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Building Universal Digital Libraries: An Agenda for Copyright Reform

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Building Universal Digital Libraries: An Agenda for Copyright Reform

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> [T]he Library of Alexandria . . . attempted to get a copy of all the books of all the peoples of the world . . . [and] pull it all together into the library of Alexandria, and by some scholars' standards, they got 75% of the way there. . . . We now have a technology change which allows us to talk about doing the whole thing all over again. But we, I think, we have the opportunity to do it one step better, not just make it happen in one place, whether it's in Washington, D.C. or in Alexandria, Egypt, but to then make that information available to people all over the world. . . . [T]his idea of universal access to all knowledge is within our grasp.[1]

> "The goal of Google Print is ambitious: to make the full text of all the world's books searchable by anyone."[2]

I. INTRODUCTION

Traditional physical libraries, while indispensable in modern societies, suffer from the fragility of their contents, the scarcity of their shelf space, the inefficiency of their search and retrieval systems, and the exclusivity of their access policies. Libraries safeguard the culture and history of civilizations, provide free or reduced-price access to millions of books as a public good, and empower visitors to participate more fully in society and enrich their personal and creative lives.[3] At the same time, physical libraries are vulnerable to war, revolution, and natural disasters, which claimed well over

1. Brewster Kahle, Speech to the Library of Congress as part of the "Digital Future" series (Dec. 13, 2004) (C-Span television broadcast Dec. 13, 2004), *available at* http://www.archive.org/details/cspan_brewster_kahle. The quoted portion of Mr. Kahle's remarks begins at 5:45 of the streaming video of a presentation he made to the Library of Congress.

2. Posting of Adam M. Smith, Google Print Product Manager, to Google Blog, http://googleblog.blogspot.com/2005/08/making-books-easier-to-find.html (Aug. 11, 2005, 23:53 PDT).

3. *See* SIVA VAIDHYANATHAN, THE ANARCHIST IN THE LIBRARY: HOW THE CLASH BETWEEN FREEDOM AND CONTROL IS HACKING THE REAL WORLD AND CRASHING THE SYSTEM 124 (2004); Lisa Guernsey, *The Library as the Latest Web Venture*, N.Y. TIMES, June 15, 2000, at G1.

100 million books in the twentieth century alone.[4] Moreover, libraries routinely destroy and forbid public access to books and information resources.[5] Countless library books moulder away in vast dusty stacks, difficult to find and borrow, unpleasant to smell, and often missing when needed.[6] The book one wants is as likely to be checked out, lost, or loaned to another library as it is to be patiently sitting on the shelf.[7]

With the widespread use of personal computers and the Internet, it has finally become feasible to create open access, efficiently searchable, infinitely reproducible digital libraries on the scale of the world's great physical libraries. Since the popularization of the World Wide Web in the 1990s, digital libraries have "exploded" in number and diversity.[8] But the creation of universal digital libraries is still proceeding unacceptably slowly. Millions of Internet users who look to the Web as their "information source of first resort" are not accessing the best that world civilization has to offer.[9] In the absence of digital access, many great works of literature and social commentary cannot be mined for information using electronic searching.[10] Instead, they crumble away in huge libraries from which time, space, ineligibility, and expense exclude most people.[11] Untold thousands of the

4. *See* James Raven, *Introduction* to LOST LIBRARIES: THE DESTRUCTION OF GREAT BOOK COLLECTIONS SINCE ANTIQUITY 23-33 (James Raven ed. 2004); HANS VAN DER HOEVEN & JOAN VAN ALBADA, UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION, LOST MEMORY: LIBRARIES AND ARCHIVES DESTROYED IN THE TWENTIETH CENTURY 9-13 (1996), *available at* http://www.unesco.org/webworld/mdm/administ/pdf/LOSTMEMO.PDF.

5. *See* Elaine Sciolino, *Saving Books? Hmm, It Looks Easy on Paper*, N.Y. TIMES, Apr. 7, 2001, at B7 (stating that U.S. libraries destroyed close to one million books in just over fifteen years, and ninety percent of books that the Library of Congress obtains are not permanently preserved).

6. *See* Guernsey, *supra* note 3.

7. *See id.*

8. *See* Christine L. BORGMAN, FROM GUTENBERG TO THE GLOBAL INFORMATION INFRASTRUCTURE: ACCESS TO INFORMATION IN THE NETWORKED WORLD 88 (2000).

