

## Notes and Further Readings

### NOTES TO ACKNOWLEDGMENTS

1. James Boyle, “The Second Enclosure Movement and the Construction of the Public Domain,” *Law and Contemporary Problems* 66 (Winter–Spring 2003): 33–74.
2. Arti Rai and James Boyle, “Synthetic Biology: Caught between Property Rights, the Public Domain, and the Commons,” *PLoS Biology* 5 (2007): 389–393, available at <http://biology.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pbio.0050058&ct=1>.
3. James Boyle, “A Politics of Intellectual Property: Environmentalism for the Net?” *Duke Law Journal* 47 (1997): 87–116, available at <http://www.law.duke.edu/journals/cite.php?47+Duke+L.+J.+87>.
4. “Cultural Environmentalism @ 10,” *Law and Contemporary Problems* 70 (Spring 2007): 1–210, available at <http://www.law.duke.edu/ce10>.

### NOTES TO PREFACE

1. U.S. Patent No. 6,004,596 (filed Dec. 21, 1999), available at <http://patft.uspto.gov/netahtml/PTO/srchnum.htm> (search “6,004,596”). As is required, the patent refers extensively to the “prior art”—in this case prior art in sealing sandwiches. It also refers to the classic scientific reference work “50 Great Sandwiches by Carole Handlip 81–84, 86, 95, 1994.” Is this patent ridiculous? Yes, clearly so. But not so ridiculous that its eventual owner,

Smucker's, refrained from sending out cease and desist letters to competing sandwich manufacturers, and, when one of those competitors successfully requested the Patent and Trademark Office to reexamine the patent, from appealing the resulting rejection all the way through the Board of Patent Appeals and Interferences to the Court of Appeals for the Federal Circuit. The judges there were less than sympathetic at oral argument. "Judge Arthur Gajarsa noted that his wife often squeezes together the sides of their child's peanut butter and jelly sandwiches to keep the filling from oozing out. 'I'm afraid she might be infringing on your patent!' he said." The court found that the PTO got it right the second time around and agreed with the Board of Patent Appeals in rejecting the patent. Portfolio Media, "Peanut Butter and Jelly Case Reaches Federal Circuit," *IPLaw360* (April 7, 2005), available at <http://www.iplawbulletin.com>. For the Board of Patent Appeals's learned discussion of whether the patent was anticipated by such devices as the "Tartmaster," complete with disputes over expert testimony on the subjects of cutting, crimping, and "leaking outwardly" and painstaking inquiries about what would seem obvious to a "person having ordinary skill in the art of sandwich making," see <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&fNm=fdo31754> and <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&fNm=fdo31775>. One could conclude from this case that the system works (eventually). Or one could ask who cares about silly patents like this—even if they are used in an attempt to undermine competition? The larger point, however, is that an initial process of examination that finds a crimped peanut butter and jelly sandwich is "novel and nonobvious" is hardly going to do better when more complex technologies are at stake. I take that point up in Chapter 2 with reference to Thomas Jefferson's discussion of patents and in Chapter 7 on synthetic biology. For a more general discussion of the flaws of the patent system see Adam B. Jaffe and Josh Lerner, *Innovation and Its Discontents: How Our Broken Patent System Is Endangering Innovation, and Progress and What To Do About It* (Princeton, N.J.: Princeton University Press, 2004).

2. These types of patents are discussed in Chapter 7.
3. *San Francisco Arts & Athletics, Inc., et al. v. United States Olympic Committee*, 483 U.S. 522 (1987). See also James Boyle, *Shamans, Software, and Spleens: Law and the Construction of the Information Society* (Cambridge, Mass.: Harvard University Press, 1996), 145–148.
4. *SunTrust Bank v. Houghton Mifflin Co.*, 268 F.3d 1257 (11th Cir. 2001).
5. See Samuel E. Trosow, "Sui Generis Database Legislation: A Critical Analysis," *Yale Journal of Law & Technology* 7 (2005): 534–642; Miriam Bitton, "Trends in Protection for Informational Works under Copyright Law during the 19th and 20th Centuries," *Michigan Telecommunications & Technology Law Review* 13 (2006): 115–176.
6. The Digital Millennium Copyright Act is discussed at length in Chapter 5. "Digital fences" include password protection, encryption, and forms of digital rights management.
7. *Dallas Cowboys Cheerleaders, Inc. v. Pussycat Cinema, Ltd.*, 604 F.2d 200 (2nd Cir. 1979).
8. "In the forests of Panama lives a Guyami Indian woman who is unusually resistant to a virus that causes leukemia. She was discovered by scientific 'gene hunters,' engaged in seeking out native peoples whose lives and cultures are threatened with extinction. Though they provided basic medical care, the hunters did not set out to preserve the people, only their genes—which can be kept in cultures of 'immortalized' cells grown in the laboratory. In 1993, the U.S. Department of Commerce tried to patent the Guyami

- woman's genes—and only abandoned the attempt in the face of furious protest from representatives of indigenous peoples." Tom Wilkie, "Whose Gene Is It Anyway?" *Independent* (London, November 19, 1995), 75.
9. See Christina Rhee, "Urantia Foundation v. Maaherra," *Berkeley Technology Law Journal* 13 (1998): 69–81.
  10. See James Boyle, "Intellectual Property Policy Online: A Young Person's Guide," *Harvard Journal of Law & Technology* 10 (1996): 83–94.
  11. Garrett Hardin, "The Tragedy of the Commons," *Science* 162 (1968): 1243–1248.
  12. *International News Service v. Associated Press*, 248 U.S. 215, 250 (1918) (Brandeis, J., dissenting); Yochai Benkler, "Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain," *New York University Law Review* 74 (1999): 354–446.

## CHAPTER 1: WHY INTELLECTUAL PROPERTY?

### Further Reading

This chapter argues that at least one goal we have in an intellectual property system is the attempt to solve various "public goods problems." (Subsequent chapters defend that view historically and normatively, discuss the ideas of moral right and natural right, the tradition of the *droits d'auteur*, and the similarities and dissimilarities between the arguments for tangible and intellectual property rights. Further reading on those issues can be found in the relevant chapter.)

The single best starting point for someone who wishes to understand an economic perspective on intellectual property is William M. Landes and Richard A. Posner, *The Economic Structure of Intellectual Property Law* (Cambridge, Mass.: Belknap Press, 2003). The story laid out in this chapter is one largely (but not entirely) focused on the idea of intellectual property rights offered as incentives—the carrot that induces the author to write, the inventor to research, the investor to fund that research, and the corporation to develop attractive and stable brand names that convey reliable information to consumers. This is conventionally known as the *ex ante* perspective. But as the chapter also hints, intellectual property rights, like property rights in general, have a role after the innovation has occurred—facilitating its efficient exploitation, allowing inventors to disclose their inventions to prospective licensees without thereby losing control of them, and providing a state-constructed, neatly tied bundle of entitlements that can be efficiently traded in the market. Readers interested in these perspectives will benefit from looking at these articles: Edmund Kitch, "The Nature and Function of the Patent System," *Journal of Law and Economics* 20 (1977): 265–290; Paul J. Heald, "A Transaction Costs Theory of Patent Law," *Ohio State Law Journal* 66 (2005): 473–509; and Robert Merges, "A Transactional View of Property Rights," *Berkeley Technology Law Journal* 20 (2005): 1477–1520. Of course, just as the incentives account of intellectual property has its skeptics, so these *ex post* theories attract skepticism from those who believe that, in practice, the rights will not be clear and well-delineated but vague and potentially overlapping, that the licensing markets will find themselves entangled in "patent thickets" from which the participants can escape only at great cost or by ignoring the law altogether. It is worth comparing Michael A. Heller and

Rebecca S. Eisenberg, “Can Patents Deter Innovation? The Anticommons in Biomedical Research,” *Science* 280 (1998): 698–701, with John Walsh, Ashish Arora, and Wesley Cohen, “Effects of Research Tool Patents and Licensing on Biomedical Innovation,” in *Patents in the Knowledge-Based Economy* (Washington D.C.: National Academies Press, 2003), 285–340. There is a nice irony to imagining that the necessary mechanism of the efficient market is “ignore the property rights when they are inconvenient.”

The skeptics argue that the alternative to a deeply commodified world of invention and innovation, with hundreds of thousands of licensing markets, is a rich information and innovation commons, from which all can draw freely, supporting a thin and well-defined layer of intellectual property rights close to the ultimate commercially viable innovation. The rhetorical structure of the debate—replete with paradox and inversion—is laid out in James Boyle, “Cruel, Mean, or Lavish? Economic Analysis, Price Discrimination and Digital Intellectual Property,” *Vanderbilt Law Review* 53 (2000): 2007–2039. For some of the difficulties in the attempt to arrive at a coherent economic theory of intellectual property, see James Boyle, *Shamans, Software, and Spleens: Law and the Construction of the Information Society* (Cambridge, Mass.: Harvard University Press, 1996), 35–46. Finally, while I urge that at the outset we must care about the actual effects and economic incentives provided by intellectual property rights, I am by no means asserting that we should stop there. Indeed to do so would dramatically impoverish our view of the world. James Boyle, “Enclosing the Genome: What Squabbles over Genetic Patents Could Teach Us,” in *Perspectives on Properties of the Human Genome Project*, ed. F. Scott Kieff (San Diego, Calif.: Elsevier Academic Press, 2003), 97, 107–109.

In other words, as all this suggests, this chapter is only an introduction to a rich and complex debate.

#### Notes to Chapter 1

1. As the suggested further reading indicates, this light-hearted account of the economic basis of intellectual property conceals considerable complexity. On the other hand, the core argument is presented here—and a compelling argument it is.
2. See Jack Hirshleifer, “The Private and Social Value of Information and the Reward to Inventive Activity,” *American Economic Review* 61 (1971): 561–574.
3. Unfortunately, the reality turns out to be less rosy. James Bessen, “Patents and the Diffusion of Technical Information,” *Economics Letters* 86 (2005): 122: “[S]urvey evidence suggests that firms do not place much value on the disclosed information. Moreover, those firms that do read patents do not use them primarily as a source of information on technology. Instead, they use them for other purposes, such as keeping track of competitors or checking for infringement. There are, in fact, sound theoretical reasons why the disclosed information may not be very valuable. [Fritz] Machlup and [Edith] Penrose report that the argument about diffusion is an old one, popular since the mid-19th century. They also point out that, at least through the 1950s, economists have been skeptical about this argument. The problem, also recognized in the mid-19th century, is that ‘only unconcealable inventions are patented,’ so patents reveal little that could not be otherwise learned. On the other hand, ‘concealable inventions remain concealed.’” [Citations omitted.]

4. Felix S. Cohen, “Transcendental Nonsense and the Functional Approach,” *Columbia Law Review* 35 (1935): 817.
5. For contrasting views of the sequence of events, see John Feather, “Publishers and Politicians: The Remaking of the Law of Copyright in Britain 1775–1842,” pt. 2, “The Rights of Authors,” *Publishing History* 25 (1989): 45–72; Mark Rose, *Authors and Owners: The Invention of Copyright* (Cambridge, Mass.: Harvard University Press, 1993).
6. Tim O’Reilly points out that there are 32 million titles in the Online Computer Library Center’s “WorldCat” catalogue—this is a reasonable proxy for the number of books in U.S. libraries. Nielsen’s Bookscan shows that 1.2 million books sold at least one copy in 2005. This yields a ratio of books commercially available to books ever published of about 4 percent. But of those 1.2 million books, many are in the public domain—think of Shakespeare, Dickens, Austen, Melville, Kipling. Thus the percentage of books that are under copyright and commercially available may actually be considerably lower than 4 percent. See [http://radar.oreilly.com/archives/2005/11/oops\\_only\\_4\\_of\\_titles\\_are\\_bein.html](http://radar.oreilly.com/archives/2005/11/oops_only_4_of_titles_are_bein.html). For a lucid account of the statistics in the context of the Google Book Search Project, see [http://lessig.org/blog/2006/01/google\\_book\\_search\\_the\\_argumen.html](http://lessig.org/blog/2006/01/google_book_search_the_argumen.html).
7. See Barbara Ringer, “Study Number 31: Renewal of Copyright,” reprinted in U.S. Senate Committee on the Judiciary, Subcommittee on Patents, Trademarks, and Copyrights, *Copyright Law Revision*, 86th Cong., 1st Sess., Committee Print (1960), 187. See also HR Rep. 94-1476 (1976), 136; William M. Landes and Richard A. Posner, *The Economic Structure of Intellectual Property Law* (Cambridge, Mass.: Belknap Press, 2003), 210–212.
8. Details of the orphan works problem can be found in the proposals presented to the copyright office by the Center for the Study of the Public Domain; *Orphan Works: Analysis and Proposal: Submission to the Copyright Office—March 2005*, available at <http://www.law.duke.edu/cspd/pdf/cspdproposal.pdf>, and *Access to Orphan Films: Submission to the Copyright Office—March 2005*, available at <http://www.law.duke.edu/cspd/pdf/cspdorphanfilm.pdf>. Two recent bills, in the Senate and House, respectively, attempt to address the orphan works problems. The Shawn Bentley Orphan Works Act of 2008, S 2913, 110th Cong. (2008), would add a new section to the Copyright Act limiting remedies for infringement of orphan works and requiring the establishment of a database of pictorial, graphic, and sculptural works. The House bill, The Orphan Works Act of 2008, HR 5889, 110th Cong. (2008), is similar but not identical. While these bills are a good start, the eventual remedy will need to be more sweeping.
9. Bruce Sterling, *Heavy Weather* (New York: Bantam, 1994): 73.

**CHAPTER 2:**  
**THOMAS JEFFERSON WRITES A LETTER**

**Further Reading**

In this chapter I offered a snapshot of the historical debate over copyright, patent and—to a lesser extent—trademark law. The argument is partly a matter of intellectual history: a claim about what various individuals and groups actually believed about intellectual property rights, and the way those beliefs shaped the policies they supported and the legal

structures they created. But it is also a normative argument—a claim that this vision of intellectual property is better than the more “physicalist” and “absolutist” alternatives I described or, at the very least, that it is an important corrective to our current excesses. This dual character complicates the task of providing a guide to further reading: books could be written on either portion alone.

My own understanding of the history of “intellectual property”—itself a relatively recently invented and contentious category—has been profoundly influenced by more scholars than I can list here. Edward C. Walterscheid, *The Nature of the Intellectual Property Clause: A Study in Historical Perspective* (Buffalo, N.Y.: W. S. Hein, 2002), gives a magisterial account of the origins of the U.S. Constitution’s intellectual property clause. Tyler T. Ochoa and Mark Rose, “The Anti-Monopoly Origins of the Patent and Copyright Clause,” *Journal of the Patent & Trademark Office Society* 84 (2002): 909–940, offer a vision of the history that is closest to the one I put forward here. In addition, Tyler T. Ochoa, “Origins and Meanings of the Public Domain,” *University of Dayton Law Review* 28 (2002): 215–267, provides the same service for the concept of the public domain. Malla Pollack provides a useful historical study of the contemporary understanding of the word “progress” at the time of the American Constitution in Malla Pollack, “The Democratic Public Domain: Reconnecting the Modern First Amendment and the Original Progress Clause (a.k.a. Copyright and Patent Clause),” *Jurimetrics* 45 (2004): 23–40. A rich and thought-provoking account of the way that ideas of intellectual property worked themselves out in the context of the corporate workplace can be found in Catherine Fisk, *Working Knowledge: Employee Innovation and the Rise of Corporate Intellectual Property, 1800–1930* (Chapel Hill: University of North Carolina Press, forthcoming 2009).

Of course, the history of copyright or of intellectual property cannot be confined to the two figures I focus on principally here—Jefferson and Macaulay—nor cannot it be confined to the Anglo-American tradition or to the debates in which Jefferson and Macaulay were participating. Carla Hesse, *Publishing and Cultural Politics in Revolutionary Paris, 1789–1810* (Berkeley: University of California Press, 1991), is vital reading to understand the parallels between the Anglo-American and *droits d’auteur* tradition. It is also fascinating reading. For studies of the broader intellectual climate, I recommend Martha Woodmansee, *The Author, Art, and the Market: Rereading the History of Aesthetics* (New York: Columbia University Press, 1994); Peter Jaszi, “Toward a Theory of Copyright: The Metamorphoses of ‘Authorship,’” *Duke Law Journal* 1991, no. 2: 455–502; Mark Rose, *Authors and Owners: The Invention of Copyright* (Cambridge, Mass.: Harvard University Press, 1993); Lyman Ray Patterson, *Copyright in Historical Perspective* (Nashville, Tenn.: Vanderbilt University Press, 1968). The British debates at the time of Macaulay are beautifully captured in Catherine Seville, *Literary Copyright Reform in Early Victorian England: The Framing of the 1842 Copyright Act* (Cambridge, U.K.: Cambridge University Press, 1999). (It should be noted that, while sympathetic, she is less moved than I by Macaulay’s arguments.)

Any collection of historical works this rich and complex resists summary description—nevertheless, I think it is fair to say that the vast majority of these works stress the centrality of the skeptical “antimonopolist” attitudes I use Jefferson and Macaulay to represent to the history of intellectual property. This does not mean there is unanimity or anything close to it. In particular, Adam Mossoff, “Who Cares What Thomas Jefferson Thought

about Patents? Reevaluating the Patent ‘Privilege’ in Historical Context,” *Cornell Law Review* 92 (2007): 953–1012, which came to light late in the writing of this book, offers a thoughtful historical account that criticizes the tendency to use Jefferson’s views as representative of a dominant strand in American intellectual property. My agreements and disagreements with Mossoff’s arguments are discussed fully later in the notes to this chapter. The central point, however, and the single strongest argument against those who would instead attempt to construct a more absolutist, physicalist or labor-based theory of intellectual property, is the problem of limits. Where does one stop? How can one put a limit on the potentially absolute claim over some intellectual creation? How can one specify the limits on prior creators that actually give me ownership over what I create, for I surely have built on the works of others? How can one circumscribe the negative effects on speech, life, and culture that the absolutist or maximalist tradition threatens to generate? My ultimate argument is that the purpose-driven, skeptical, antimonopolistic tendencies of Jefferson and Macaulay answer those questions far better than any contending theory, that they represent not merely an intellectual history sadly neglected in today’s political debates, but a practical solution to the inevitable question, “where do you draw the line?”

