grammatology*, trans. Gayatri Chakravorty Spivak (Baltimore: Johns Hopkins University Press, 1976), p. 68.
37. Deleuze, *Cinema 2*, p. 212.
38. *Ibid.*, p. 125.
39. *Ibid.*, p. 215.
40. Deleuze, *The Fold*, p. 76.
41. *Ibid.*
42. *Ibid.*, p. 77.
43. *Ibid.*
44. See Lisa Randall, *Warped Passages: Unraveling the Mysteries of the Hidden Dimensions of the Universe* (New York: HarperCollins, 2006).
45. *Ibid.*, p. 51.
46. *Ibid.*, p. 397.
47. *Ibid.*, p. 320.
48. *Ibid.*, p. 313.
49. *Ibid.*, p. 316.
50. Smolin, *Three Roads to Quantum Gravity*, p. 172.
51. *Ibid.*
52. *Ibid.*, p. 177.

## 9 LOGIC

1. See Joseph LeDoux, *Synaptic Self: How Our Brains Become Who We Are* (New York: Penguin, 2002), p. 196; Pascal Boyer, *Religion Explained: The Evolutionary Origins of Religious Thought* (New York: Basic Books, 2001), Chapter 3.
2. See Steven Mithen, *The Prehistory of the Mind* (London: Thames & Hudson, 1996).
3. As quoted in LeDoux, *Synaptic Self*, p. 79.
4. Catherine Malabou, *What Should We Do With Our Brain?*, trans. Sebastian Rand (New York: Fordham University Press, 2008), p. 5.
5. *Ibid.*
6. See David Hume, *An Inquiry Concerning Human Understanding* (New York: Prometheus Books, 1988), Section VIII.
7. Stephen Jay Gould, *Ever Since Darwin: Reflections in Natural History* (New York: W.W. Norton, 1977), p. 63.
8. *Ibid.*, p. 68.
9. LeDoux, *Synaptic Self*, pp. 308–309.
10. *Ibid.*, p. 310.
11. *Ibid.*, p. 320.
12. *Ibid.*, p. 324.
13. Antonio Damasio, *Looking for Spinoza: Joy, Sorrow and the Feeling Brain* (Orlando, FL: Harcourt Books, 2003), p. 53.
14. *Ibid.*, p. 85 (emphasis in original).
15. Of course, there is still a phenomenological gap between the lack of direct experience of our brains and our neurons in our subjective consciousness, and the physical state of the brain as revealed to our understanding by neurology. Slavoj Žižek in *The Parallax View* (Cambridge, MA: MIT Press, 2006) calls this gap a “parallax”—the parallax of neurology is “the realization that, when we look behind the face into the skull, we find nothing; ‘there’s no one at home’ there, just piles of grey matter—it is difficult to tarry with this gap between meaning and the pure Real” (p. 7).
16. *Ibid.*, p. 211 (emphasis in original).
17. Aristotle, *Posterior Analytics*, trans. G. R. G. Mure in *Introduction to Aristotle*, ed. Richard McKeon (New York: Modern Library, 1992), p. 29.
18. *Ibid.*, p. 24.
19. Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith (New York: St. Martin’s Press, 1965), p. 41.
20. Gilles Deleuze, *The Logic of Sense*, trans. Mark Lester with Charles Stivale (New York: Columbia University Press, 1990).
21. *Ibid.*, p. 11.

22. Alain Badiou, *Logics of Worlds: Being and Event II*, trans. Alberto Toscano (London: Continuum, 2009), pp. 2, 4 (emphasis in original).
23. *Ibid.*, p. 141.
24. *Ibid.*, p. 173.
25. *Ibid.*, p. 103.
26. See *ibid.*, p. 218.
27. See *A Companion to Ancient Philosophy*, ed. Mary Louise Gill and Pierre Pellegrin (Oxford: Blackwell, 2006), Part I, Early Greek Philosophy, pp. 3–97, especially Chapters 1 and 3.
28. Quoted in Edward Hussey, “The Beginnings of Science and Philosophy,” in *ibid.*, p. 15 (DK 22B59 and DK 22B12).
29. Patricia Curd, “Parmenides and After: Unity and Plurality,” in *ibid.*, pp. 34–55, quote p. 35.
30. See Gilles Deleuze and Félix Guattari, *What is Philosophy?*, trans. (New York: Columbia University Press, 1994), p. 201.
31. See Creston Davis, “Introduction,” in Slavoj Žižek and John Milbank, *The Monstrosity of Christ*, ed. by Creston Davis (Cambridge: MIT Press, 2009).

## CONCLUSION

1. Differences are not oppositions, and they are not grounded in prior identities. According to Deleuze, a repetition of difference is an event, although he does not use the term event in *Difference and Repetition*. An event is a repetition or iteration; every repetition or iteration is an event.
2. See Martin Heidegger, *Contributions to Philosophy (From Enowning)*, trans. Parvis Emad and Kenneth Maly (Bloomington: Indiana University Press, 1999).
3. *Ibid.*, pp. 330–331.
4. Jacques Derrida, “Structure, Sign and Play in the Discourse of the Human Sciences,” in *Writing and Difference*, trans. Alan Bass (Chicago: University of Chicago Press, 1978), p. 278.
5. Gilles Deleuze, *The Logic of Sense*, trans. Mark Lester with Charles Stivale (New York: Columbia University Press, 1990), p. 10.
6. *Ibid.*, p. 149.
7. *Ibid.*, p. 248.
8. Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (New York: Columbia University Press, 1994), p. 228.
9. Eric D. Schneider and Dorion Sagan, *Into the Cool: Energy Flow, Thermodynamics and Life* (Chicago: University of Chicago Press, 2005), p. 77.
10. *Ibid.*, p. 85.

11. Deleuze, *Difference and Repetition*, p. 229.
12. Alain Badiou, *Logics of Worlds: Being and Event 2*, trans. Alberto Toscano (London: Continuum, 2009), p. 384.
13. See Alain Badiou, *Being and Event*, trans. Ray Brassier (London: Continuum, 2006), p. 175.
14. Badiou, *Logics of Worlds*, pp. 263–264.
15. Louis Althusser, *Philosophy of the Encounter: Later Writings, 1978–1987*, trans. G. M. Goshgarian (London: Verso, 2006), p. 169 (italics in original).
16. *Ibid.*, p. 191 (italics in original).
17. Deleuze, *Difference and Repetition*, p. 116 (italics in original).
18. Mike Davis, *Planet of Slums* (London: Verso, 2006).
19. Immanuel Wallerstein, *The Decline of American Power: The US in a Chaotic World* (New York: The New Press, 2003), p. 58.
20. See Gilles Deleuze and Félix Guattari, *A Thousand Plateaus*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), p. 370.
21. *Ibid.*, p. 510.
22. *Ibid.*, p. 514.
23. Tony Phillips, “Solar Wind Rips Up Martian Atmosphere,” *Science@NASA* (November 21, 2008): <http://science.nasa.gov/headlines/y2001/ast31jan%5F1.htm>.

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