9. Peter Lyman, *Archiving the World Wide Web*, *in* LIBRARY OF CONGRESS, BUILDING A NATIONAL STRATEGY FOR DIGITAL PRESERVATION: ISSUES IN DIGITAL MEDIA ARCHIVING (2002), *available at* http://www.clir.org/pubs/reports/pub106/web.html. About three-quarters of college students "use the Internet more than they use the library." David Hoye, *Use of Public Libraries Grows with Internet*, SACRAMENTO BEE, Sept. 19, 2002, at D1.

10. *See* Guernsey, *supra* note 3.

11. Only one-sixth of the world's inhabitants have a library card. *See* Jeanne Duffey, *Libraries Have Big Influence on World*, SPRINGFIELD NEWS-LEADER, Apr. 3, 2005, http://springfield.news-leader.com/columnists/duffey/20050403-Librarieshavebi.html. In many less-developed nations, there are few public libraries, and those that there are stock only one or a few books per 100 citizens, less than one percent as many as in Europe. *See* BORGMAN, *supra* note 8, at 238; UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION, WORLD CULTURE REPORT tbl. 1 (1998), *available at* http://www.unesco.org/culture/worldreport/html_eng/table1.htm. By contrast, even a relatively poor nation like India or China can afford to maintain hundreds of thousands of

artistic and cultural treasures of world civilizations, often misappropriated from the indigenous peoples who created them, remain hidden away in obscure storerooms in Western capitals, and are typically exhibited only at very high prices.[12] Their absence from the Web makes them "invisible," if not dead, to most of the world.[13]

As several high-profile disputes involving Google, the Internet Archive, and other digital libraries have illustrated,[14] the potential of digital technology to archive and ensure easy access to all the world's knowledge is being artificially impeded by overbroad statutory and judicial restraints on the Internet-enabled distribution of once-copyrighted material. The current regime for copyright protection of written and recorded works threatens to greatly impede the building of universal digital libraries, especially cooperatively-produced open source and public domain libraries such as Project Gutenberg, and private projects to digitize and index entire libraries of books, such as Google Print. This article will detail an agenda of copyright reforms to enable the rapid digitization and widespread dissemination of books, periodicals, and audiovisual materials, particularly those that are or should be in the public domain.

The agenda for copyright reform that I propose has five elements. First, rolling back copyright terms would provide an enormous boost to nonprofit

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Internet cafes, with dozens of computers each. *See* Amrit Dhillon, *Cybercafes a Vital Link for Millions*, SOUTH CHINA MORNING POST (H.K.), Sept. 18, 2004, at 10 (noting the existence of up to 250,000 Internet cafes in India); Chris Nuttall, *Piracy Opens the Door to Online Gaming*, FIN. TIMES (U.K.), May 21, 2004, at 26 (noting the existence of up to 500,000 Internet cafes in China).

12. Colonizing powers expropriated thousands of religious manuscripts, ancient and medieval volumes of literature, royal and imperial chronicles, papyri covered in hieroglyphs, monumental statues, and countless other masterpieces from indigenous Africans, Asians, and Americans. *See* Walter R. Echo-Hawk, *Museum Rights vs. Indian Rights: Guidelines for Assessing Competing Legal Interests in Native Cultural Resources*, 14 N.Y.U. REV. L. & SOC. CHANGE 437 (1986); Raven, *supra* note 4, at 2-3; Josh Shuart, *Is All "Pharaoh" in Love and War? The British Museum's Title to the Rosetta Stone and the Sphinx's Beard*, 52 KAN. L. REV. 667, 671 (2004); Jack F. Trope & Walter R. Echo-Hawk, *The Native American Graves Protection and Repatriation Act: Background and Legislative History*, 24 ARIZ. ST. L.J. 35, 43-44 (1992); Lauryne Wright, *Cultural Resource Preservation Law: The Enhanced Focus on American Indians*, 54 A.F. L. REV. 131, 132 (2004). Many of these treasures now grace the libraries and museums of European and North American capitals, where they are not typically exhibited. *See* BETSY SYWETZ, LSTA DIGITIZATION PROJECT, LIBRARY AND MUSEUM ROLES AS CULTURAL INSTITUTIONS 2 (2001), *available at* http://clrc.org/lstadigital/OrientMuseumLibraryDiffRev.pdf ("Only a very small proportion of most museum collections is on display in exhibits at any given time."). Such exhibits charge $10 or more per adult. *See Art Guide*, N.Y. TIMES, Aug. 8, 2003, at 30 (noting that it costs $12 to see Mesopotamian artifacts at the Metropolitan Museum of Art in New York).