#### Notes to Chapter 2

1. Letter from Thomas Jefferson to Isaac McPherson (August 13, 1813), in *The Writings of Thomas Jefferson*, ed. Albert Ellery Bergh (Washington, D.C.: The Thomas Jefferson Memorial Association of the United States, 1907), vol. XIII, 326–338 (hereinafter Letter to McPherson), available at [http://memory.loc.gov/ammem/collections/jefferson\\_papers/mtjser1.html](http://memory.loc.gov/ammem/collections/jefferson_papers/mtjser1.html) (follow “May 1, 1812” hyperlink, then navigate to image 1057).
2. For example, attempting to procure a former stable master a position (letter from Thomas Jefferson to Samuel H. Smith [August 15, 1813], available at [http://memory.loc.gov/ammem/collections/jefferson\\_papers/mtjser1.html](http://memory.loc.gov/ammem/collections/jefferson_papers/mtjser1.html) [follow “May 1, 1812” hyperlink, then navigate to image 1070]), comments on “Rudiments of English Grammar” (letter from Thomas Jefferson to John Waldo [August 16, 1813], in *Writings of Thomas Jefferson*, vol. XIII, 338–347), orthography of the plurals of nouns ending in “y” (letter from Thomas Jefferson to John Wilson [August 17, 1813], *Writings of Thomas Jefferson*, vol. XIII, 347–348), accepting the necessary delay in the publication of a study on the anatomy of mammoth bones (letter from Thomas Jefferson to Caspar Wistar [August 17, 1813], available at [http://memory.loc.gov/ammem/collections/jefferson\\_papers/mtjser1.html](http://memory.loc.gov/ammem/collections/jefferson_papers/mtjser1.html) [follow “May 1, 1812” hyperlink, then navigate to image 1095]), and discussing the Lewis biography (excerpt of a letter from Thomas Jefferson to Paul Allen [August 18, 1813], *Letters of the Lewis and Clark Expedition with Related Documents 1783–1854*, ed. Donald Jackson (Urbana: University of Illinois Press, 1962), 586).

It is easy, in fact, reading this prodigious outpouring of knowledge and enthusiasm, to forget the other side of Jefferson and the social system that gave him the leisure to write these letters. Just a few weeks before he wrote to McPherson, he wrote a letter to Jeremiah Goodman about a slave called Hercules who had been imprisoned as a runaway. “The folly he has committed certainly justifies further punishment, and he goes in expectation of receiving it. . . .” Letter from Thomas Jefferson to Jeremiah A. Goodman (July 26, 1813), in *Thomas Jefferson’s Farm Book*, ed. Edwin Morris Betts (Charlottesville,

- Va.: American Philosophical Society, 1999), 36. While leaving the matter up to Goodman, Jefferson argues for leniency and for refraining from further punishment. In that sense, it is a humane letter. But this is one of the authors of the Declaration of Independence, full of glorious principles—unalienable rights; life, liberty, and the pursuit of happiness—enunciated in the context of indignation at relatively mild colonial policies of taxation and legislation. How could a man who thought that taxing tea was tyranny, and that all men had an unalienable right to liberty, believe that it was “folly” justifying “further punishment” for a slave to run away? Reading the letter—a curiously intimate, almost voyeuristic act—one finds oneself saying “What was he *thinking*?”
3. Letter to McPherson, 333.
  4. See Letter from Thomas Jefferson to Abraham Baldwin (April 14, 1802), in *Writings of Thomas Jefferson*, vol. XIX, 128–129.
  5. See Paul Finkelman, *Slavery and the Founders: Race and Liberty in the Age of Jefferson*, 2nd ed. (Armonk, N.Y.: M. E. Sharpe, 2001), ix; Annette Gordon-Reed, *Thomas Jefferson and Sally Hemings: An American Controversy* (Charlottesville: University Press of Virginia, 1997) 1, 40–43, 60–61, 222.
  6. Letter to McPherson, 336, quoted in John Perry Barlow, “Economy of Ideas,” *Wired* (March 1994): 84. For a careful scholarly explanation of the antimonopolist origins of eighteenth-century ideas such as Jefferson’s, see Tyler T. Ochoa and Mark Rose, “The Anti-Monopoly Origins of the Patent and Copyright Clause,” *Journal of the Copyright Society of the U.S.A.* 49 (2002): 675–706. One scholar has offered a thoughtful critique that suggests Jefferson’s views were not, in fact, representative either of the times or of the attitudes of the other framers toward intellectual property. See Adam Mossoff, “Who Cares What Thomas Jefferson Thought about Patents? Reevaluating the Patent ‘Privilege’ in Historical Context,” *Cornell Law Review* 92 (2007): 953–1012.
  7. Letter to McPherson, 328.
  8. Letter from Thomas Jefferson to Dr. Thomas Cooper (February 10, 1814), in Thomas Jefferson, *Writings*, ed. Merrill D. Peterson (New York: Library of America, 1984), 1321.
  9. Letter to McPherson, 333.
  10. *Ibid.*, 333–334.
  11. *Ibid.*
  12. *Ibid.*, 335.
  13. See *ibid.*, 333–335.
  14. Readers interested in learning more about this fascinating man could begin with George Otto Trevelyan, *The Life and Letters of Lord Macaulay*, London ed. (Longmans, 1876).
  15. Thomas Babington Macaulay, speech delivered in the House of Commons (February 5, 1841), in *The Life and Works of Lord Macaulay: Complete in Ten Volumes*, Edinburgh ed. (Longmans, 1897), vol. VIII, 198 (hereinafter Macaulay Speech).
  16. *Ibid.*, 199.
  17. *Ibid.*, 198–199.
  18. *Graham v. John Deere*, 383 U.S. 1, 7–11 (1966).
  19. Adam Mossoff, “Who Cares What Thomas Jefferson Thought about Patents? Reevaluating the Patent ‘Privilege’ in Historical Context,” *Cornell Law Review* 92 (2007):

953–1012. In a thoughtful, carefully reasoned, and provocative article, Professor Mossoff argues that Jefferson’s views have been misused by the courts and legal historians, and that if we understand the use of the word “privilege” in historical context, we see that the “patent privilege” was influenced by a philosophy of natural rights as well as the antimonopolist utilitarianism described here. I both agree and disagree.

Professor Mossoff’s central point—that the word “privilege” was not understood by eighteenth-century audiences as the antonym of “right”—is surely correct. To lay great stress on the linguistic point that the patent right is “merely” a “privilege” is to rest one’s argument on a weak reed. But this is not the only argument. One could also believe that intellectual property rights have vital conceptual and practical differences with property rights over tangible objects or land, that the framers of the Constitution who were most involved in the intellectual property clause were deeply opposed to the confusion involved in conflating the two, and that they looked upon this confusion particularly harshly because of an intense concern about state monopolies. One can still disagree with this assessment, of course; one can interpret Madison’s words this way or that, or interpret subsequent patent decisions as deep statements of principle or commonplace rhetorical flourishes. Still it seems to me a much stronger argument than the one based on the privilege–right distinction. I am not sure Professor Mossoff would disagree.

Professor Mossoff is also correct to point out that a “legal privilege” did sometimes mean to an eighteenth-century reader something that the state was duty-bound to grant. There was, in fact, a wide range of sources from which an eighteenth-century lawyer could derive a state obligation to grant a privilege. Eighteenth-century legal talk was a normative bouillabaisse—a rich stew of natural right, common law, utility, and progress—often thrown together without regard to their differences. Some lawyers and judges thought the common law embodied natural rights, others that it represented the dictates of “progress” and “utility,” and others, more confusingly still, seemed to adopt all of those views at once.

Nevertheless, I would agree that some eighteenth-century writers saw claims of common-law right beneath the assertion of some “privileges” and that a smaller number of those assumed common-law right and natural right to be equivalent, and thus saw a strong state obligation to grant a particular privilege based on natural right, wherever that privilege had been recognized by English or U.S. common law. But here is where I part company with Professor Mossoff.

First, I do not believe that the most important architects of the intellectual property clause shared that view when it came to patents and copyrights. Jefferson, of course, was not one of those who believed the state was so bound. “Society may give an exclusive right to the profits arising from [inventions], as an encouragement to men to pursue ideas which may produce utility, but this may or may not be done, according to the will and convenience of the society, *without claim or complaint from any body*” (Letter to McPherson, 334, emphasis added). More importantly, Jefferson’s thinking about patents was infused by a deeply utilitarian, antimonopolist tinge. So, I would argue, was Madison’s.

The quotations from Madison which I give later show clearly, to me at least, that Madison shared Jefferson’s deeply utilitarian attitude toward patent and copyright law.

I think there is very good reason to believe that this attitude was dominant among the Scottish Enlightenment thinkers whose writings were so influential to the framers. I do not think it is an exaggeration to say that the American Revolution was violently against the world of monopoly and corruption that was the supposed target of the English Statute of Monopolies (itself hardly a natural rights document). Yes, those thinkers might fall back into talking about how hard an inventor had worked or construing a patent expansively. Yes, they might think that within the boundaries of settled law, it would be unjust to deny one inventor a patent when the general scheme of patent law had already been laid down. But that did not and does not negate the antimonomolist and, for that matter, utilitarian roots of the Constitution's intellectual property clause.

Second, while I agree that there were strands of natural right thinking and a labor theory of value in the U.S. intellectual property system, and that they continue to this day—indeed, these were the very views that the *Feist* decision discussed in Chapter 9 repudiated, as late as 1991—I think it is easy to make too much of that fact. Is this signal or noise? There are conceptual reasons to think it is the latter. Later in this chapter I discuss the evolution of the *droits d'auteur* tradition in France. Here, at the supposed heart of the natural rights tradition, we find thinkers driven inexorably to consider the question of limits. How far does the supposed natural right extend—in time, in space, in subject matter? It is at that moment that the utilitarian focus and the fear of monopoly represented by Jefferson and Madison—and, for that matter, Locke and Condorcet—become so important.

Professor Mossoff is correct to criticize the focus on the word “privilege,” and also correct that the ideas of natural right and the labor theory of value always color attitudes toward intellectual property claims. But it would be an equal and opposite mistake to ignore two points. First, intellectual property rights are profoundly different from physical property rights over land in ways that should definitively shape policy choices. Second, partly because of those differences, and because of the influence of free-trade Scottish Enlightenment thought on the American Revolution in particular, there was a powerful antimonomolist and free-trade sentiment behind the copyright and patent clause. Simply read the clause. Congress is given the power “to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” Does this really read like the work of a group of believers in natural right? On the contrary, it reads like a limited grant of power to achieve a particular utilitarian goal. That sentiment—nicely encapsulated in but by no means limited to the words of Jefferson—is still a good starting place for an understanding of intellectual property.

20. See, e.g., Ochoa and Rose, “Anti-Monopoly Origins,” and Edward C. Walterscheid, *The Nature of the Intellectual Property Clause: A Study in Historical Perspective* (Buffalo, N.Y.: W. S. Hein, 2002). Ochoa, Rose, and Walterscheid stress the antimonomolist concerns that animated some of those who were most active in the debates about intellectual property. They also point out the influence of the English Statute of Monopolies of 1623, which attacked monopolies in general, while making an exception for periods of legal exclusivity for a limited time granted over “sole Working or Making of any Manner of new Manufacture within this Realm, to the first true Inventor or Inventors of such Manufactures which others at the time of the Making of such Letters Patents Grants did

- not use, so they be not contrary to the Law, nor mischievous to the State, by Raising of the Prices of Commodities at home, or Hurt by Trade, or generally inconvenient.”
21. For example, in a letter to Madison commenting on the draft of the Constitution: “I like it, as far as it goes; but I should have been for going further. For instance, the following alterations and additions would have pleased me: . . . Article 9. Monopolies may be allowed to persons for their own productions in literature, and their own inventions in the arts, for a term not exceeding . . . years, but for no longer term, and no other purpose.” Letter from Thomas Jefferson to James Madison (August 28, 1789), in *Writings of Thomas Jefferson*, vol. 7, 450–451.
  22. “Monopolies tho’ in certain cases useful ought to be granted with caution, and guarded with strictness against abuse. The Constitution of the U.S. has limited them to two cases—the authors of Books, and of useful inventions, in both which they are considered as a compensation for a benefit actually gained to the community as a purchase of property which the owner might otherwise withhold from public use. There can be no just objection to a temporary monopoly in these cases: but it ought to be temporary because under that limitation a sufficient recompence and encouragement may be given. The limitation is particularly proper in the case of inventions, because they grow so much out of preceding ones that there is the less merit in the authors; and because, for the same reason, the discovery might be expected in a short time from other hands. . . . Monopolies have been granted in other Countries, and by some of the States in this, on another principle, that of supporting some useful undertaking, until experience and success should render the monopoly unnecessary, and lead to a salutary competition . . . But grants of this sort can be justified in very peculiar cases only, if at all; the danger being very great that the good resulting from the operation of the monopoly, will be overbalanced by the evil effect of the precedent; and it being not impossible that the monopoly itself in its original operation, may produce more evil than good. In all cases of monopoly, not excepting those in favor of authors and inventors, it would be well to reserve to the State, a right to extinguish the monopoly by paying a specified and reasonable sum. . . . Perpetual monopolies of every sort are forbidden not only by the Genius of free Governments, but by the imperfection of human foresight.” James Madison, “Monopolies, Perpetuities, Corporations, Ecclesiastical Endowments” (1819), in “Aspects of Monopoly One Hundred Years Ago,” *Harper’s Magazine*, ed. Galliard Hunt, 128 (1914), 489–490; also in “Madison’s ‘Detached Memoranda,’” ed. Elizabeth Fleet, *William & Mary Quarterly*, 3rd series, 3 no. 4 (1946): 551–552, available at [http://www.constitution.org/jm/18191213\\_monopolies.htm](http://www.constitution.org/jm/18191213_monopolies.htm).
  23. Adam Smith, *The Wealth of Nations*, pt. 3, *Of the Expenses of Public Works and Public Institutions*, 2nd ed. (Oxford: Oxford University Press, 1880), 2:339: “When a company of merchants undertake, at their own risk and expense, to establish a new trade with some remote and barbarous nation, it may not be unreasonable to incorporate them into a joint-stock company, and to grant them, in case of their success, a monopoly of the trade for a certain number of years. It is the easiest and most natural way in which the state can recompense them for hazarding a dangerous and expensive experiment, of which the public is afterwards to reap the benefit. A temporary monopoly of this kind may be vindicated, upon the same principles upon which a like monopoly of a new machine is

granted to its inventor, and that of a new book to its author. But upon the expiration of the term, the monopoly ought certainly to determine; the forts and garrisons, if it was found necessary to establish any, to be taken into the hands of government, their value to be paid to the company, and the trade to be laid open to all the subjects of the state. By a perpetual monopoly, all the other subjects of the state are taxed very absurdly in two different ways: first, by the high price of goods, which, in the case of a free trade, they could buy much cheaper; and, secondly, by their total exclusion from a branch of business which it might be both convenient and profitable for many of them to carry on.”

24. Macaulay Speech, 200–201.
25. *Ibid.*, 201.
26. 17 U.S.C. § 304 (1998).
27. *Eldred v. Ashcroft*, 537 U.S. 186 (2003).
28. See Brief for Hal Roach Studios and Michael Agee as Amici Curiae Supporting Petitioners, *Eldred v. Ashcroft*.
29. Sonny Bono Copyright Term Extension Act, Pub. L. No. 105-298, 112 Stat. 2827 (1998).
30. Brief of George A. Akerlof, Kenneth J. Arrow, Timothy F. Bresnahan, James M. Buchanan, Ronald H. Coase, Linda R. Cohen, Milton Friedman, Jerry R. Green, Robert W. Hahn, Thomas W. Hazlett, C. Scott Hemphill, Robert E. Litan, Roger G. Noll, Richard Schmalensee, Steven Shavell, Hal R. Varian, and Richard J. Zeckhauser as Amici Curiae In Support of Petitioners, *Eldred v. Ashcroft*, available at <http://cyber.law.harvard.edu/openlaw/eldredvashcroft/supct/amici/economists.pdf>.
31. U.S. Constitution, art. I, § 8, cl. 8.
32. “These are strong cases. I have shown you that, if the law had been what you are now going to make it, the finest prose work of fiction in the language, the finest biographical work in the language, would very probably have been suppressed. But I have stated my case weakly. The books which I have mentioned are singularly inoffensive books, books not touching on any of those questions which drive even wise men beyond the bounds of wisdom. There are books of a very different kind, books which are the rallying points of great political and religious parties. What is likely to happen if the copyright of one of these books should by descent or transfer come into the possession of some hostile zealot?” Macaulay Speech, 199, 206.
33. *Ibid.*, 205.
34. *Ibid.*, 206.
35. Margaret Mitchell, *Gone With the Wind* (New York: Macmillan, 1936).
36. *SunTrust Bank v. Houghton Mifflin Co.*, 136 F. Supp. 2d 1357 (N.D.Ga. 2001). For thoughtful commentary see Jed Rubenfeld, “The Freedom of Imagination: Copyright’s Constitutionality,” *Yale Law Journal* 112 (2002): 1–60. Robert S. Boynton provides a beautifully readable account of copyright’s restrictions in “The Tyranny of Copyright?” *The New York Times Magazine* (January 25, 2004): 40–45, available at <http://www.nytimes.com/2004/01/25/magazine/25COPYRIGHT.html?ex=1390366800&en=9eb265bf26e8b14&ei=5007&partner=USERLAND>.
37. Yochai Benkler, “Through the Looking Glass: Alice and Constitutional Foundations of the Public Domain,” *Law and Contemporary Problems* 66 (Winter–Spring 2003): 173.
38. *SunTrust Bank v. Houghton Mifflin Co.* 268 F.3d 1257 (11th Cir. 2001).

39. See note 19 of this chapter for a discussion of the most recent and thoughtful challenge to this claim.
40. Lord King, *The Life of John Locke with Extracts from His Correspondence, Journals and Common-Place Books* vol. 1 (London: Henry Colburn, 1830), 379–380.
41. Archives de la Préfecture de Police de Paris, ser. AA, carton 200, feuilles 182–183, “Procès-verbal de police, section de St. Geneviève, 23–24 octobre 1791.” Quoted in Carla Hesse, *Publishing and Cultural Politics in Revolutionary Paris, 1789–1810* (Berkeley: University of California Press, 1991), 91.
42. Quoted in Hesse, *Publishing and Cultural Politics*, 100.
43. Victor Hugo, speech to the Conseil d’Etat, September 30, 1849, quoted in Bernard Edelman, *Ownership of the Image: Elements for a Marxist Theory of Law* (London: Routledge & Kegan Paul, 1979), 41.
44. *Oeuvres de Condorcet*, ed. A. Condorcet O’Connor and M. F. Arago, vol. 11 (Paris: Firmin Didot Frères, 1847), 308, available at <http://books.google.com/books?id=ZoGAAAAQAAJ>.
45. *Ibid.*, 308–309: “En effet, on sent qu’il ne peut y avoir aucun rapport entre la propriété d’un ouvrage et celle d’un champ, qui ne peut être cultivé que par un homme; d’un meuble qui ne peut servir qu’à un homme, et dont, par conséquent, la propriété exclusive est fondée sur la nature de la chose. Ainsi ce n’est point ici une propriété dérivée de l’ordre naturel, et défendue par la force sociale; c’est une propriété fondée par la société même. Ce n’est pas un véritable droit, c’est un privilège, comme ces jouissances exclusives de tout ce qui peut être enlevé au possesseur unique sans violence.”
46. *Ibid.*, 309: “Tout privilège est donc une gêne imposée à la liberté, une restriction mise aux droits des autres citoyens; dans ce genre il est nuisible non-seulement aux droits des autres qui veulent copier, mais aux droits de tous ceux qui veulent avoir des copies, et pour qui ce qui en augmente le prix est une injustice. L’intérêt public exige-t-il que les hommes fassent ce sacrifice? Telle est la question qu’il faut examiner; en d’autres termes, les privilèges sont-ils nécessaires, utiles ou nuisibles au progrès des lumières?”
47. James Boyle, *Shamans, Software, and Spleens: Law and the Construction of the Information Society* (Cambridge, Mass.: Harvard University Press, 1996), 55–57.
48. Hesse, *Publishing and Cultural Politics*, 121–122. As Hesse points out, this legal leg-erdemain also produced an interesting transformation in the status of the great authors of the French tradition. “If the Old Regime first accorded Voltaire, Rousseau, or Mirabeau the possibility of legal status as privileged authors with perpetual private lineages for their texts, the Revolution relocated these figures in the public domain, the legal parallel to the civic rituals that unearthed them from private gravesites and reposed their bodily remains in the public temple of the Pantheon.” *Ibid.*, 123. One of the central features of the debates described in this book is a starkly different set of characterizations of the public domain. Is it a communist repossession of the sacred rights of authors? The noble common store of knowledge from which all future creators can build? The worthless remainder of material that is no longer worth protecting?
49. Northrop Frye, *Anatomy of Criticism: Four Essays* (Princeton, N.J.: Princeton University Press, 1957), 96–97.

50. Mark Helprin, “A Great Idea Lives Forever. Shouldn’t Its Copyright?” *New York Times* editorial (May 20, 2007), A12.
51. The two most influential and brilliant examples are Justin Hughes, “The Philosophy of Intellectual Property,” *Georgetown Law Journal* 77 (1988): 287–366, and Wendy J. Gordon, “A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property,” *Yale Law Journal* 102 (1993): 1533–1610. Both of these articles attempt not to use Locke as the basis for a world of absolute right, but instead to focus on the Locke whose world of private property coexisted with a commons—albeit one much diminished after the invention of money. If one goes far enough into the Lockean conception—fine-tuning “enough and as good” so as to allow for a vigorous commons, and the claims of labor so as to take account of the importance of the embedded contributions of culture and science—then the differences between the Jeffersonian view and the Lockean view start to recede in significance. Academics have found the Lockean view attractive, noting, correctly, that Locke is commonly brandished as a rhetorical emblem for property schemes that he himself would have scorned. Yet when one looks at the actual world of intellectual property policy discourse, and the difficulty of enunciating even the simple Jeffersonian antimonopolist ideas I lay out here, it is hard to imagine the nuanced Lockean view flourishing. Consider this comment of Jeremy Waldron’s and ask yourself—is this result more likely from within the Jeffersonian or the Lockean view?

Our tendency of course is to focus on authors when we think about intellectual property. Many of us are authors ourselves: reading a case about copyright we can empathize readily with a plaintiff’s feeling for the effort he has put in, his need to control his work, and his natural desire to reap the fruits of his own labor. In this Essay, however, I shall look at the way we think about actual, potential and putative infringers of copyright, those whose freedom is or might be constrained by others’ ownership of songs, plays, words, images and stories. Clearly our concept of the author and this concept of the copier are two sides of the same coin. If we think of an author as having a natural right to profit from his work, then we will think of the copier as some sort of thief; whereas if we think of the author as beneficiary of a statutory monopoly, it may be easier to see the copier as an embodiment of free enterprise values. These are the connections I want to discuss, and my argument will be that we cannot begin to unravel the conundrums of moral justification in this area unless we are willing to approach the matter even-handedly from both sides of the question.

After a magisterial study of justifications for the existing world of intellectual property, Waldron concludes, “[t]he fact is, however, that whether or not we speak of a burden of proof, an institution like intellectual property is not self-justifying; we owe a justification to anyone who finds that he can move less freely than he would in the absence of the institution. So although the people whose perspective I have taken—the copiers—may be denigrated as unoriginal plagiarists or thieves of others’ work, still they are the ones who feel the immediate impact of our intellectual property laws. It affects what they may do, how they may speak, and how they may earn a living. Of course nothing is settled by saying that it is their interests that are particularly at stake; if the tables were turned, we should want to highlight the perspective of the authors. But as things stand, the would-be copiers

- are the ones to whom a justification of intellectual property is owed.” See Jeremy Waldron, “From Authors to Copiers: Individual Rights and Social Values in Intellectual Property,” *Chicago-Kent Law Review* 68 (1993): 841, 842, 887. That justification seems more plausibly and practically to come from the perspective I sketch out here. See also William Fisher, “Theories of Intellectual Property,” in *New Essays in the Legal and Political Theory of Property*, ed. Stephen R. Munzer (Cambridge: Cambridge University Press, 2001), 168–200.
52. Catherine Seville, *Literary Copyright Reform in Early Victorian England: The Framing of the 1842 Copyright Act* (Cambridge: Cambridge University Press, 1999), 46–48.
53. Macaulay Speech, 256.
54. This point is made today by a number of authors. See Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (New Haven, Conn.: Yale University Press, 2006), available at [http://www.benkler.org/Benkler\\_Wealth\\_Of\\_Networks.pdf](http://www.benkler.org/Benkler_Wealth_Of_Networks.pdf); Neil Weinstock Netanel, “Locating Copyright Within the First Amendment Skein,” *Stanford Law Review* 54 (2001): 1–86; Netanel, “Copyright and a Democratic Civil Society,” *Yale Law Journal* 106 (1996): 283–388; David McGowan, “First Amendment & Copyright Policy,” available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=460280](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=460280); Randal Picker, “Copyright as Entry Policy: The Case of Digital Distribution,” *Antitrust Bulletin* 47 (2002): 423, 424.
55. Quoted in Fritz Machlup and Edith Penrose, “The Patent Controversy in the Nineteenth Century,” *Journal of Economic History* 10, no. 1 (1950): 4, n8.
56. Ironically, contemporary economists are rediscovering the attractions of patent alternatives. A paper by Steven Shavell and Tanguy Van Ypersele is particularly interesting in this regard: “Rewards versus Intellectual Property Rights,” NBER Working Paper series, no. 6956, available at <http://www.nber.org/papers/w6956>.
57. “Governor Thomas was so pleased with the construction of this stove . . . that he offered to give me a patent for the sole vending of them for a term of years; but I declined it from a principle which has ever weighed with me on such occasions, viz.: That, as we enjoy great advantages from the inventions of others, we should be glad of an opportunity to serve others by any invention of ours; and this we should do freely and generously.” Benjamin Franklin, *Autobiography*, in *The Works of Benjamin Franklin*, ed. John Bigelow, vol. 1 (New York: G. P. Putnam’s Sons, 1904), 237–238.
58. Kenneth Arrow, “Economic Welfare and the Allocation of Resources for Invention,” in National Bureau of Economic Research, *The Rate and Direction of Inventive Activity: Economic and Social Factors* (Princeton, N.J.: Princeton University Press, 1962), 609–626.
59. Sanford J. Grossman and Joseph E. Stiglitz, “On the Impossibility of Informationally Efficient Markets,” *American Economic Review* 70 (1980), 393–408; Boyle, *Shamans*, 35–42.

### CHAPTER 3: THE SECOND ENCLOSURE MOVEMENT

#### Further Reading

The endnotes to this chapter supply copious particular references; this page provides the overview. Those seeking to understand the various methods by which different aspects of

common land were enclosed over a 400 year history in England should start with J. A. Yelling, *Common Field and Enclosure in England, 1450–1850* (Hamden, Conn.: Archon Books, 1977). Thomas More, *Utopia* (New York: W. J. Black, 1947), provides a harsh criticism of the enclosure movement, one that is echoed hundreds of years later by Polanyi: Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time* (Boston: Beacon Press, 1957). Economic historians have generally believed that the enclosure movement yielded considerable efficiency gains—bringing under centralized control and management, property that had previously been inefficiently managed under a regime of common access. When efficiency gains mean higher productivity so that fewer people starve, this is no small thing. Donald N. McCloskey, “The Enclosure of Open Fields: Preface to a Study of Its Impact on the Efficiency of English Agriculture in the Eighteenth Century,” *Journal of Economic History* 32 (1972): 15–35; “The Prudent Peasant: New Findings on Open Fields,” *Journal of Economic History* 51 (1991): 343–355. This argument seems plausible, but it has recently received powerful challenges, for example, that by Robert C. Allen, *Enclosure and the Yeoman* (New York: Oxford University Press, 1992).

In the twentieth century, the negative effects of open access or common ownership received an environmental gloss thanks to the work of Garrett Hardin, “The Tragedy of the Commons,” *Science* 162 (1968): 1243–1248. However, work by scholars such as Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 1990), and Carol Rose, “The Comedy of the Commons: Custom, Commerce, and Inherently Public Property,” *University of Chicago Law Review* 53 (1986): 711–781, have introduced considerable nuance to this idea. Some resources may be *more* efficiently used if they are held in common. In addition, nonlegal, customary, and norm-based forms of “regulation” often act to mitigate the theoretical dangers of overuse or under-investment.

Beyond the theoretical and historical arguments about the effects of enclosure on real property lie the question of how well those arguments translate to the world of the intangible and intellectual. It is that question which this chapter raises. Christopher May, *A Global Political Economy of Intellectual Property Rights: The New Enclosures?* (London: Routledge, 2000) offers a similar analogy—as do several other articles cited in the text. The key differences obviously lie in the features of intellectual property identified in the earlier chapters—its nonrivalrousness and nonexcludability—and on the ways in which a commons of cultural, scientific, and technical information has been central to the operation of both liberal democracy and capitalist economy. I owe the latter point particularly to Richard Nelson, whose work on the economics of innovation amply repays further study: Richard Nelson, *Technology, Institutions, and Economic Growth* (Cambridge, Mass.: Harvard University Press, 2005).

### Notes to Chapter 3

1. Apart from being anonymous, this poem is extremely hard to date. It probably originates in the enclosure controversies of the eighteenth century. However, the earliest reference to it that I have been able to discover is from 1821. Edward Birch was moved to compose some (fairly poor) verses in response when he reported “seeing the following *jeu d’esprit* in a Handbill posted up in Plaistow, as a ‘CAUTION’ to prevent persons from supporting the intended inclosure of Hainault or Waltham Forest.” He then quotes a version of

the poem. Edward Birch, *Tickler Magazine* 3 (February 1821), 45. In 1860, “Exon,” a staff writer for the journal *Notes and Queries*, declares that “the animosity excited against the Inclosure Acts and their authors . . . was almost without precedent: though fifty years and more have passed, the subject is still a sore one in many parishes. . . . I remember some years ago, in hunting over an old library discovering a box full of printed squibs, satires and ballads of the time against the acts and those who were supposed to favor them,—the library having belonged to a gentleman who played an active part on the opposition side.” “Exon,” “Ballads Against Inclosures,” *Notes and Queries* 9, 2nd series (February 1860): 130–131. He reports finding the poem in that box, and quotes a verse from it. The context of the article makes it appear that the poem itself must date from the late eighteenth century. In other sources, the poem is sometimes dated at 1764, and said to be in response to Sir Charles Pratt’s fencing of common land. See, e.g., Dana A. Freiburger, “John Thompson, English Philomath—A Question of Land Surveying and Astronomy,” n. 15, available at <http://www.nd.edu/~histast4/exhibits/papers/Freiburger/>. This attribution is widespread and may well be true, but I have been able to discover no contemporary source material that sustains it. By the end of the nineteenth century, the poem was being quoted, sometimes with amusement and sometimes with agreement, on both sides of the Atlantic. See Ezra S. Carr, “Aids and Obstacles to Agriculture on the Pacific-Coast,” in *The Patrons of Husbandry on the Pacific Coast* (San Francisco: A. L. Bancroft and Co., 1875), 290–291; Edward P. Cheyney, *An Introduction to the Industrial and Social History of England* (New York: Macmillan, 1901), 219.

2. Although we refer to it as *the* enclosure movement, it was actually a series of enclosures that started in the fifteenth century and went on, with differing means, ends, and varieties of state involvement, until the nineteenth. See, e.g., J. A. Yelling, *Common Field and Enclosure in England, 1450–1850* (Hamden, Conn.: Archon Books, 1977).
3. Thomas More, *Utopia* (New York: W. J. Black, 1947), 32.
4. Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time* (Boston: Beacon Press, 1957), 35. Polanyi continues in the same vein. “The fabric of society was being disrupted. Desolate villages and the ruins of human dwellings testified to the fierceness with which the revolution raged, endangering the defenses of the country, wasting its towns, decimating its population, turning its overburdened soil into dust, harassing its people and turning them from decent husbandmen into a mob of beggars and thieves.” *Ibid.* See also E. P. Thompson, *The Making of the English Working Class* (London: V. Gollancz, 1963), 218.
5. See generally Lord Ernle, *English Farming Past and Present*, 6th ed. (Chicago: Quadrangle Books, 1961).
6. For an excellent summary of the views of Hobbes, Locke, and Blackstone on these points, see Hannibal Travis, “Pirates of the Information Infrastructure: Blackstonian Copyright and the First Amendment,” *Berkeley Technology Law Journal* 15 (2000): 789–803.
7. More recent accounts which argue that enclosure led to productivity gains tend to be more qualified in their praise. Compare the more positive account given in Ernle, *English Farming*, with Michael Turner, “English Open Fields and Enclosures: Retardation or Productivity Improvements,” *Journal of Economic History* 46 (1986): 688: “Enclosure cannot be seen as the automatic open door to this cycle of agricultural improvement, but

the foregoing estimates do suggest that perhaps it was a door which opened frequently, and with profit.”

8. Most notably work by Robert C. Allen: “The Efficiency and Distributional Consequences of Eighteenth Century Enclosures,” *The Economic Journal* 92 (1982): 937–953; *Enclosure and The Yeoman* (New York: Oxford University Press, 1992). Allen argues that the enclosure movement produced major distributional consequences, but little observable efficiency gain. The pie was carved up differently, to the advantage of the landlords, but made no larger. In contrast, Turner sees enclosure as one possible, though not a necessary, route to productivity gains (“English Open Fields,” 688). Donald McCloskey’s work also argues for efficiency gains from enclosure, largely from the evidence provided by rent increases. Donald N. McCloskey, “The Enclosure of Open Fields: Preface to a Study of Its Impact on the Efficiency of English Agriculture in the Eighteenth Century,” *Journal of Economic History* 32 (1972): 15–35; “The Prudent Peasant: New Findings on Open Fields,” *Journal of Economic History* 51 (1991): 343–355. In Allen’s view, however, the increase in rents was largely a measure of the way that changes in legal rights altered the bargaining power of the parties and the cultural context of rent negotiations; enclosure allowed landlords to capture more of the existing surplus produced by the land, rather than dramatically expanding it. “[T]he enclosure movement itself might be regarded as the first state sponsored land reform. Like so many since, it was justified with efficiency arguments, while its main effect (according to the data analysed here) was to redistribute income to already rich landowners.” Allen, “Eighteenth Century Enclosures,” 950–951.
9. The possibility of producing “order without law” and thus sometimes governing the commons without tragedy has also fascinated scholars of contemporary land use. Robert C. Ellickson, *Order without Law: How Neighbors Settle Disputes* (Cambridge, Mass.: Harvard University Press, 1991); Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 1990).
10. The analogy to the enclosure movement has been too succulent to resist. To my knowledge, Ben Kaplan, Pamela Samuelson, Yochai Benkler, David Lange, Christopher May, David Bollier, and Keith Aoki have all employed the trope, as I myself have on previous occasions. For a particularly thoughtful and careful development of the parallel between the two enclosure movements, see Travis, “Pirates of the Information Infrastructure.”
11. See, e.g., William A. Haseltine, “The Case for Gene Patents,” *Technology Review* (September 2000): 59, available at <http://www.technologyreview.com/articles/haseltine0900.asp>; cf. Alexander K. Haas, “The Wellcome Trust’s Disclosures of Gene Sequence Data into the Public Domain & the Potential for Proprietary Rights in the Human Genome,” *Berkeley Technology Law Journal* 16 (2001): 145–164.
12. See, e.g., Haseltine, “The Case for Gene Patents”; Biotechnology Industry Association, “Genentech, Incyte Genomics Tell House Subcommittee Gene Patents Essential for Medical Progress,” available at [http://www.bio.org/news/newsitem.asp?id=2000\\_0713\\_01](http://www.bio.org/news/newsitem.asp?id=2000_0713_01).
13. See, e.g., Howard Markel, “Patents Could Block the Way to a Cure,” *New York Times* (August 24, 2001), A19. For the general background to these arguments, see Rebecca