13. Guernsey, *supra* note 3.

14. These include the threats of the Association of American Publishers against the Google Library book digitization project, a lawsuit brought by Agence France-Presse challenging the search capability of Google News, litigation alleging that the Internet Archive unlawfully preserved Web sites whose owners wanted to opt out of archiving, and the Supreme Court's rejection of a First Amendment and Copyright Clause challenge brought by several prominent digital libraries against congressional legislation retrospectively shortening the public domain for decades at a time.

and commons-based efforts to make classic books, periodicals, and artistic works freely and universally available. The copyright term extensions of the past three decades have forged an indefinitely extendible copyright that is clearly injurious to the progress of scholarship and unconstitutionally abridges the freedom of speech guaranteed by the First Amendment. Second, arbitrary veto power over the digitized archiving and display of copyrighted works should not be vested in authors and artists simply because past licensing practices failed to foresee the breadth and importance of the digital revolution. Encouraging registration and recordation of copyrights and rights transfers would help avert the looming danger that licensing chaos will frustrate digital librarians. Third, the requirement of originality in copyright law must be rigorously enforced, or mechanical efforts to digitize public domain books, paintings and photographs will convey exclusive rights that may inhibit the free availability of public domain material. Fourth, the fair use doctrine must not atrophy any further, or lawsuits over minor acts of borrowing and imitation will lead to the destruction of important collectively-produced online libraries of knowledge such as Google, the Internet Archive, and Wikipedia. Unless courts stop denying fair use arguments whenever a merely potential harm may be imagined, they will outlaw efforts to build digital libraries through caching, linking to, and framing copyrighted material. Finally, a rule of law that recognizes no margin of abuse for peer-to-peer file sharing technology threatens to retard the widespread accessibility of public domain works, as well as fair uses of copyrighted works.

II. THE DEVELOPMENT OF DIGITAL LIBRARIES

A. Building a "Vast Electronic Library" on the Internet

The mostly free worldwide library that is the Internet was made possible by national security projects funded by the U.S. government, which sparked the "information technology revolution" of the twentieth century, including the invention of computers and the Internet.[15] The Internet had its origin in the ARPANET, which provided an elite cadre of defense officials and university-based scientists with access to powerful and very expensive computing resources.[16] Starting in 1969, ARPANET established a "wholly

15. *See* MANUEL CASTELLS, THE RISE OF THE NETWORK SOCIETY 29, 32, 61 (1996); KATIE HAFNER & MATTHEW LYON, WHERE WIZARDS STAY UP LATE: THE ORIGINS OF THE INTERNET 20, 54-56 (1998).

16. *See* Reno v. ACLU, 521 U.S. 844, 849-50 (1997).

new medium of worldwide human communication" that would operate along redundant lines even after a cataclysmic nuclear exchange.[17] The network communications protocol for ARPANET was independent of the hardware or software being used; by the mid-1970s, this protocol had evolved into the basis of the current Internet.[18]

The Internet's development into a global, public electronic library accelerated dramatically in 1989. Senator Al Gore proposed to fund "a vast electronic library"[19] via the High-Performance Computing Act, which appropriated $2.9 billion over five years to forge an "information superhighway" as a "catalyst to cultural and industrial progress."[20] More importantly, a British computer scientist named Tim Berners-Lee invented the World Wide Web as a way of linking the world's electronic documents and far-flung databases in a single, open, Internet-based system.[21] Berners-Lee improved upon an existing invention called "hypertext" by creating the Hypertext Markup Language (HTML) and Hypertext Transfer Protocol (HTTP).[22] Berners-Lee freely disseminated the software for the Web using the Internet connection provided by his employer, the European Laboratory for Particle Physics.[23] As the "father of the Web," Berners-Lee envisioned a universal digital library that would provide the world with free access to *all* available knowledge.[24] "The concept of the web is of universal readership," he wrote.[25] When all computers everywhere were linked up, all of the world's knowledge would be available to anyone with a computer, and there "would be a single, global information space."[26]

Web usage exploded into the millions after the release by the University of Illinois of the Mosaic browser, which featured a graphical user interface

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17. *Id.* (quoting ACLU v. Reno, 929 F. Supp. 824, 844 (E.D. Pa. 1996)).

18. *See* PETE LOSHIN, ESSENTIAL EMAIL STANDARDS: RFCS AND PROTOCOLS MADE PRACTICAL 13-25 (2000).

19. Evelyn Richards, *Bush to Unveil High-Tech Initiative; $2 Billion Computing Project Would Include Data 'Superhighway,'* WASH. POST, Sept. 7, 1989, at F1.