- S. Eisenberg, "Patenting the Human Genome," *Emory Law Journal* 39 (1990): 740–744.
14. 793 P.2d 479, 488–497 (Cal. 1990).
  15. *Ibid.*, 493–494. One imagines Styrofoam coolers criss-crossing the country by FedEx in an orgy of communistic flesh-swapping.
  16. *Ibid.*, 493.
  17. I might be suspected of anti-economist irony here. In truth, neither side's arguments are fully satisfying. It is easy to agree with Richard Posner that the language of economics offers a "thin and unsatisfactory epistemology" through which to understand the world. Richard Posner, *The Problems of Jurisprudence* (Cambridge, Mass.: Harvard University Press, 1990): xiv (quoting Paul Bator, "The Judicial Universe of Judge Richard Posner," *University of Chicago Law Review* 52 (1985): 1161). On the other hand, explaining what it means to "own one's own body," or specifying the noncommodifiable limits on the market, turns out to be a remarkably tricky business, as Margaret Jane Radin has shown with great elegance in *Contested Commodities* (Cambridge, Mass.: Harvard University Press, 1996).
  18. Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases, 1996 *Official Journal of the European Union* (L 77) 20, available at <http://europa.eu.int/ISPO/infosoc/legreg/docs/969ec.html>.
  19. The phrase "Washington consensus" originated in John Williamson, "What Washington Means by Policy Reform," in *Latin American Adjustment: How Much Has Happened?* ed. John Williamson (Washington, D.C.: Institute for International Economics, 1990). Over time it has come to be used as shorthand for a neoliberal view of economic policy that puts its faith in deregulation, privatization, and the creation and defense of secure property rights as the cure for all ills. (See Joseph Stiglitz, "The World Bank at the Millennium," *Economic Journal* 109 [1999]: 577–597.) It has thus become linked to the triumphalist neoliberal account of the end of history and the victory of unregulated markets: see Francis Fukuyama, *The End of History and the Last Man* (New York: Free Press, 1992). Neither of these two results are, to be fair, what its creator intended. See John Williamson, "What Should the Bank Think about the Washington Consensus?" Institute for International Economics (July 1999), available at <http://www.iie.com/publications/papers/paper.cfm?ResearchID=351>.
  20. Garrett Hardin, "The Tragedy of the Commons," *Science* 162 (1968): 1243–1248.
  21. The differences are particularly strong in the arguments over "desert"—are these property rights deserved or are they simply violations of the public trust, privatizations of the commons? For example, some would say that we never had the same traditional claims over the genetic commons that the victims of the first enclosure movement had over theirs; this is more like newly discovered frontier land, or perhaps even privately drained marshland, than it is like well-known common land that all have traditionally used. In this case, the enclosers can claim (though their claims are disputed) that they discovered or perhaps simply made usable the territory they seek to own. The opponents of gene patenting, on the other hand, turn more frequently than the farmers of the eighteenth century to religious and ethical arguments about the sanctity of life and the incompatibility of property with living systems. These arguments, or the appeals to

- free speech that dominate debates over digital intellectual property, have no precise analogue in debates over hunting or pasturage, though again there are common themes. For example, we are already seeing nostalgic laments of the loss of the immemorial rights of Internet users. At the same time, the old language of property law is turned to this more evanescent subject matter; a favorite title of mine is I. Trotter Hardy, “The Ancient Doctrine of Trespass to Web Sites,” 1996, art. 7, *Journal of Online Law* art. 7, available at [http://www.wm.edu/law/publications/jol/95\\_96/hardy.html](http://www.wm.edu/law/publications/jol/95_96/hardy.html).
22. The exceptions to this statement turn out to be fascinating. In the interest of brevity, however, I will ignore them entirely.
  23. Remember, I am talking here about increases in the level of rights: protecting new subject matter for longer periods of time, criminalizing certain technologies, making it illegal to cut through digital fences even if they have the effect of foreclosing previously lawful uses, and so on. Each of these has the effect of diminishing the public domain in the name of national economic policy.
  24. James Boyle, *Shamans, Software, and Spleens: Law and the Construction of the Information Society* (Cambridge, Mass.: Harvard University Press, 1996), 29; William M. Landes and Richard A. Posner, “Economic Analysis of Copyright Law,” *Journal of Legal Studies* 18 (1989): 325; Pamela Samuelson and Suzanne Scotchmer, “The Law & Economics of Reverse Engineering,” *Yale Law Journal* 111 (2002): 1575–1664; Jessica Litman, “The Public Domain,” *Emory Law Journal* 39 (1990): 1010–1011.
  25. Sanford J. Grossman and Joseph E. Stiglitz, “On the Impossibility of Informationally Efficient Markets,” *American Economic Review* 70 (1980): 404.
  26. For a more technical account, see James Boyle, “Cruel, Mean, or Lavish? Economic Analysis, Price Discrimination and Digital Intellectual Property,” *Vanderbilt Law Review* 53 (2000): 2007–2039.
  27. The most recent example of this phenomenon is multiple legal roadblocks in bringing *GoldenRice* to market. For a fascinating study of the various issues involved and the strategies for working around them, see R. David Kryder, Stanley P. Kowalski, and Anatole F. Krattiger, “The Intellectual and Technical Property Components of Pro-Vitamin A Rice (*GoldenRice*<sup>TM</sup>): A Preliminary Freedom-to-Operate Review,” *ISAAA Briefs* No. 20 (2000), available at <http://www.isaaa.org/Briefs/20/briefs.htm>. In assessing the economic effects of patents, one has to balance the delays and increased costs caused by the web of property rights against the benefits to society of the incentives to innovation, the requirement of disclosure, and the eventual access to the patented subject matter. When the qualification levels for patents are set too low, the benefits are minuscule and the costs very high—the web of property rights is particularly tangled, complicating follow-on innovation, the monopoly goes to “buy” a very low level of inventiveness, and the disclosure is of little value.
  28. Michael A. Heller and Rebecca S. Eisenberg, “Can Patents Deter Innovation? The Anticommons in Biomedical Research,” *Science* 280 (1998): 698–701.
  29. *Int’l News Serv. v. Associated Press*, 248 U.S. 215, 250 (1918) (Brandeis, J., dissenting).
  30. Yochai Benkler, “Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain,” *New York University Law Review* 74 (1999): 354, 361, 424.

31. The so-called “business method” patents, which cover such “inventions” as auctions or accounting methods, are an obvious example. See, e.g., *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998).
32. Database Investment and Intellectual Property Antipiracy Act of 1996, HR 3531, 104th Cong. (1996); Collections of Information Antipiracy Act, S 2291, 105th Cong. (1998).
33. See, e.g., *Feist Publications v. Rural Tel. Serv. Co.*, 499 U.S. 340, 350 (1991): “Copyright treats facts and factual compilations in a wholly consistent manner. Facts, whether alone or as part of a compilation, are not original and therefore may not be copyrighted.” To hold otherwise “distorts basic copyright principles in that it creates a monopoly in public domain materials without the necessary justification of protecting and encouraging the creation of ‘writings’ by ‘authors.’” *Ibid.*, at 354.
34. See Eisenberg, “Patenting the Human Genome”; Haas, “Wellcome Trust’s Disclosures.”
35. Those who prefer topographical metaphors might imagine a quilted pattern of public and private land, with legal rules specifying that certain areas, beaches say, can never be privately owned, and accompanying rules giving public rights of way through private land if there is a danger that access to the commons might otherwise be blocked.
36. See Jessica Litman, *Digital Copyright: Protecting Intellectual Property on the Internet* (Amherst, N.Y.: Prometheus Books, 2001).
37. See James Boyle, “Intellectual Property Policy Online: A Young Person’s Guide,” *Harvard Journal of Law & Technology* 10 (1996): 47–112.
38. *American Geophysical Union v. Texaco*, 37 F.3d 882 (2nd Cir. 1994).
39. *Los Angeles Times v. Free Republic*, 2000 U.S. Dist. LEXIS 5669, 54 U.S.P.Q.2D 1453 (C.D. Cal. 2000).
40. *eBay, Inc. v. Bidder’s Edge, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000).
41. *Kelly v. Arriba Soft*, 336 F.3d 811 (9th Cir. 2003). After initially holding that while thumbnails were fair use, inline links that displayed pictures were not fair use, the court reversed itself and found fair use in both instances.
42. After a District Court issued a temporary injunction telling Static Controls that it must cease manufacturing generic toner cartridges that operated in Lexmark printers—indicating it was likely to be found to be violating the Digital Millennium Copyright Act’s “anti-circumvention” provisions—the Appeals Court held that such cartridges did not in fact violate the DMCA. *Lexmark International, Inc. v. Static Control Components, Inc.*, 387 F.3d 522 (6th Cir. 2004).
43. *Madey v. Duke Univ.*, 307 F.3d 1351 (Fed. Cir. 2003), cert. denied, 539 U.S. 958 (2003).
44. “When scientists from Princeton University and Rice University tried to publish their findings [on the vulnerabilities in a copy protection scheme] in April 2001, the recording industry claimed that the 1998 Digital Millennium Copyright Act (DMCA) makes it illegal to discuss or provide technology that might be used to bypass industry controls limiting how consumers can use music they have purchased. ‘Studying digital access technologies and publishing the research for our colleagues are both fundamental to the progress of science and academic freedom,’ stated Princeton scientist Edward Felten. ‘The recording industry’s interpretation of the DMCA would make scientific progress on this important topic illegal.’ . . .

“SDMI sponsored the ‘SDMI Public Challenge’ in September 2000, asking Netizens to try to break their favored watermark schemes, designed to control consumer access to digital music. When the scientists’ paper about their successful defeat of the watermarks, including one developed by a company called Verance, was accepted for publication, Matt Oppenheim, an officer of both RIAA and SDMI, sent the Princeton professor a letter threatening legal liability if the scientist published his results.” “EFF Media Release: Princeton Scientists Sue Over Squelched Research,” available at [http://w2.eff.org/IP/DMCA/Felten\\_v\\_RIAA/20010606\\_eff\\_felten\\_pr.html](http://w2.eff.org/IP/DMCA/Felten_v_RIAA/20010606_eff_felten_pr.html). After a First Amendment challenge to the relevant provisions of the DMCA, the threats were withdrawn.

45. See, e.g., Robert P. Merges, “As Many as Six Impossible Patents before Breakfast: Property Rights for Business Concepts and Patent System Reform,” *Berkeley Technology Law Journal* 14 (1999): 615.

## CHAPTER 4: THE INTERNET THREAT

### Further Reading

The first book to read on the history of the tension between copying technologies and the law that regulates them is Paul Goldstein’s effortlessly erudite *Copyright’s Highway: From Gutenberg to the Celestial Jukebox*, 2nd ed. (Stanford, Calif.: Stanford University Press, 2003). Goldstein and I differ somewhat in our optimism about current regulatory developments but his work is an indispensable beginning for the inquiry and a pleasure to read. One fascinating theme in the book is that the intellectual tension between maximalists and minimalists (or optimists and pessimists as he describes them) is actually a fundamental part of copyright law’s survival strategy—its dialectical method of dealing with technological change. If so, in this book I am struggling gamely to do my part by holding up my side of the dialectic. It does not seem to be winning much recently. Perhaps copyright’s Hegel is asleep.

Much of this chapter concerns itself with copyright’s response to the Internet. No book comes close to laying this out as well as Jessica Litman’s *Digital Copyright: Protecting Intellectual Property on the Internet* (Amherst, N.Y.: Prometheus Books, 2001). Litman is a beautiful essayist and this book is both accessible and detailed. Those readers who are interested in the history of that dying technology, the VCR, will find a brilliant account in James Lardner, *Fast Forward: Hollywood, the Japanese & the VCR Wars* (New York: Norton, 1987). One needs only to scan its pages to pick up the eerie foreshadowing of the Internet Threat. Litman’s article on the *Sony* case provides a detailed legal history to back up Lardner’s social history. Jessica Litman, “The *Sony* Paradox,” *Case Western Reserve Law Review* 55 (2005): 917–962. Pamela Samuelson has a fine article exploring the jurisprudential impact of *Sony*’s reasoning. Pamela Samuelson, “The Generativity of *Sony v. Universal*: The Intellectual Property Legacy of Justice Stevens,” *Fordham Law Review* 74 (2006): 1831–1876.

The scholarly literature on Napster, copyright, and peer-to-peer technologies generally is both wide and deep. In addition to Litman’s book, some personal favorites include: Raymond Shih Ray Ku, “The Creative Destruction of Copyright: Napster and the New Eco-

nomics of Digital Technology,” *University of Chicago Law Review* 69 (2002): 263–324; Mark A. Lemley and R. Anthony Reese, “Reducing Digital Copyright Infringement Without Restricting Innovation,” *Stanford Law Review* 56 (2003–2004): 1345–1434; Jane C. Ginsburg, “Separating the *Sony* Sheep From the *Grokster* Goats: Reckoning the Future Business Plans of Copyright-Dependent Technology Entrepreneurs,” *University of Arizona Law Review* 50 (2008): 577–609; Justin Hughes, “On the Logic of Suing One’s Customers and the Dilemma of Infringement-Based Business Models,” *Cardozo Arts and Entertainment Law Journal* 22 (2005): 725–766; Douglas Lichtman and William Landes, “Indirect Liability for Copyright Infringement: An Economic Perspective,” *Harvard Journal of Law and Technology* 16 (2003): 395–410; and Glynn S. Lunney, Jr., “Fair Use and Market Failure: *Sony* Revisited,” *Boston University Law Review* 82 (2002): 975–1030.

In addition to these articles, a number have focused specifically on alternative methods of encouraging cultural production while maximizing technological and cultural freedom. Two that have profoundly influenced my own thinking are Neil Weinstock Netanel, “Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing,” *Harvard Journal of Law and Technology* 17 (2003): 1–84; and William Fisher, *Promises to Keep: Technology, Law, and the Future of Entertainment* (Palo Alto, Calif.: Stanford University Press, 2004). Fisher, whose presentations and articles reveal a cathedral-like conceptual structure that would have delighted the Encyclopedists, argues powerfully that a system of levies on broadband technology, distributed in proportion to the popularity of the music downloaded could allow us to permit “free” access to music while still compensating musicians. His responses to the problems of measurement, gaming of the system, privacy, and so on will not convince everyone but they represent by far the most systematic treatment of the subject.

#### Notes to Chapter 4

1. For the background to these documents see James Boyle, “Intellectual Property Policy Online: A Young Person’s Guide,” *Harvard Journal of Law & Technology* 10 (1996): 47–112; Jessica Litman, *Digital Copyright: Protecting Intellectual Property on the Internet* (Amherst, N.Y.: Prometheus Books, 2001).
2. Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of 5, 17, 28, and 35 U.S.C.).
3. *Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights* (Washington, D.C.: Information Infrastructure Task Force, 1995), 73 n. 227. Hereinafter *White Paper*.
4. *White Paper*, 84.
5. “Congress did not provide that one class in the community could combine to restrain interstate trade and another class could not. . . . It provided that ‘every’ contract, combination or conspiracy in restraint of trade was illegal.” *Loewe v. Lamlor*, 208 U.S. 274 (1908); “Indians inhabiting this country were fierce savages, whose occupation was war, and whose subsistence was drawn chiefly from the forest. To leave them in possession of their country, was to leave the country a wilderness. . . .” *Johnson v. M’Intosh*, 21 U.S. 543, 590 (1823).

6. “As the entertainment and information markets have gotten more complicated, the copyright law has gotten longer, more specific, and harder to understand. Neither book publishers nor libraries have any interest in making the library privilege broad enough so that it would be useful to users that aren’t libraries, and neither movie studios nor broadcast stations have any interest in making the broadcaster’s privilege broad enough to be of some use to say, cable television or satellite TV, so that doesn’t happen. Negotiated privileges tend to be very specific, and tend to pose substantial entry barriers to outsiders who can’t be at the negotiating table because their industries haven’t been invented yet. So negotiated copyright statutes have tended, throughout the century, to be kind to the entrenched status quo and hostile to upstart new industries.” Litman, *Digital Copyright*, 25.
7. Communications Decency Act of 1996 (47 U.S.C. §§ 230, 560, 561) (1996).
8. *Reno v. ACLU*, 521 U.S. 844 (1997).
9. James Boyle, “Overregulating the Internet,” *Washington Times* (November 14, 1995), A17.
10. See James Boyle, “The One Thing Government Officials Can’t Do Is Threaten Their Critics,” *Washington Times* (March 6, 1996), A16.
11. “The DFC was forged in 1995 in response to the release of the Clinton administration’s *White Paper on Intellectual Property and the National Information Infrastructure*. The *White Paper* recommended significantly altering existing copyright law to increase the security of ownership rights for creators of motion pictures, publishers and others in the proprietary community. Members of the DFC recognized that if the policy proposals delineated in the *White Paper* were implemented, educators, businesses, libraries, consumers and others would be severely restricted in their efforts to take advantage of the benefits of digital networks.” See [http://www.dfc.org/dfci/Learning\\_Center/about.html](http://www.dfc.org/dfci/Learning_Center/about.html).
12. See the classic account in Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups*, 2nd ed. (Cambridge, Mass.: Harvard University Press, 1971).
13. See note 2 above.
14. Pub. L. No. 105-147, 111 Stat. 2678 (1997) (codified as amended in scattered sections of 17 and 18 U.S.C.).
15. Pub. L. No. 105-298, 112 Stat. 2827 (1998) (codified as amended in scattered sections of 17 U.S.C.).
16. S 2291, 105th Cong. (1998).
17. *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984).
18. See Tina Balio, Museum of Broadcast Communications, “Betamax Case,” *Encyclopedia of TV* (1997), available at <http://www.museum.tv/archives/etv/B/htmlB/betamaxcase/betamaxcase.htm> (“The Betamax case went all the way to the Supreme Court, which reversed the appeals court decision on 17 January 1984. By 1986, VCRs had been installed in fifty percent of American homes and annual videocassettes sales surpassed the theatrical box-office.”). The year 1986 was also the peak of the video rental market: “Video’s high mark, according to studies by A. C. Nielsen Media Research, was in late 1986, when an estimated 34.3 million households with VCR’s took home 111.9 million cassettes a month, or an average of 3.26 movies per household.” Peter M. Nichols,

- “Movie Rentals Fade, Forcing an Industry to Change its Focus,” *New York Times* (May 6, 1990), A1.
19. For background, see Wendy Gordon, “Fair Use as Market Failure: A Structural and Economic Analysis of the *Betamax* Case and Its Predecessors,” *Columbia Law Review* 82 (1982): 1600–1657. For accounts that imagine a reduction of fair use as transaction costs fall, see Edmund W. Kitch, “Can the Internet Shrink Fair Use?,” *Nebraska Law Review* 78 (1999): 880–890; Robert P. Merges, “The End of Friction? Property Rights and the Contract in the ‘Newtonian’ World of On-Line Commerce,” *Berkeley Technology Law Journal* 12 (1997): 115–136. This argument has hardly gone unanswered with articles pointing out that it neglects both the social values of fair use and the actual economics of its operation. See Jonathan Dowell, “Bytes and Pieces: Fragmented Copies, Licensing, and Fair Use in A Digital World,” *California Law Review* 86 (1998): 843–878; Ben Depoorter and Francesco Parisi, “Fair Use and Copyright Protection: A Price Theory Explanation,” *International Review of Law and Economics* 21 (2002): 453–473.
  20. “I believe the answer to the question of justification turns primarily on whether, and to what extent, the challenged use is *transformative*. The use must be productive and must employ the quoted matter in a different manner or for a different purpose from the original.” Pierre N. Leval, “Toward a Fair Use Standard,” *Harvard Law Review* 103 (1990): 1111.
  21. See Neil Weinstock Netanel, “Locating Copyright Within the First Amendment Skein,” *Stanford Law Review* 54 (2001): 1–86; Yochai Benkler, “Free As the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain,” *New York University Law Review* 74 (1999): 354–446; Larry Lessig, Melville B. Nimmer Memorial Lecture: “Copyright’s First Amendment” (March 1, 2001), in *UCLA Law Review* 48 (2001): 1057–1074; Melville B. Nimmer, “Does Copyright Abridge the First Amendment Guaranties of Free Speech and the Press?” *UCLA Law Review* 17 (1970): 1180–1204.
  22. *Sega Enterprises Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992); *Atari Games Corp. v. Nintendo of America Inc.*, 975 F.2d 832 (Fed. Cir. 1992).
  23. *Sony* 464 U.S. at 441 n. 21.
  24. *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001).
  25. *A&M Records v. Napster*: C-SPAN Videotape 159534, Part 1 of 1 (October 2, 2000).
  26. Felix Oberholzer-Gee and Koleman Strumpf, “The Effect of File Sharing on Record Sales: An Empirical Analysis,” *Journal of Political Economy* 115, no. 1 (2007): 1–42.
  27. Stan J. Liebowitz, “How Reliable Is the Oberholzer-Gee and Strumpf Paper on File-Sharing?” available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1014399](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1014399).
  28. Rafael Rob and Joel Waldfogel, “Piracy on the High C’s: Music Downloading, Sales Displacement, and Social Welfare in a Sample of College Students,” available at <http://www.law.upenn.edu/polk/dropbox/waldfogel.pdf>.
  29. M. Peitz and P. Waelbroeck, “The Effect of Internet Piracy on Music Sales: Cross-Section Evidence,” *Review of Economic Research on Copyright Issues* (December 2004): 71–79, available at [http://www.serci.org/docs\\_I\\_2/waelbroeck.pdf](http://www.serci.org/docs_I_2/waelbroeck.pdf). For an excellent general discussion see Rufus Pollock’s summary of the empirical evidence at [http://www.rufuspollock.org/economics/p2p\\_summary.html](http://www.rufuspollock.org/economics/p2p_summary.html).

30. *MGM Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913 (2005).
31. J. H. Saltzer, D. P. Reed, and D. D. Clark, “End-to-End Arguments in System Design,” *ACM Transactions on Computer Systems* (November 1984): 277.
32. Technically, this discussion fuses components of the Internet—its transfer protocols, for example—with aspects of the World Wide Web, the set of linked hypertext documents assembled on top of it.

## CHAPTER 5: THE FARMERS’ TALE

### Further Reading

This chapter focuses primarily on the Digital Millennium Copyright Act (“DMCA”), one of the most controversial recent pieces of intellectual property legislation and the subject of extensive scholarship and commentary.

### The DMCA and DRM

Once again Jessica Litman’s *Digital Copyright: Protecting Intellectual Property on the Internet* (Amherst, N.Y.: Prometheus Books, 2001) is an indispensable introduction. David Nimmer offered one of the early, and prescient, analyses of the conceptual problems in the statute. David Nimmer, “A Riff on Fair Use in the Digital Millennium Copyright Act,” *University of Pennsylvania Law Review* 148 (2000): 673–742. His anthology, *Copyright: Sacred Text, Technology, and the DMCA* (The Hague: Kluwer Law International, 2003), is also worthy reading for those who wish to pursue the legal issues further. Tarleton Gillespie’s book *Wired Shut: Copyright and the Shape of Digital Culture* (Cambridge, Mass.: MIT Press, 2007), is an accessible but thorough introduction to the economic, political, and cultural consequences of so-called “digital rights management” or DRM. Legal scholars have been assiduous in pointing out the problems that legally backed DRM brings to science, culture, policy, and economic competition. Pamela Samuelson’s “Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to be Revised,” *Berkeley Technology Law Journal* 14 (1999): 519–566, is an early critique that proved to be particularly accurate in its predictions. Jerome Reichman, Graeme Dinwoodie, and Pamela Samuelson, “A Reverse Notice and Takedown Regime to Enable Public Interest Uses of Technically Protected Copyrighted Works,” *Berkeley Technology Law Journal* 22 (2007): 981–1060, provides a fascinating recent proposal for a method to solve some of those problems. Dan Burk’s “Anticircumvention Misuse,” *UCLA Law Review* 50 (2003): 1095–1140, offers a similar piece of conceptual judo, looking at the way in which copyright’s traditional concerns with anticompetitive and predatory misuse of intellectual property rights could be turned on the new legally backed digital fences of cyberspace. Julie Cohen sets the debate in the wider perspective of political theory in a way that has been influential on my own thinking. In “*Lochner* in Cyberspace: The New Economic Orthodoxy of ‘Rights Management,’” *Michigan Law Review* 97 (1998): 462–563, and her subsequent work, she describes the ways in which digital rights management presents fascinating echoes of the ideology of socially untrammled property rights that dominated the first twenty years of the twentieth century in the United States and was eventually countered with the ideals

of the New Deal. Finally, Jane Ginsburg, “Copyright and Control over New Technologies of Dissemination,” *Columbia Law Review* 101 (2001): 1613–1647, provides a more positive account, arguing that on balance—given the dangers of illicit digital copying—the DMCA’s benefits outweigh its costs.

### The DMCA and Freedom of Expression

Those who are interested in the tensions between copyright law and free expression are the beneficiaries of an explosion of scholarship. I cannot begin to cite it all here. Melville Nimmer’s article from 1970, “Does Copyright Abridge the First Amendment Guarantees of Free Speech and Press?” *UCLA Law Review* 17 (1970): 1180–1204, is a required starting place though its full impact was not to be felt for some time. Lawrence Lessig, “Copyright’s First Amendment,” *UCLA Law Review* 48 (2001): 1057–1074, provides a lovely reflection of the impact of Nimmer’s arguments more than 30 years on. Neil Netanel’s book *Copyright’s Paradox* (Oxford: Oxford University Press, 2008), is the single most comprehensive work in the field and a fascinating read. Netanel’s arguments, and those of Yochai Benkler, “Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain,” *New York University Law Review* 74 (1999): 354–446, and Jed Rubenfeld, “The Freedom of Imagination: Copyright’s Constitutionality,” *Yale Law Journal* 112 (2002): 1–60, have been influential on my own thinking in many areas. Bernt Hugenholtz has demonstrated that the concern about a tension between copyright law and freedom of expression is by no means limited to the United States. P. Bernt Hugenholtz, “Copyright and Freedom of Expression in Europe” in *Expanding the Boundaries of Intellectual Property: Innovation Policy for the Information Society*, ed. Rochelle Dreyfuss, Diane Zimmerman, and Harry First (Oxford: Oxford University Press, 2001), at 341. (This entire volume is superb, it should be noted.) L. Ray Patterson—an inspiration to the current generation of copyright scholars—summed up the intellectual current well when he compared the DMCA to the methods of censorship imposed by the seventeenth century Licensing Act. L. Ray Patterson, “The DMCA: A Modern Version of the Licensing Act of 1662,” *Journal of Intellectual Property Law* 10 (2002): 33–58.

Last, but by no means least, is the new book by my brilliant colleagues, David Lange and H. Jefferson Powell: *No Law: Intellectual Property in the Image of an Absolute First Amendment* (Stanford, Calif.: Stanford University Press, forthcoming 2008). *No Law* offers a fascinating thought experiment: what would a First Amendment jurisprudence look like that took seriously the premise that “no law” is allowed to restrict ‘the freedom of speech’ protected by the First Amendment and then turned its eyes on copyright? It is the answer to the question “and what exactly does ‘the freedom of speech’ permit?” that is most intriguing. Interestingly, though Lange and Powell find many copyright doctrines problematic, they are inclined to view the DMCA more charitably. I disagree for the reasons given in this chapter.

### Notes to Chapter 5

1. Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of 5, 17, 28, and 35 U.S.C.).
2. See Electronic Frontiers Foundation, “Unintended Consequences,” available at <http://www EFF.org/wp/unintended-consequences-seven-years-under-dmca>.

3. See DVD Copy Control Association, “Frequently Asked Questions,” available at <http://www.dvdcca.org/faq.html>.
4. Thomas Mennecke, “Slyck.com Interviews Jon Lech Johansen” (April 4, 2005), available at <http://www.slyck.com/news.php?story=733>.
5. As is often the way, these pages have now been modified on Wikipedia. At the time of writing, this excerpt can still be found at [http://www.indopedia.org/Eric\\_Corley.html](http://www.indopedia.org/Eric_Corley.html).
6. Abraham Lincoln, Lecture on Discoveries and Inventions (April 6, 1858), available at <http://showcase.netins.net/web/creative/lincoln/speeches/discoveries.htm>.
7. See Neil Weinstock Netanel, “Locating Copyright Within the First Amendment Skein,” *Stanford Law Review* 54 (2001): 15 (citing *Houghton Mifflin Co. v. Noram Publ’g Co.*, 28 F. Supp. 676 (S.D.N.Y. 1939); *Houghton Mifflin Co. v. Stackpole Sons, Inc.*, 104 F.2d 306 (2d Cir. 1939) (upholding the validity of the U.S. copyright in *Mein Kampf*); Anthony O. Miller, “Court Halted Dime Edition of ‘Mein Kampf’: Cranston Tells How Hitler Sued Him and Won,” *Los Angeles Times*, February 14, 1988, § 1, 4 (giving Cranston’s version of the case’s underlying facts)).
8. The *Corley* court was uncertain about this point. (“Preliminarily, we note that the Supreme Court has never held that fair use is constitutionally required, although some isolated statements in its opinions might arguably be enlisted for such a requirement.”). *Universal City Studios v. Corley*, 273 F.3d 429, 458 (2d Cir. 2001). In my view, both logic and those “isolated statements” suggest that fair use is required. As I point out later, when the Supreme Court revisited the matter in the case of *Eldred v. Ashcroft*, 537 U.S. 186 (2003), it stressed that it was precisely the internal limitations such as fair use that made copyright law normally immune to First Amendment scrutiny. The Court added “when . . . Congress has not altered the traditional contours of copyright protection, further First Amendment scrutiny is unnecessary.” *Ibid.* at 221 (citing *Harper & Row*, 471 U.S. at 560). Yet that is exactly what the DMCA does: alters “the traditional contours of copyright protection” by handing out the exclusive right at the same time as it confers a legal power to remove the privilege of fair use.
9. See *Universal City Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294, 304–5 (S.D.N.Y. 2000).
10. *Ibid.*, 329–30 (quoting *Turner Broadcasting System, Inc. v. FCC*, 512 U.S. 622, 662 (1997) (quoting *U.S. v. O’Brien*, 391 U.S. 367, 377 (internal quotations omitted))).
11. *Ibid.*, 331–332.
12. One empirical study seems to challenge this assumption, though at modest levels. Rafael Rob and Joel Waldfogel, “Piracy on the Silver Screen,” *Journal of Industrial Economics* 55 (2007): 379–395. Rob and Waldfogel surveyed college students—traditionally a population that engages in high levels of downloading since they have “free” and extremely high speed Internet connections, lots of leisure time, and low disposable income. Even among this group, the authors found that total levels of downloading were low—2.1 percent of paid consumption. The authors also assumed that all unpaid downloading or DVD burning was equal to piracy—an assumption that is clearly false. The *Sony* case makes that clear. In fact, Rob and Waldfogel found a *positive* relationship between second time unpaid viewings and future paid viewings; watching the movie a second time on a downloaded or privately made copy burned from the airwaves actually was associated with more paid purchases. The authors were skeptical of any causal link, however. *Ibid.*, 389.

13. Admittedly, section 1201 only affects works protected under the copyright act, so arguably the legal protection of the digital fence would expire with the copyright term. But even if the courts interpreted the statute this way, two problems would remain. First, since the DMCA prohibited the trafficking in tools which allowed the breaking of the encryption, the law would have effectively forbidden the production of wire cutters for gaining access to identically encrypted public domain works—remember Judge Kaplan’s discussion of the irrelevance of Mr. Johansen’s motives. Second, it would be trivially easy to add a trivial amount of new copyrighted material to the work that had fallen into the public domain. Access to the public domain work would then be prohibited for another period of life plus seventy years. And so on. The Copyright Office holds hearings on the question of whether there are any “classes of work” that need exemption from the DMCA’s provisions. So far, those exemptions have been highly restrictive in application.
14. *Eldred v. Ashcroft*, 537 U.S. 186 (2003) at 221 (citing *Harper & Row*, 471 U.S. at 560).
15. Rob Pegoraro, “RealPlayer’s iPod-Compatible Update ‘Stunned’ Apple,” *Washington Post* (August 8, 2004), F6.
16. *Lexmark, Int’l v. Static Control Companies, Inc.*, 387 F.3d 522 (6th Cir. 2004).
17. *Chamberlain Group, Inc. v. Skylink Tech., Inc.*, 381 F.3d 1178 (Fed. Cir. 2004). This of course was exactly the claim that Mr. Corley’s lawyers made, to no avail.

## CHAPTER 6: I GOT A MASHUP

### Further Reading

Musical borrowing is the subject of the next “graphic novel”—which is to say comic book—produced by me, Keith Aoki, and Jennifer Jenkins: *Theft!: A History of Music* (Durham, N.C.: Center for the Study of the Public Domain, forthcoming 2009). Our earlier effort to make intellectual property accessible to film makers and mashup artists can be found in *Bound By Law* (Durham, N.C.: Center for the Study of the Public Domain, 2006), available in full at <http://www.law.duke.edu/cspd/comics>. An expanded edition of *Bound By Law* will be published in the Fall of 2008 by Duke University Press. However, neither graphic novel can provide a sense of the scholarly literature in music, musicology, law, and biography that enabled me to write this chapter.

### Musical History

The indispensable guide to music history is J. Peter Burkholder, Donald Jay Grout, and Claude V. Palisca, *A History of Western Music*, 7th ed. (New York: W. W. Norton, 2006). For those who have access through a university or library the Grove Music database is the single most comprehensive computer-aided source: Grove Music Online, <http://www.grovemusic.com/index.html>. A fascinating book by Frederic Scherer, *Quarter Notes and Bank Notes: The Economics of Music Composition in the Eighteenth and Nineteenth Centuries* (Princeton, N.J.: Princeton University Press, 2004), explores different incentive systems—such as patronage or markets enabled by intellectual property rights—and their respective effect on musical aesthetics and musical production. Scherer is one of the foremost contemporary economists of innovation. To have him writing about the practices of court

composers and manuscript publishers is completely fascinating. At the end of the day, he diplomatically refuses to say whether patronage or market mechanisms produced “better” music but the careful reader will pick up indications of which way he leans.

### Musical Borrowing

There is a vast scholarly literature on musical borrowing—indeed the discipline of musicology takes the study of borrowing, in its largest sense, as one of its main organizing themes. Beyond a personal tour provided by Professor Anthony Kelley of Duke University, I found a number of books particularly useful. Burkholder’s *History* (J. Peter Burkholder, Donald J. Grout, and Claude V. Palisca, *A History of Western Music*, 7th ed. (New York: W. W. Norton, 2006)) is full of examples of borrowing and influence—whether of style, notation, musical conventions, or melody itself. But it is Burkholder’s book on Charles Ives—that fertile early-twentieth-century borrower—that was most influential: J. Peter Burkholder, *All Made of Tunes: Charles Ives and the Uses of Musical Borrowing* (New Haven, Conn.: Yale University Press, 1995). Ives’s own thoughts on his mashup of prior American musical forms can be found in Charles Ives, *Memos*, ed. John Kirkpatrick (New York: W. W. Norton, 1991), 10–25. David Metzger’s *Quotation and Cultural Meaning in Twentieth-Century Music* (Cambridge: Cambridge University Press, 2003), throws light on the way that quotations or borrowings came to have a particular cultural meaning in different musical traditions. Honey Meconi’s collection *Early Musical Borrowing*, ed. Honey Meconi (New York: Routledge, 2004), discusses—among many other things—the issue of borrowing between the secular and religious musical traditions, something that helped me work through that issue in this chapter. Finally, “Musical Borrowing: An Annotated Bibliography” (<http://www.chmtl.indiana.edu/borrowing/>) provides a searchable database of articles about musical borrowing.

### Music and Copyright Law

I was particularly influenced by two books and two articles. The books are Kembrew McLeod, *Owning Culture: Authorship, Ownership and Intellectual Property Law* (New York: Peter Lang, 2001), and Siva Vaidhyanathan, *Copyrights and Copywrongs: The Rise of Intellectual Property and How It Threatens Creativity* (New York: New York University Press, 2001). McLeod and Vaidhyanathan are the authors who sounded the alarm about the cultural and aesthetic effects of the heavy-handed legal regulation of musical borrowing. Together with the work of Larry Lessig (particularly his writing on the “permissions culture”) Lawrence Lessig, *The Future of Ideas: The Fate of the Commons in a Connected World* (New York: Random House, 2001), their scholarship has defined the field.

The two articles that influenced me the most focus more specifically on the details of the evolution of music on the one hand and music copyright on the other. Both of them are by Michael Carroll: “The Struggle for Music Copyright,” *Florida Law Review* 57 (2005): 907–961, and “Whose Music Is It Anyway?: How We Came to View Musical Expression as a Form of Property,” *University of Cincinnati Law Review* 72 (2004): 1405–1496. But these two pieces by no means exhaust the literature. Olufunmilayo Arewa has written memorably on copyright and musical borrowing in “Copyright on Catfish Row: Musical Borrowing, *Porgy & Bess* and Unfair Use,” *Rutgers Law Journal* 37 (2006): 277–353, and “From J. C. Bach to Hip Hop: Musical Borrowing, Copyright and Cultural Context,”

*North Carolina Law Review* 84 (2006): 547–645. I also recommend K. J. Greene, “Copyright, Culture & Black Music: A Legacy of Unequal Protection,” *Hastings Communications & Entertainment Law Journal* 21 (1999): 339–392. There is much, much more. Finally, Joanna Demers’s recent book *Steal This Music: How Intellectual Property Law Affects Musical Creativity* (Athens: University of Georgia Press, 2006), provides a more comprehensive coverage than I can hope to in a single chapter.