20. William J. Broad, *Clinton to Promote High Technology, With Gore in Charge*, N.Y. TIMES, Nov. 10, 1992, at C1; *see* 15 U.S.C. § 5512(c) (Supp. 1992); Michael I. Meyerson. *Virtual Constitutions: The Creation of Rules for Governing Private Networks*, 8 HARV. J.L. & TECH. 129, 134 (1994); John M. Stevens, *Antitrust Law and Open Access to the NREN*, 38 VILL. L. REV. 571, 571-72 (1993).

21. *See* TIM BERNERS-LEE, WEAVING THE WEB: THE ORIGINAL DESIGN AND ULTIMATE DESTINY OF THE WORLD WIDE WEB BY ITS INVENTOR 15 (1999); Steve Bickerstaff, *Shackles on the Giant: How the Federal Government Created Microsoft, Personal Computers, and the Internet*, 78 TEX. L. REV. 1, 42-43 (1999); Mike Mills, *Scientist's Brainchild Grows into a Global Phenomenon*, WASH. POST, June 30, 1996, at A15.

22. *See* BERNERS-LEE, *supra* note 21, at 29.

23. *See* Mills, *supra* note 21.

24. *See* David Bank, *Engineer Group is Backing New Protocol to Handle Large Blocks of Data on Web*, WALL ST. J., Jan. 25, 2000, at B8.

25. GLYN MOODY, REBEL CODE: LINUX AND THE OPEN SOURCE REVOLUTION 183 (2001).

26. BERNERS-LEE, *supra* note 21, at 4.

(GUI) to permit viewing Web sites combining text and images, and enabled the use of a computer mouse to navigate around and click on hyperlinks.[27] In 1994, several members of the Mosaic team founded Netscape and released the Navigator browser,[28] and two graduate students at Stanford University created a directory of hyperlinks and search engine for the many new Web sites, which they called Yahoo![29] The bright prospects of companies like Netscape and Yahoo! persuaded dozens of publishers and broadcasters of news and opinion to offer their content for free on the Web.[30] Libraries, museums, government agencies, corporations, and private individuals all rushed to establish an online presence.[31] Soon Internet activity doubled each year.[32] Virtual libraries of classic books, photographs, music, and the spoken word proliferated,[33] prompting dreams of the Internet as "a universal, boundless library of information."[34]

In 1998, two graduate students researching library digitization at Stanford launched a new method of searching the Web that would harness the collective intelligence of Web users to pinpoint the most relevant information.[35] Google.com debuted in 1998,[36] and performed 200 million queries per day by 2003.[37] Google's computer algorithms provided faster and more targeted search results derived from the number and "authority" of hyperlinks to a Web site; Google's site also very clearly displayed the search terms in listing results, archived the contents of the Web in a huge cache for faster and more reliable access, and loaded very quickly because it was

27. *See* Peter H. Lewis, *Companies Rush to Set Up Shop in Cyberspace*, N.Y. TIMES, Nov. 2, 1994, at D1 [hereinafter Lewis, *Cyberspace*]; Peter H. Lewis, *Netscape Knows Fame and Aspires to Fortune*, N.Y. TIMES, Mar. 1, 1995, at D1.

28. *See* DAVID A. KAPLAN, THE SILICON BOYS AND THEIR VALLEY OF DREAMS 235-38 (2000).

29. *See id.* at 304-06.

30. *See, e.g.*, William Glaberson, *The Building Blocks of Newspaper Networks*, N.Y. TIMES, Aug. 16, 1993, at D6.

31. Margot Williams, *World Wide Web Lets Users Wade into a Virtual Library*, WASH. POST, Oct. 10, 1994, at F22.

32. *See* MTV Networks v. Curry, 867 F. Supp. 202, 203 n.1 (S.D.N.Y. 1994).

33. *See id.*

34. KAPLAN, *supra* note 28, at 229.

35. *See* Carolyn Said, *Revolutionary Chapter: Google's Ambitious Book-Scanning Plan Seen as Key Shift in Paper-based Culture*, S.F. CHRON., Dec. 20, 2004, at F1; Leslie Walker, *Humans and Machines Fight It Out: What's the Best Way to Search the Vastness of the Internet? Yahoo's Humans or Google's Computers?*, THE GAZETTE (Montreal), Nov. 06, 1999, at K2.

36. *See* Google Corporate Information, Google Milestones, http://www.google.com/corporate/history.html (last visited Feb. 21, 2006).