Beyond the scholarly literature, two websites allow you to experiment with these issues online. The History of Sampling created by Jesse Kriss, <http://jessekriss.com/projects/samplinghistory/>, allows you to explore visually exactly which hip-hop samplers borrowed from which older songs and to trace the process backwards or forwards. Extremely cool. The Copyright Infringement Project, sponsored by the UCLA Intellectual Property Project and Columbia Law School, <http://ccnmtl.columbia.edu/projects/law/library/caselist.html>, is an extremely useful educational site that gives examples of cases alleging musical copyright infringement, including the relevant sound files. The older version of this project confusingly referred to these cases as “plagiarism” cases—something that judges themselves also frequently do. Plagiarism is the moral, academic, or professional sin of taking ideas, facts or expression and passing them off as your own. If I take the central arguments from your book and completely reword them, or if I present a series of facts you uncovered as an historian and include them in my own book without attribution, you may accuse me of plagiarism, though not of copyright infringement. If I take the words of Shakespeare or Dickens and pass them off as my own, I am committing plagiarism but certainly not copyright infringement, for even under today’s rules those works have long since entered the public domain. If I credit T. S. Eliot but then proceed to reprint the entire of “The Love Song of J. Alfred Prufrock” without the permission of the copyright holders, I am committing copyright infringement, but certainly not plagiarism. At best, plagiarism and copyright infringement overlap to some extent, but each regulates large areas about which the other is indifferent. We sap the strength of both norm systems by confusing them. The new incarnation of the project, at UCLA, has removed the word “plagiarism” from its title.

### The People and the Music

A brief biography of Will Lamartine Thompson can be found in C. B. Galbreath, “Song Writers of Ohio (Will Lamartine Thompson),” *Ohio Archaeological and Historical Quarterly* 14 (January, 1905): 291–312. Since the copyright has expired you can read it in full, and see the picture of Thompson, at <http://books.google.com/books?id=3N-WqdvA6T4C&printsec=titlepage#PRA1-PA291,M1>.

The best book on Clara Ward is Willa Ward-Royster, Toni Rose, and Horace Clarence Boyer, *How I Got Over: Clara Ward and the World Famous Ward Singers* (Philadelphia, Penn.: Temple University Press, 1997).

The best biography of Ray Charles is Michael Lydon, *Ray Charles: Man and Music* (New York: Routledge, 2004). Charles’s autobiography is also a fascinating read. Ray Charles and David Ritz, *Brother Ray: Ray Charles’ Own Story* (Cambridge, Mass.: Da Capo Press, 1992). Charles’s website, which contains useful biographical and discographical information, is at [www.raycharles.com](http://www.raycharles.com). There is much more, of course, but these resources provide a good starting place.

There are several hagiographic biographies of Mr. West, but none worth reading. Those who have not already been inundated with information through the popular press could do worse than to start with his rather breathless Wikipedia entry [http://en.wikipedia.org/wiki/Kanye\\_West](http://en.wikipedia.org/wiki/Kanye_West).

The main source of information on The Legendary K.O.—a name they now use intermittently—is their website [www.k-otix.com](http://www.k-otix.com). (I am grateful to Mr. Nickerson and Mr. Randle for confirming additional portions of the story by e-mail.) The song “George Bush Doesn’t Like Black People” is no longer available on their website, however an audio version of it is currently available at <http://www.ourmedia.org/node/53964>. The Black Lantern’s video can be found at <http://www.theblacklantern.com/george.html>. Franklin Lopez’s video can currently be found at <http://www.youtube.com/watch?v=UGRcEXtLpTo>. Whether any of those sites will be available in a year’s time is hard to tell. Those who plan to listen or view are reminded that the lyrics are ‘explicit.’

The songs by Clara Ward, Ray Charles, and Kanye West are widely available through a variety of commercial outlets, as are several commercial versions of “Jesus is All the World to Me” by Mr. Thompson.

I would recommend The Clara Ward Singers, *Meetin’ Tonight* (Vanguard Records, 1994), compact disc. It includes a version of “Meetin’ Tonight: This Little Light of Mine” in which the human limits on the ability to sustain a note are broken repeatedly. Any Ray Charles compilation will feature some of the songs discussed here. The most economical is probably Ray Charles, *I’ve Got a Woman & Other Hits* by Ray Charles (Rhino Flashback Records, 1997), compact disc. It includes “I Got a Woman” and “This Little Girl of Mine.” Kanye West, *Late Registration* (Roc-a-Fella Records, 2005), compact disc, contains the full version of “Gold Digger.”

Finally, I would love to be able to play you the full version of the Bailey Gospel Singers “I Got a Savior” (B-Side: “Jesus is the Searchlight”) (Columbia Records, 1951), 78 rpm phonograph record. Unfortunately, given the legal uncertainties I am forbidden from doing so, and I know of no licit way—for free or for pay—that you can listen to it, short of traveling to the Rodgers and Hammerstein Archives of Recorded Sound at the New York Public Library for the Performing Arts yourself and asking to hear the original 78. Perhaps that simple fact is the most elegant encapsulation of my argument here.

#### Notes to Chapter 6

1. Lisa de Moraes, “Kanye West’s Torrent of Criticism, Live on NBC,” *Washington Post* (September 3, 2005), C1, available at <http://www.washingtonpost.com/wp-dyn/content/article/2005/09/03/AR2005090300165.html>.
2. John Leland, “Art Born of Outrage in the Internet Age,” *New York Times* (September 25, 2005), D3.
3. Ray Charles and David Ritz, *Brother Ray: Ray Charles’ Own Story* (Cambridge, Mass.: Da Capo Press, 1978), 86.
4. Robert W. Stephens, “Soul: A Historical Reconstruction of Continuity and Change in Black Popular Music,” *The Black Perspective in Music* 12, no. 1 (Spring 1984): 32.
5. *Forever Ray*, available at [http://www.raycharles.com/the\\_man\\_biography.html](http://www.raycharles.com/the_man_biography.html).
6. Michael Lydon, *Ray Charles* (New York: Routledge, 2004), 419: “Arnold Shaw, in *The*

*Rockin' 50's* says that 'I Got a Woman' is based on Jesus is All the World to Me. Because Renald Richard left Ray's band before the song was recorded, he was not at first properly credited: some record labels list [Ray Charles] alone as the songwriter. Richard, however, straightened that out with Atlantic, and he has for many years earned a substantial income from his royalties."

7. See Stephens, "Soul," 32. The standard biographical literature also repeats the same story:

In 1954 an historic recording session with Atlantic records fused gospel with rhythm-and-blues and established Charles' "sweet new style" in American music. One number recorded at that session was destined to become his first great success. Secularizing the gospel hymn "My Jesus Is All the World to Me," Charles employed the 8- and 16-measure forms of gospel music, in conjunction with the 12-measure form of standard blues. Charles contended that his invention of soul music resulted from the heightening of the intensity of the emotion expressed by jazz through the charging of feeling in the unbridled way of gospel.

"Ray Charles," *Encyclopedia of World Biography*, 2nd ed., vol. 3 (Detroit, Mich.: Gale Research, 1998), 469. Popular accounts offer the same story:

This young, blind, black, gravelly-voiced singer brought together the most engaging aspects of black music into one form and began the process of synthesis that led to soul and, ultimately, funk a decade later. He would turn around gospel standards like "My Jesus Is All the World to Me," recreating it as "I Got a Woman[.]"

Ricky Vincent, *Funk: The Music, The People, and the Rhythm of the One* (New York: St. Martin's Griffin, 1996), 121. See also Joel Hirschhorn, *The Complete Idiot's Guide to Songwriting* (New York: Alpha Books, 2004), 108: "I Got a Woman was Ray's rewrite of 'My Jesus Is All the World to Me.'"

Charles himself was more equivocal about the origins of the song:

So I was lucky. Lucky to have my own band at this point in my career. Lucky to be able to construct my musical building to my exact specifications. And lucky in another way: While I was stomping around New Orleans, I had met a trumpeter named Renolds [sic] Richard who by thus time was in my band. One day he brought me some words to a song. I dressed them up a little and put them to music. The tune was called "I Got a Woman," and it was another of those spirituals which I refashioned in my own way. I Got a Woman was my first real smash, much bigger than ["Baby Let Me Hold Your Hand[.]"] This spiritual-and-blues combination of mine was starting to hit.

Charles and Ritz, *Brother Ray*, 150.

8. See Lydon, *Ray Charles*, 419.  
 9. James Boyle, *Shamans, Software, and Spleens: Law and the Construction of the Information Society* (Cambridge, Mass.: Harvard University Press, 1996).  
 10. James Henke, Holly George-Warren, Anthony Decurtis, and Jim Miller, *The Rolling Stone Illustrated History of Rock and Roll: The Definitive History of the Most Important Artists and Their Music* (New York: Random House, 1992), 130.

11. Great American Country, “Ray Charles Biography,” available at [http://www.gactv.com/gac/ar\\_artists\\_a-z/article/o,,GAC\\_26071\\_4888297,00.html](http://www.gactv.com/gac/ar_artists_a-z/article/o,,GAC_26071_4888297,00.html).
12. “His 1955 smash ‘I’ve Got a Woman,’ for example, was adapted from a gospel number he’d liked called ‘I’ve Got a Savior.’” Chip Deffaa, *Blue Rhythms: Six Lives in Rhythm and Blues* (Urbana: University of Illinois Press, 1996), 161.
13. Columbia Catalog Number CO45097, available at <http://settle.fateback.com/COL30000.htm>.
14. J. C. Marion, “Ray Charles: The Atlantic Years,” *JammUpp* 2 no. 32 (2004): 32, <http://home.earthlink.net/~vtiger/jammuppv2.html>.
15. “If one can pinpoint a moment when gospel and blues began to merge into a secular version of gospel song, it was in 1954 when Ray Charles recorded ‘My Jesus Is All the World to Me,’ changing its text to ‘I Got A Woman.’ The following year, he changed Clara Ward’s ‘This Little Light of Mine’ to ‘This Little Girl of Mine.’” Stephens, “Soul,” 32.
16. Robert Lashley, “Why Ray Charles Matters,” *Blogcritics Magazine*, December 17, 2005, <http://blogcritics.org/archives/2005/12/17/032826.php>:

But it was the staggering, nearly byzantine ambition that encompassed Charles’ musical mind which is the foundation for his art. You can hear it in his first imprint on the pop music world, 1955’s *I Got A Woman*. The shuffling big beat borrows from Louis Jordan’s big band fusion, the backbeat is 2/4 gospel. The arrangement is lucid, not quite jazz, not quite blues, definitely not rock and roll but something sophisticated altogether. The emotions are feral, but not quite the primitiveness of rock and roll. It is the sound of life, a place where there is an ever flowing river of cool. It, you might ask? Rhythm and Blues, Ray Charles’ invention.

A volcano bubbling under the surface, Ray spent the mid 50’s crafting timeless songs as if there were cars on an assembly[.] Start with the blasphemous fusion of *Hallelujah I [L]ove Her So* and *This Little Girl of Mine*, where Ray changes the words from loving god to loving a woman, yet, in the intensity of his performance, raises the question if he’s still loving the same thing.

The anonymous encyclopedists at Wikipedia agree:

Many of the most prominent soul artists, such as Aretha Franklin, Marvin Gaye, Wilson Pickett and Al Green, had roots in the church and gospel music and brought with them much of the vocal styles of artists such as Clara Ward and Julius Cheeks. Secular songwriters often appropriated gospel songs, such as the Pilgrim Travelers’ song “I’ve Got A New Home,” which Ray Charles turned into “Lonely Avenue,” or “Stand By Me,” which Ben E. King and Lieber and Stoller adapted from a well-known gospel song, or Marvin Gaye’s “Can I Get A Witness,” which reworks traditional gospel catchphrases. In other cases secular musicians did the opposite, attaching phrases and titles from the gospel tradition to secular songs to create soul hits such as “Come See About Me” for the Supremes and “99½ Won’t Do” for Wilson Pickett.

“Urban Contemporary Gospel,” *Wikipedia*, [http://en.wikipedia.org/wiki/urban\\_contemporary\\_gospel](http://en.wikipedia.org/wiki/urban_contemporary_gospel).

17. Northrop Frye, *Anatomy of Criticism: Four Essays* (Princeton, N.J.: Princeton University Press, 1957), 96–97.

18. John Leland, “Art Born of Outrage in the Internet Age,” *New York Times* (September 25, 2005), D3.
19. *Grand Upright Music, Ltd. v. Warner Bros. Records, Inc.*, 780 F. Supp. 182 (S.D.N.Y. 1991).
20. *Ibid.*, 183.
21. Kembrew McLeod, *Owning Culture: Authorship, Ownership and Intellectual Property Law* (New York: Peter Lang, 2001), and Siva Vaidhyanathan, *Copyrights and Copywrongs: The Rise of Intellectual Property and How It Threatens Creativity* (New York: New York University Press, 2001).
22. *Bridgeport Music, Inc. v. Dimension Films*, 410 F.3d 792, 804n16 (6th Cir. 2005).
23. Walter Benjamin, “The Work of Art in the Age of Mechanical Reproduction,” in *Illuminations: Essays and Reflections*, ed. Hannah Arendt, trans. Harry Zohn (New York: Harcourt, Brace & World, 1968), 217–42.
24. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 583 (1994).

## CHAPTER 7: THE ENCLOSURE OF SCIENCE AND TECHNOLOGY

### Further Reading

As the introduction to this chapter suggests, the intersection of intellectual property law and science and technology has been attracting considerable attention from scholars recently, some of it dismayed. The difficulty—and this is why I chose the case-study method for this chapter—is that there are multiple sets of concerns and they resist easy summary.

The first set of concerns is that the granting of intellectual property rights far “upstream”—that is very close to basic science—is impeding the process of science and technology. In addition, scholars have argued that the sheer volume of intellectual property claims will produce an anti-commons effect or patent thicket. Michael A. Heller and Rebecca S. Eisenberg, “Can Patents Deter Innovation? The Anticommons in Biomedical Research,” *Science* 280 (1998): 698–701. The argument here is that the closer one is to basic research the stronger the case is for leaving the information untouched by property rights—allowing all to draw on it and develop “downstream” innovations, which can then be covered by intellectual property rights. In practice, two concerns are often alluded to: the fact that much of the basic research is state funded and conducted in nonprofit universities and the belief that the transaction costs of licensing will inhibit research or concentrate it in a few hands. Research on genes indicating a propensity to breast cancer is a frequently cited example of the latter problem. Fabienne Orsi and Benjamin Coriat, “Are ‘Strong Patents’ Beneficial to Innovative Activities? Lessons from the Genetic Testing for Breast Cancer Controversies,” *Industrial and Corporate Change* 14 (2005): 1205–1221. But here, too, anecdote outweighs evidence. Timothy Caulfield, Robert M. Cook-Deegan, F. Scott Kieff, and John P. Walsh, “Evidence and Anecdotes: An Analysis of Human Gene Patenting Controversies,” *Nature Biotechnology* 24 (2006): 1091–1094. On the other side of this debate is the argument that having intellectual property rights, even on state-funded university research, will facilitate commercialization—allowing the commercial investor to

know that it will acquire sufficient rights to exclude others from the innovation. This is the premise behind “Bayh-Dole,” the act (P.L. 96-517, Patent and Trademark Act Amendments of 1980; codified in 35 U.S.C. § 200–212 and implemented by 37 C.F.R. 401) that sets up the framework for technology transfer from state funded university research.

To date, the evidence for the anti-commons effect inside academia has been equivocal, at best. Walsh, Cohen, and Arora found no such effect—but one main reason for the absence of problems appeared to be that scientists were simply flouting the law (or were ignorant of it). John P. Walsh, Ashish Arora, and Wesley M. Cohen, “Effects of Research Tool Patents and Licensing on Biomedical Innovation,” in *Patents in the Knowledge-Based Economy*, ed. Wesley M. Cohen and Stephen A. Merrill (Washington D.C.: National Academies Press, 2003), 285–340. I would question whether a research system based on massive law-breaking is sustainable, particularly after the U.S. Court of Appeals for the Federal Circuit clarified for us that there effectively is no academic research exemption in U.S. patent law. *Madey v. Duke University*, 307 F.3d 1351 (Fed. Cir. 2002). The National Research Council’s committee on the subject found few problems now but possible cause for concern in the future. Committee on Intellectual Property Rights in Genomic and Protein Research and Innovation, National Research Council, *Reaping the Benefits of Genomic and Proteomic Research: Intellectual Property Rights, Innovation, and Public Health* (Washington D.C.: National Academy Press, 2005). A study by the American Academy for the Advancement of Science also reported few problems, though a closer reading revealed that licensing produced delays in research—some of them considerable—but did not cause it to be abandoned. The effects were greatest on industry scientists. American Association for the Advancement of Science, Directorate for Science and Policy Programs, *International Intellectual Property Experiences: A Report of Four Countries* (Washington, D.C.: AAAS, 2007), available at [http://sippi.aaas.org/Pubs/SIPPI\\_Four\\_Country\\_Report.pdf](http://sippi.aaas.org/Pubs/SIPPI_Four_Country_Report.pdf). Fiona Murray and Scott Stern, “Do Formal Intellectual Property Rights Hinder the Free Flow of Scientific Knowledge? An Empirical Test of the Anti-Commons Hypothesis,” *Journal of Economic Behavior & Organization* 63 (2007): 648–687, found a definite but modest anti-commons effect, restricting further research and publication on patented materials. Similar concerns have been raised about access to scientific data. J. H. Reichman and Paul Uhler, “A Contractually Reconstructed Research Commons for Scientific Data in a Highly Protectionist Intellectual Property Environment,” *Law and Contemporary Problems* 66 (2003): 315–462.

What about the opposite question? Are we getting benefits from the process of increasing the use of intellectual property rights in basic university research? The best study of the effects of the current university technology transfer process found little definitive evidence of net benefits and some cause for concern that the traditional role of universities in freely supplying knowledge is being undermined. David Mowery, Richard Nelson, Bhaven Sampat, and Arvids Ziedonis, *Ivory Tower and Industrial Innovation: University-Industry Technology Transfer Before and After the Bayh-Dole Act* (Palo Alto, Calif.: Stanford Business Press, 2004).

Beyond the questions about the effects of upstream intellectual property rights on basic research lay the much harder questions about the effects of intellectual property rights on the development of technologies. Here there is much evidence that decisions about patent scope are vital and, as Robert Merges and Richard Nelson reveal, that poor decisions can hamper or cripple the development of disruptive technologies. Robert Merges and Richard

R. Nelson, “On the Complex Economics of Patent Scope,” *Columbia Law Review* 90 (1990): 839–916; Suzanne Scotchmer, “Standing on the Shoulders of Giants: Cumulative Research and the Patent Law,” *Journal of Economic Perspectives* 5 (1991): 29–41. The fear, highlighted in this chapter, is that poor decisions about patent scope and subject matter can inhibit technological change. On the subject of that fear, there is much more evidence. James Bessen and Michael J. Meurer, *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk* (Princeton: N.J.: Princeton University Press, 2008); and Adam Jaffe and Josh Lerner, *Innovation and Its Discontents: How Our Broken Patent System is Endangering Innovation and Progress, and What To Do About It* (Princeton, N.J.: Princeton University Press, 2004).

#### Notes to Chapter 7

1. See, e.g., Pamela Samuelson, Randall Davis, Mitchell D. Kapor, and J. H. Reichman, “A Manifesto Concerning the Legal Protection of Computer Programs,” *Columbia Law Review* 94 (1994): 2308–2431; Michael A. Heller and Rebecca S. Eisenberg, “Can Patents Deter Innovation? The Anticommons in Biomedical Research,” *Science* 280 (1998): 698–701.
2. Wes Cohen’s empirical studies, for example, suggest that some of the potential dangers from overbroad gene patents have been offset by widespread lawbreaking among academic research scientists, who simply ignore patents that get in their way, and by more flexible licensing practices than the anticommons theorists had predicted. John P. Walsh, Ashish Arora, and Wesley Cohen, “Effects of Research Tool Patents and Licensing on Biomedical Innovation,” in *Patents in the Knowledge-Based Economy*, ed. W. Cohen and S. A. Merrill (National Research Council, 2003), 285–340.
3. Arti Rai and James Boyle, “Synthetic Biology: Caught between Property Rights, the Public Domain, and the Commons,” *PLoS Biology* 5 (2007): 389–393, available at <http://biology.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pbio.0050058&ct=1>.
4. William Gates III, *An Open Letter to Hobbyists*, February 3, 1976, quoted in Wallace Wang, *Steal This Computer Book 4.0: What They Won’t Tell You About the Internet* (San Francisco: No Starch Press, 2006), 73.
5. Paul Goldstein, “Copyright,” *Journal of the Copyright Society of the U.S.A.* 38 (1991): 109–110.
6. *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998).
7. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. \_\_\_\_ (2007), 127 S. Ct. 1727 (2007).
8. *Diamond v. Chakrabarty*, 447 U.S. 303 (1980).
9. [http://parts.mit.edu/registry/index.php/Help:About\\_the\\_Registry](http://parts.mit.edu/registry/index.php/Help:About_the_Registry).
10. “Gene Machine: Cells Engineered to Prevent Sepsis Win Synthetic Biology Competition,” *Science Daily* (November 15, 2006), available at <http://www.sciencedaily.com/releases/2006/11/061114193826.htm>.
11. <http://web.mit.edu/newsoffice/2006/igem.html>.
12. Keller Rinaudo et al., “A universal RNAi-based logic evaluator that operates in mammalian cells,” *Nature Biotechnology* 25 (2007): 795–801.

13. Sapna Kumar and Arti Rai, “Synthetic Biology: The Intellectual Property Puzzle,” *Texas Law Review* 85 (2007): 1745–1768.

## CHAPTER 8: A CREATIVE COMMONS

### Further Reading

#### Distributed Creativity

The most remarkable and important book on “distributed creativity” and the sharing economy is Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (New Haven, Conn.: Yale University Press, 2006). Benkler sets the idea of “peer production” alongside other mechanisms of market and political governance and offers a series of powerful normative arguments about why we should prefer that future. Comprehensive though this book may seem, it is incomplete unless it is read in conjunction with one of Benkler’s essays: Yochai Benkler, “Coase’s Penguin, or, Linux and the Nature of the Firm,” *Yale Law Journal* 112 (2002): 369–446. In that essay, Benkler puts forward the vital argument—described in this chapter—about what collaborative production does to Coase’s theory of the firm.

Benkler’s work is hardly the only resource however. Other fine works covering some of the same themes include: Cass R. Sunstein, *Infotopia: How Many Minds Produce Knowledge* (New York: Oxford University Press, 2006), and Rishab Aiyer Ghosh, ed., *CODE: Collaborative Ownership and the Digital Economy* (Cambridge, Mass.: MIT Press, 2005), which includes an essay by me presenting an earlier version of the “second enclosure movement” argument. Clay Shirky’s recent book, *Here Comes Everybody: The Power of Organizing without Organizations* (New York: Penguin Press, 2008), is an extremely readable and thoughtful addition to this body of work—it includes a more developed version of the speech I discuss. Eric Von Hippel’s *Democratizing Innovation* (Cambridge, Mass.: MIT Press, 2005), is a fascinating account of the way that innovation happens in more places than we have traditionally imagined—particularly in end-user communities. In one sense, this reinforces a theme of this chapter: that the “peer production” and “distributed creativity” described here is not something new, merely something that is given dramatically more salience and reach by the Web. Dan Hunter and F. Gregory Lastowka’s article, “Amateur-to-Amateur,” *William & Mary Law Review* 46 (2004): 951–1030, describes some of the difficulties in adapting copyright law to fit “peer production.” Finally, Jonathan Zittrain’s *The Future of the Internet—And How to Stop It* (New Haven, Conn.: Yale University Press, 2008)—also relevant to Chapter 10—argues that if the democratically attractive aspects of the Internet are to be saved, it can only be done through enlisting the collective energy and insight of the Internet’s users.

#### Free and Open Source Software

Free and open source software has been a subject of considerable interest to commentators. Glyn Moody’s *Rebel Code: Linux and the Open Source Revolution* (Cambridge, Mass.: Perseus Pub., 2001), and Peter Wayner’s *Free for All: How Linux and the Free Software Movement Undercut the High-Tech Titans* (New York: HarperBusiness, 2000), both offer readable and accessible histories of the phenomenon. Eric S. Raymond, *The Cathedral*

*and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary*, revised edition (Sebastopol, Calif.: O'Reilly, 2001), is a classic philosophy of the movement, written by a key participant—author of the phrase, famous among geeks, “given enough eyeballs, all bugs are shallow.” Steve Weber, in *The Success of Open Source* (Cambridge, Mass.: Harvard University Press, 2004), offers a scholarly argument that the success of free and open source software is not an exception to economic principles but a vindication of them. I agree, though the emphasis that Benkler and I put forward is rather different. To get a sense of the argument that free software (open source software’s normatively charged cousin) is desirable for its political and moral implications, not just because of its efficiency or commercial success, one should read the essays of Richard Stallman, the true father of free software and a fine polemical, but rigorous, essayist. Richard Stallman, *Free Software, Free Society: Selected Essays of Richard M. Stallman*, ed. Joshua Gay (Boston: GNU Press, 2002). Another strong collection of essays can be found in Joseph Feller, Brian Fitzgerald, Scott A. Hissam, and Karim R. Lakhani, eds., *Perspectives on Free and Open Source Software* (Cambridge, Mass.: MIT Press, 2005). If you only have time to read a single essay on the subject it should be Eben Moglen’s “Anarchism Triumphant: Free Software and the Death of Copyright,” *First Monday* 4 (1999), available at [http://www.firstmonday.dk/issues/issue4\\_8/moglen/](http://www.firstmonday.dk/issues/issue4_8/moglen/).

### Creative Commons

Creative Commons has only just begun to attract its own chroniclers. Larry Lessig, its founder, provides a characteristically eloquent account in “The Creative Commons,” *Montana Law Review* 65 (2004): 1–14. Michael W. Carroll, a founding board member, has produced a thought-provoking essay discussing the more general implications of organizations such as Creative Commons. Michael W. Carroll, “Creative Commons and the New Intermediaries,” *Michigan State Law Review*, 2006, n.1 (Spring): 45–65. Minjeong Kim offers an empirical study of Creative Commons licenses in “The Creative Commons and Copyright Protection in the Digital Era: Uses of Creative Commons Licenses,” *Journal of Computer-Mediated Communication* 13 (2007): Article 10, available at <http://jcmc.indiana.edu/vol13/issue1/kim.html>. However, simply because of the rapidity of adoption of Creative Commons licenses, the work is already dramatically out of date. My colleague Jerome Reichman and Paul Uhlir of the National Academy of Sciences have written a magisterial study of the way in which tools similar to Creative Commons licenses could be used to lower transaction costs in the flow of scientific and technical data. J. H. Reichman and Paul Uhlir, “A Contractually Reconstructed Research Commons for Scientific Data in a Highly Protectionist Intellectual Property Environment,” *Law and Contemporary Problems* 66 (2003): 315–462. Finally, the gifted author, David Bollier, is reportedly writing a book on Creative Commons entitled *Viral Spiral: How the Commoners Built a Digital Republic of Their Own* (New York: New Press, forthcoming 2009).

Niva Elkin-Koren offers a more critical view of Creative Commons in “Exploring Creative Commons: A Skeptical View of a Worthy Pursuit,” in *The Future of the Public Domain—Identifying the Commons in Information Law*, ed. P. Bernt Hugenholtz and Lucie Guibault (The Hague: Kluwer Law International, 2006). Elkin-Koren’s argument is that Creative Commons has an unintended negative effect by leading individuals to think of

themselves through the reified categories of legal subjects and property owners—forcing into a legalized realm something that should simply be experienced as culture. Elkin-Koren is a perceptive and influential scholar; some of her early work on bulletin boards for example, was extremely important in explaining the stakes of regulating the Internet to a group of judges and policy makers. I also acknowledge the truth of her theoretical point; in many ways Creative Commons is offered as a second best solution. But I am unconvinced by the conclusion. Partly, this is because I think Elkin-Koren’s account of the actual perceptions of license users is insufficiently grounded in actual evidence. Partly, it is because I think the legalization—undesirable though it may be in places—has already happened. Now we must deal with it. Partly, it is because I believe that many of the activities that the licenses enable—a global commons of free educational materials, for example—simply cannot be produced any other way in the political reality we face, and I have a preference for lighting candles rather than lamenting the darkness.

#### Notes to Chapter 8

1. Clay Shirky, “Supernova Talk: The Internet Runs on Love,” available at <http://www.shirky.com/hercomeseverybody/2008/02/supernova-talk-the-internet-runs-on-love.html>; see also Clay Shirky, *Here Comes Everybody: The Power of Organizing Without Organizations* (New York: Penguin Press, 2008).
2. See Glyn Moody, *Rebel Code: Linux and the Open Source Revolution* (Cambridge, Mass.: Perseus Pub., 2001); Peter Wayner, *Free for All: How Linux and the Free Software Movement Undercut the High-Tech Titans* (New York: HarperBusiness, 2000); Eben Moglen, “Anarchism Triumphant: Free Software and the Death of Copyright,” *First Monday* 4 (1999), [http://firstmonday.org/issues/issue4\\_8/index.html](http://firstmonday.org/issues/issue4_8/index.html).
3. Proprietary, or “binary only,” software is generally released only after the source code has been compiled into machine-readable object code, a form that is impenetrable to the user. Even if you were a master programmer, and the provisions of the Copyright Act, the appropriate licenses, and the DMCA did not forbid you from doing so, you would be unable to modify commercial proprietary software to customize it for your needs, remove a bug, or add a feature. Open source programmers say, disdainfully, that it is like buying a car with the hood welded shut. See, e.g., Wayner, *Free for All*, 264.
4. See Brian Behlendorf, “Open Source as a Business Strategy,” in *Open Sources: Voices from the Open Source Revolution*, ed. Chris DiBona et al. (Sebastapol, Calif.: O’Reilly, 1999), 149, 163.
5. One organization theorist to whom I mentioned the idea said, “Ugh, governance by food fight.” Anyone who has ever been on an organizational listserv, a global production process run by people who are long on brains and short on social skills, knows how accurate that description is. *E pur si muove*.
6. See Bruce Brown, “Enterprise-Level Security Made Easy,” *PC Magazine* (January 15, 2002), 28; Jim Rapoza, “Open-Source Fever Spreads,” *PC Week* (December 13, 1999), 1.
7. “UK Government Report Gives Nod to Open Source,” *Desktop Linux* (October 28, 2004), available at <http://www.desktoplinux.com/news/NS5013620917.html>.
8. “Cases of Official Recognition of Free and Open Source Software,” available at [http://ec.europa.eu/information\\_society/activities/opensource/cases/index\\_en.htm](http://ec.europa.eu/information_society/activities/opensource/cases/index_en.htm).

9. E. Cobham Brewer, *The Dictionary of Phrase and Fable* (London: John Cassell, 1894), IIII–II12.
10. Richard Epstein, “Why Open Source Is Unsustainable,” FT.com (October 21, 2004), available at <http://www.ft.com/cms/s/2/78d9812a-2386-11d9-ae55-00000e2511c8.html>.
11. For a seminal statement, see Moglen, “Anarchism Triumphant,” 45: “[I]ncentives’ is merely a metaphor, and as a metaphor to describe human creative activity it’s pretty crummy. I have said this before, but the better metaphor arose on the day Michael Faraday first noticed what happened when he wrapped a coil of wire around a magnet and spun the magnet. Current flows in such a wire, but we don’t ask what the incentive is for the electrons to leave home. We say that the current results from an emergent property of the system, which we call induction. The question we ask is ‘what’s the resistance of the wire?’ So Moglen’s Metaphorical Corollary to Faraday’s Law says that if you wrap the Internet around every person on the planet and spin the planet, software flows in the network. It’s an emergent property of connected human minds that they create things for one another’s pleasure and to conquer their uneasy sense of being too alone. The only question to ask is, what’s the resistance of the network? Moglen’s Metaphorical Corollary to Ohm’s Law states that the resistance of the network is directly proportional to the field strength of the ‘intellectual property’ system. So the right answer to the econodwarf is, resist the resistance.”
12. Benkler’s reasoning is characteristically elegant, even formal in its precision, while mine is clunkier. See Yochai Benkler, “Coase’s Penguin, or, Linux and the Nature of the Firm,” *Yale Law Journal* 112 (2002): 369–446.
13. Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (New Haven, Conn.: Yale University Press, 2006), 46–47.
14. See Karl Popper, *The Open Society and Its Enemies* (London: Routledge, 1945).
15. See <http://www.ensembl.org>.
16. See, e.g., NASA’s “Clickworkers” experiment, which used public volunteers to analyze Mars landing data, available at <http://clickworkers.arc.nasa.gov/top>.
17. Benkler, “Coase’s Penguin,” 11.
18. Free Software Foundation, <http://www.gnu.ai.mit.edu/philosophy/free-sw.html>.
19. Exhibit A: the Internet—from the software and protocols on which it runs to the multiple volunteer sources of content and information.
20. See, e.g., the Database Investment and Intellectual Property Antipiracy Act of 1996, HR 3531, 104th Cong. (1996); The Consumer Access Bill, HR 1858, 106th Cong. § 101(1) (1999); see also Council Directive 96/9/EC of the European Parliament and the Council of 11 March 1996 on the Legal Protection of Databases, 1996 *Official Journal of the European Union*, L77 (27.03.1996): 20–28.
21. See generally Julie E. Cohen and Mark A. Lemley, “Patent Scope and Innovation in the Software Industry,” *California Law Review* 89 (2001): 1–58; see also Pamela Samuelson et al., “A Manifesto Concerning the Legal Protection of Computer Programs,” *Columbia Law Review* 94 (1994): 2308–2431.
22. Uniform Computer Information Transactions Act, available at <http://www.law.upenn.edu/bll/archives/ulc/ucita/2002final.htm>.
23. 17 U.S.C. § 1201 (2002).

24. This point has been ably made by Pamela Samuelson, Jessica Litman, Jerry Reichman, Larry Lessig, and Yochai Benkler, among others. See Pamela Samuelson, “Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to Be Revised,” *Berkeley Technology Law Journal* 14 (1999): 519–566; Jessica Litman, *Digital Copyright: Protecting Intellectual Property on the Internet* (Amherst, N.Y.: Prometheus Books, 2001); J. H. Reichman and Paul F. Uhler, “Database Protection at the Crossroads: Recent Developments and Their Impact on Science and Technology,” *Berkeley Technology Law Journal* 14 (1999): 793–838; Lawrence Lessig, “Jail Time in the Digital Age,” *New York Times* (July 30, 2001), A17; and Yochai Benkler, “Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain,” *New York University Law Review* 74 (1999): 354–446. Each has a slightly different focus and emphasis on the problem, but each has pointed out the impediments now being erected to distributed, nonproprietary solutions. See also James Boyle, “Cruel, Mean, or Lavish? Economic Analysis, Price Discrimination and Digital Intellectual Property,” *Vanderbilt Law Review* 53 (2000): 2007–2039.
25. William W. Fisher III, “Property and Contract on the Internet,” *Chicago-Kent Law Review* 73 (1998): 1217–1218.
26. See James Boyle, “Missing the Point on Microsoft,” Salon.com (April 7, 2000), <http://www.salon.com/tech/feature/2000/04/07/greenspan/index.html>.
27. See “Salam Pax,” *Wikipedia*, available at [http://en.wikipedia.org/wiki/Salam\\_Pax](http://en.wikipedia.org/wiki/Salam_Pax).

## CHAPTER 9: AN EVIDENCE-FREE ZONE

### Further Reading

#### Database Rights

Mark J. Davison, *The Legal Protection of Databases* (Cambridge: Cambridge University Press, 2003), provides a fine introduction to the legal, and legalistic, issues surrounding the legal protection of databases. Precisely because of the need to focus on those issues, and that audience, the discussion is internal to the conceptual categories of the various legal systems he discusses, rather than focusing on the external questions I discuss here. Insiders will find the discussion indispensable. Outsiders may find it hermetic. For those readers, an article by Davison and Hugenholtz may be more accessible. It points out the ways in which the European Court of Justice has tried to rein in the database right. Mark J. Davison and P. Bernt Hugenholtz, “Football Fixtures, Horseraces and Spinoffs: The ECJ Domesticates the Database Right,” *European Intellectual Property Review* 27, no. 3 (2005): 113–118.

When it comes to the general intellectual framework for thinking about database rights, Jerome Reichman and Pamela Samuelson provide the germinal point of view: J. H. Reichman and Pamela Samuelson, “Intellectual Property Rights in Data?” *Vanderbilt Law Review* 50 (1997): 51–166. Frequent readers of Reichman will be unsurprised that “take and pay” liability rules make an appearance as a possible solution. Yochai Benkler’s article, “Constitutional Bounds of Database Protection: The Role of Judicial Review in the Creation and Definition of Private Rights in Information,” *Berkeley Technology Law Journal* 15 (2000): 535–604, indicates the free expression and self-determination problems presented by intellectual property

rights over facts. By contrast, J. H. Reichman and Paul F. Uhler, “Database Protection at the Crossroads: Recent Developments and Their Impact on Science and Technology,” *Berkeley Technology Law Journal* 14 (1999): 793–838, point out their negative effects on science and technological development. Increasingly, science will depend on the recombination of multiple databases to solve problems. At first, this will be done for huge and important projects. But increasingly, it will be done to solve smaller problems—scientists will seek to mix and mash a variety of data sources into an interoperable whole in order to solve the scientific problem *du jour*. Unfortunately, there are many obstacles to this promising tendency to harness digital technology to scientific research. Some of them are technical, some social, some semantic, some legal. One of the legal problems is posed by the expansion of database rights: the tendency to have intellectual property rights penetrate down to the most basic, unoriginal, or atomic level of data—a move that, as I point out in this chapter, is empirically shown to be counterproductive. Stephen M. Maurer, P. Bernt Hugenholtz, and Harlan J. Onsrud, “Europe’s Database Experiment,” *Science* 294 (2001): 789–780. Further information on the various barriers to data aggregation can be gleaned from the website of Science Commons (<http://www.sciencecommons.org>), an organization with which I am associated.

#### Evidence-based Policy

The move toward evidence-based policy has garnered considerable support in academia, but, as yet, only a little traction among policy makers. Readers interested in exploring the issue further can find a series of my *Financial Times* articles on the subject at <http://www.ft.com/techforum>. James Bessen and Michael J. Meurer, *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk* (Princeton, N.J.: Princeton University Press, 2008), is a sterling example of the way in which we could and should be looking at policy proposals. That book’s list of references provides a nice overview of recent work in the field. As the title indicates, Bessen and Meurer do not grade our current system highly. Adam Jaffe and Josh Lerner, *Innovation and Its Discontents: How Our Broken Patent System is Endangering Innovation and Progress, and What To Do About It* (Princeton, N.J.: Princeton University Press, 2004), offers an earlier, and similar, assessment backed by data rather than faith. For us to have evidence-based policy, we need actual evidence. Here the work of empiricists such as my colleague Wes Cohen has proven vital. Much of this work is comparative in nature—relying on the kind of “natural experiment” I describe in this chapter. A fine example is provided by Wesley M. Cohen, Akira Goto, Akiya Nagata, Richard R. Nelson, and John P. Walsh, “R&D Spillovers, Patents and the Incentives to Innovate in Japan and the United States,” *Research Policy* 31 (2002): 1349–67.

All of this may seem obvious. Where else would intellectual property academics turn in order to assess the effect of various policy alternatives than to empirical and comparative data? Yet as the chapter points out, that simple conclusion has yet to become a standard assumption in the making of policy. The Gowers Review mentioned in the chapter is a nice example of how things might be otherwise. *Gowers Review of Intellectual Property* (London: HMSO, 2006), available at [http://www.hm-treasury.gov.uk/media/6/E/pbro6\\_gowers\\_report\\_755.pdf](http://www.hm-treasury.gov.uk/media/6/E/pbro6_gowers_report_755.pdf). Of course, a turn to evidence is only the beginning. It hardly means that the evidence will be clear, the points of view harmonious, or the normative assessments shared. But at least the conversation is beginning from a rooting in facts rather than faith.

### Publicly Generated Information

Access to public, or state generated, data is not simply a matter of economic efficiency. Wouter Hins and Dirk Voorhoof, “Access to State-Held Information as a Fundamental Right under the European Convention on Human Rights,” *European Constitutional Law Review* 3 (2007): 114–126. But in efficiency terms, it does seem to present some clear benefits. Peter Weiss, “Borders in Cyberspace: Conflicting Government Information Policies and their Economic Impacts,” in *Open Access and the Public Domain in Digital Data and Information for Science: Proceedings of an International Symposium* (Washington, D.C.: National Academies Press, 2004), 69–73. The issues of publicly generated information are particularly pressing in geospatial data—which can be vital for academic research and economic development. Bastiaan van Loenen and Harlan Onsrud, “Geographic Data for Academic Research: Assessing Access Policies,” *Cartography and Geographic Information Science* 31 (2004): 3–17. It is an issue that is gaining attention in Europe: “Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the Re-use of Public Sector Information,” *Official Journal of the European Union* 46 (31.12.2003) 90–96 (L 345). However, there is a long way to go.

### Sound Recording Rights

A good place to start is the Gowers Review, cited above, and the report generated by the Centre for Intellectual Property and Information Law, University of Cambridge, *Review of the Economic Evidence Relating to an Extension of the Term of Copyright in Sound Recordings* (2006), available at [http://www.hm-treasury.gov.uk/media/B/4/gowers\\_cipilreport.pdf](http://www.hm-treasury.gov.uk/media/B/4/gowers_cipilreport.pdf). My own views are close to those put forward by this excellent article: Natali Helberger, Nicole Dufft, Stef van Gompel, and Bernt Hugenholtz, “Never Forever: Why Extending the Term of Protection for Sound Recordings is a Bad Idea,” *European Intellectual Property Review* 30 (2008): 174–181.

### Notes to Chapter 9

1. *Feist Publications, Inc. v. Rural Telephone Service Co.*, 499 U.S. 340 (1991).
2. Stephen M. Maurer, P. Bernt Hugenholtz, and Harlan J. Onsrud, “Europe’s Database Experiment,” *Science* 294 (2001): 789–790.
3. Stephen M. Maurer, “Across Two Worlds: US and European Models of Database Protection,” paper commissioned by Industry Canada (2001).
4. *Matthew Bender & Co. v. West Publishing Co.*, 158 F.3d 674 (2nd Cir. 1998).
5. James Boyle, *Shamans, Software, and Spleens: Law and the Construction of the Information Society* (Cambridge, Mass.: Harvard University Press, 1996).
6. *First evaluation of Directive 96/9/EC on the legal protection of databases*, DG Internal Market and Services Working Paper (Brussels, Belgium: Commission of the European Communities, 2005), 5.
7. *Ibid.*, 22.
8. In *Open Access and the Public Domain in Digital Data and Information for Science: Proceedings of an International Symposium* (Washington, D.C.: National Academies Press, 2004), 69–73, available at [http://books.nap.edu/openbook.php?record\\_id=11030&page=69](http://books.nap.edu/openbook.php?record_id=11030&page=69).

9. Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the Re-use of Public Sector Information, *Official Journal of the European Union*, L 345 (31.12.2003): 90–96; *Public Sector Modernisation: Open Government*, Organization for Economic Co-operation and Development (2005), available at <http://www.oecd.org/dataoecd/1/35/34455306.pdf>; The Socioeconomic Effects of Public Sector Information on Digital Networks: Toward a Better Understanding of Different Access and Reuse Policies (February 2008 OECD conference), more information at [http://www.oecd.org/document/48/0,3343,en\\_2649\\_201185\\_40046832\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/48/0,3343,en_2649_201185_40046832_1_1_1_1,00.html); and the government sites of individual countries in the European Union such as Ireland (<http://www.psi.gov.ie/>).
10. Andrew Gowers, *Gowers Review of Intellectual Property* (London: HMSO, 2006), available at [http://www.hm-treasury.gov.uk/media/6/E/pbro6\\_gowers\\_report\\_755.pdf](http://www.hm-treasury.gov.uk/media/6/E/pbro6_gowers_report_755.pdf).
11. University of Cambridge Centre for Intellectual Property and Information Law, *Review of the Economic Evidence Relating to an Extension of Copyright in Sound Recordings* (2006), available at [http://www.hm-treasury.gov.uk/media/B/4/gowers\\_cipilreport.pdf](http://www.hm-treasury.gov.uk/media/B/4/gowers_cipilreport.pdf).
12. *Ibid.*, 21–22.
13. *Ibid.*
14. House of Commons Select Committee on Culture, Media and Sport, Fifth Report (2007), available at <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmcumeds/509/50910.htm>.

## CHAPTER 10: AN ENVIRONMENTALISM FOR INFORMATION

### Further Reading

Those who are interested in the evolution of the analogy between environmentalism and the movement to recognize and safeguard the public domain can start with the editors' introductions to the Symposium *Cultural Environmentalism @ 10*, James Boyle and Lawrence Lessig, eds., *Law and Contemporary Problems* 70 (2007) 1–21, available at <http://www.law.duke.edu/cero>.

The single best chronicle of the Access to Knowledge (“A2K”) movement is Amy Kapczynski, “The Access to Knowledge Mobilization and the New Politics of Intellectual Property,” *Yale Law Journal* 117 (2008): 804–885. Lawrence Lessig’s work has been a common point of reference: Lawrence Lessig, *The Future of Ideas: The Fate of the Commons in a Connected World* (New York: Random House, 2001), and Lawrence Lessig, *Free Culture* (New York: Penguin, 2004). Many of the key political initiatives have come from James Love and the Consumer Project on Technology. A wealth of material can be found at <http://www.cptech.org/a2k/> and at Knowledge Ecology International, <http://www.keionline.org/index.php>. The inaugural edition of the journal *Knowledge Ecology Studies* presents an informal discussion of the origins of the idea at <http://www.kestudies.org/ojs/index.php/kes/article/view/29/53>.

For the ways in which the A2K movement has involved both criticism of and attempts to reform international bodies such as the World Intellectual Property Organization

(“WIPO”) see James Boyle, “A Manifesto on WIPO and the Future of Intellectual Property,” *Duke Law and Technology Review* 0009 (2004): 1–12, available at <http://www.law.duke.edu/journals/dltr/articles/PDF/2004DLTR0009.pdf>, and Christopher May, *The World Intellectual Property Organization: Resurgence and the Development Agenda* (London: Routledge, 2006).

The minimalist or antimonopolistic attitude toward intellectual property has a long history, as this book has tried to show. The specific concern with the public domain is of more recent origin. The foundational essay was published by my colleague David Lange, “Recognizing the Public Domain,” *Law and Contemporary Problems* 44, no. 4 (1981): 147–178. I would also recommend *Collected Papers, Duke Conference on the Public Domain*, ed. James Boyle (Durham, N.C.: Center for the Study of the Public Domain, 2003), which contains scholarly articles on the history, constitutional status, scientific importance, musical significance, property theory, and economic effects of the public domain. The entire volume can be read online at <http://www.law.duke.edu/journals/lcp/indexpd.htm>.

Finally, Duke’s Center for the Study of the Public Domain, which has generously supported the writing of this book has a wide variety of resources—ranging from scholarly texts to films and comic books—on the subjects of intellectual property, the public domain and idea of an environmentalism for information. Those resources can be found at <http://www.law.duke.edu/cspd>.

#### Notes to Chapter 10

1. Jonathan Zittrain, *The Future of the Internet—And How to Stop It* (New Haven, Conn.: Yale University Press, 2008).
2. Of course, these are not the only assumptions, arguments, and metaphors around. Powerful counterweights exist: the ideas of Jefferson and Macaulay, which I described here, but also others, more loosely related—the Scottish Enlightenment’s stress on the political and moral benefits of competition, free commerce, and free labor; deep economic and political skepticism about monopolies; the strong traditions of open science; and even liberalism’s abiding focus on free speech and access to information. If you hear the slogan “information wants to be free,” you may agree or disagree with the personification. You may find the idea simplistic. But you do not find it incomprehensible, as you might if someone said “housing wants to be free” or “food wants to be free.” We view access to information and culture as vital to successful versions of both capitalism and liberal democracy. We apply to blockages in information flow or disparities in access to information a skepticism that does not always apply to other social goods. Our attitudes toward informational resources are simply different from our attitudes toward other forms of power, wealth, or advantage. It is one of the reasons that the Jefferson Warning is so immediately attractive. It is this attitudinal difference that makes the political terrain on these issues so fascinating.
3. Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge, Mass.: Harvard University Press, 1965) and Mancur Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities* (New Haven, Conn.: Yale University Press, 1982).

4. “The source of the general divergences between the values of marginal social and marginal private net product that occur under simple competition is the fact that, in some occupations, a part of the product of a unit of resources consists of something, which, instead of coming in the first instance to the person who invests the unit, comes instead, in the first instance (i.e., prior to sale if sale takes place), as a positive or negative item, to other people.” Arthur C. Pigou, “Divergences between Marginal Social Net Product and Marginal Private Net Product,” in *The Economics of Welfare* (London: Macmillan, 1932), available at <http://www.econlib.org/Library/NPDBooks/Pigou/pgEW1.html>. Ironically, so far as I can find, Pigou does not use the word “externality.”
5. William D. Ruckelshaus, “Environmental Protection: A Brief History of the Environmental Movement in America and the Implications Abroad,” *Environmental Law* 15 (1985): 457.
6. As always, Jessica Litman provides the clearest and most down-to-earth example. Commenting on Rebecca Tushnet’s engrossing paper on fan fiction (Rebecca Tushnet, “Payment in Credit: Copyright Law and Subcultural Creativity,” *Law and Contemporary Problems* 70 (Spring 2007): 135–174), Litman describes copyright’s “balance between uses copyright owners are entitled to control and other uses that they simply are not entitled to control.” Jessica Litman, “Creative Reading,” *Law and Contemporary Problems* 70 (Spring 2007), 175. That balance, she suggests, is not bug but feature. The spaces of freedom that exist in the analog world because widespread use is possible without copying are neither oversights, nor temporarily abandoned mines of monopoly rent just waiting for a better technological retrieval method. They are integral parts of the copyright system.
7. James Boyle, “A Politics of Intellectual Property: Environmentalism for the Net?” *Duke Law Journal* 47 (1997): 87–116.
8. Molly Shaffer Van Houweling, “Cultural Environmentalism and the Constructed Commons,” *Law and Contemporary Problems* 70 (Spring 2007): 23–50.
9. See <http://www.eff.org/IP/>, <http://www.openrightsgroup.org/>, <http://www.publicknowledge.org/>.
10. *Eldred v. Ashcroft*, 537 U.S. 186 (2003). Once again, Professor Lessig had the central role as counsel for petitioners.
11. See <http://www.pubpat.org/>.
12. See Access to Knowledge, <http://www.cptech.org/a2k/>. Some of Mr. Love’s initiatives are discussed at <http://www.cptech.org/jamie/>.
13. Tim Hubbard and James Love, “A New Trade Framework for Global Healthcare R&D,” *PLoS Biology* 2 (2004): e52.
14. WIPO Development Agenda, available at <http://www.cptech.org/ip/wipo/da.html>. The Geneva Declaration on the Future of the World Intellectual Property Organization, available at <http://www.cptech.org/ip/wipo/futureofwipodeclaration.pdf>. In the interest of full disclosure, I should note that I wrote one of the first manifestos that formed the basis for earlier drafts of the Declaration. James Boyle, “A Manifesto on WIPO and the Future of Intellectual Property,” *Duke Law & Technology Review* 0009 (2004): 1–12, available at <http://www.law.duke.edu/journals/dltr/articles/PDF/2004DLTR0009.pdf>. The Adelphi Charter on Creativity, Innovation, and Intellectual

Property, available at <http://www.adelphicharter.org/>. The Charter was issued by the British Royal Society for the Encouragement of Arts, Manufactures and Commerce (RSA). For discussion of the Charter see James Boyle, “Protecting the Public Domain,” *Guardian.co.uk* (October 14, 2005), available at <http://education.guardian.co.uk/higher/comment/story/0,9828,1591467,00.html>; “Free Ideas,” *The Economist* (October 15, 2005), 68. Again, in the interest of full disclosure, I should note that I advised the RSA on these issues and was on the steering committee of the group that produced the Charter.

15. An example is the MacArthur Foundation Program on Intellectual Property and the Public Domain: “The General Program . . . was begun in 2002 as a short-term project to support new models, policy analysis, and public education designed to bring about balance between public and private interests concerning intellectual property rights in a digital era.” See [http://www.macfound.org/site/c.lkLXJ8MQKrH/b.943331/k.DA6/General\\_Grantmaking\\_Intellectual\\_Property.htm](http://www.macfound.org/site/c.lkLXJ8MQKrH/b.943331/k.DA6/General_Grantmaking_Intellectual_Property.htm). The Ford Foundation has a similar initiative. Frédéric Sultan, “International Intellectual Property Initiative: Ford Foundation I-Jumelage Resources,” available at <http://www.vecam.org/ijumelage/spip.php?article609>.
16. See <http://www.creativecommons.org> and <http://www.fsf.org>.
17. This process runs counter to the assumptions of theorists of collective action problems in a way remarkable enough to have attracted its own chroniclers. See Amy Kapczynski, “The Access to Knowledge Mobilization and the New Politics of Intellectual Property,” *Yale Law Journal* 117 (2008): 804–885. Economists generally assume preferences are simply given, individuals just have them and they are “exogenous” to the legal system in the sense that they are unaffected by the allocation of legal rights. The emergence of the movements and institutions I am describing here paints a different picture. The “preferences” are socially constructed, created through a collective process of debate and decision which shifts the level of abstraction upwards; and, as Kapczynski perceptively notes, they are highly influenced by the legal categories and rights against which the groups involved initially defined themselves.
18. See “News for Nerds: Stuff That Matters,” <http://www.slashdot.org>, and “A Directory of Wonderful Things,” <http://www.boingboing.net>.
19. Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of 5, 17, 28, and 35 U.S.C.).
20. For the former see “Content Protection,” <http://xkcd.com/c129.html>, and “Digital Rights Management,” <http://xkcd.com/c86.html>. For the latter, see “Copyright,” <http://xkcd.com/c14.html>.
21. R. David Kryder, Stanley P. Kowalski, and Anatole F. Krattiger, “The Intellectual and Technical Property Components of Pro-Vitamin A Rice (*GoldenRice*<sup>TM</sup>): A Preliminary Freedom-to-Operate Review,” *ISAAA Briefs* No. 20 (2000), available at <http://www.isaaa.org/Briefs/20/briefs.htm>.
22. “The Supreme Court Docket: The Coming of Copyright Perpetuity,” *New York Times* editorial (January 16, 2003), A28.
23. “Free Mickey Mouse,” *Washington Post* editorial (January 21, 2003), A16.