37. *See* Jack Thomas, *One-Hit Wonder*, BOSTON GLOBE, Feb. 17, 2005, at D1.

uncluttered by graphical advertising and other bells and whistles,.[38] Most importantly, Google got better, rather than out-of-date,[39] as the Web and the complexity of its interconnections grew, because Google's search algorithms leveraged "the distributed judgments of many users" into "votes of confidence" in the relevance of a Web page to a search.[40]

From a few thousand in the 1980s, there were more than one hundred million American Internet users in 2005,[41] and more than one billion computers hooked up to the Internet worldwide.[42] By 2002, the Web had amassed at least fifty times more material than the Library of Congress.[43] The number of Web sites surpassed fifty million in 2004,[44] and the number of distinct Web pages exceeded eight billion in 2005.[45] "[A]n additional 550 billion [connected] documents" reside in what librarians call the "invisible" or "deep" Web because search engines typically do not capture it when they harvest the Web's surface content for indexing.[46]

Conveying a sense of the bewildering variety and vast quantity of Web-based digital libraries is difficult, but a few concrete examples may help paint the picture. An impressive "free legal library" at Findlaw.com, containing thousands of court decisions, statutes, self-help forms, and legal news articles, now attracts four million visitors per month,[47] prompting the owner of Lexis/Nexis to offer "free federal and state case law for the past

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38. *See* John C. Dvorak, *A Google-Microsoft War*, PC MAG., Nov. 16, 2004, at 77; John Markoff, *So Google Is Almost Public. Now Comes the Hard Part*, N.Y. TIMES, Aug. 18, 2004, at C1; Walker, *supra* note 35.

39. *See* Walker, *supra* note 35.

40. Yochai Benkler, *Coase's Penguin, or, Linux and* The Nature of the Firm, 112 YALE L.J. 369, 392 (2002).

41. *See* Michael Galicia, *Casting a Net for Patient Recruitment*, KPMG INSIDERS, June 29, 2005, http://www.kpmginsiders.com/display_analysis.asp?cs_id=135758.

42. *See* David S. Fallis & Ariana Eunjung Cha, *Agents Following Suspects' Lengthy Electronic Trail*, WASH. POST, Oct. 4, 2001, at A24.

43. *See* Lyman, *supra* note 9.

44. *See* Shamoil Shipchandler, Note, *The Wild Wild Web: Non-Regulation as the Answer to the Regulatory Question*, 33 CORNELL INT. L.J. 435, 439 (2000); Netcraft, Inc., May 2004 Web Server Survey Finds 50 Million Sites, http://news.netcraft.com/archives/2004/05/03/may_2004_web_server_survey_finds_50_million_sites.html (last visited Feb. 21, 2006).

45. *See* Thomas, *supra* note 37.

46. Lyman, *supra* note 9; *see also* Jane Devine & Francine Egger-Sider, *Beyond Google: The Invisible Web in the Academic Library*, 30 J. OF ACADEMIC LIBRARIANSHIP 265 (2004).

47. Storm M. Evans, *Free Legal Library on the Internet*, 25 LAW PRACTICE MGMT., Oct. 1999, at 27; *see* Lisa Guernsey, *Mining the 'Deep Web' with Sharper Shovels*, N.Y. TIMES, Jan. 25, 2001, at G1; Hope Viner Samborn, *In the Land of the Free: West's Purchase of Cult Favorite Findlaw Keeps Pace with Rival Lexis in Bid to Coax Users onto Paid Sites*, 87 A.B.A. J., Apr. 2001, at 76; Larry Bodine, *Major Shift: Law Firms More Web-Savvy*, FINDLAW, 2004, http://conference2004.findlaw.com/article.html (last visited Feb. 21, 2006).

five years."[48] These services and others, by equalizing access to the law, have greatly expanded the ability of consumers and citizens to research legal questions and resolve many of their own legal problems.[49] Similarly, as of 2001, over three billion pieces of financial data were available for free on Web sites such as E*Trade and Ameritrade, and almost 300 billion pieces of fee-only data sources were included.[50] As financial information was democratized, one-third more households invested in the stock market.[51] Large digital libraries of free health information are available at for-profit Web sites such as WebMD.[52] Lastly, FindArticles.com offers more than five million freely accessible and printable articles from 900 magazines and periodicals.[53]

In 1996, Brewster Kahle founded the Internet Archive, a digital library to preserve the history and collected wisdom of the Internet.[54] The Internet Archive would "collect, store and catalog the entire World Wide Web and all 33,000 Usenet newsgroups."[55] The Archive surpassed ten billion Web pages by 2002, or 100 terabytes of information, an amount of material four times greater than all the books in the Library of Congress.[56] Its "Way Back Machine" permits Internet users to call up many defunct Web sites and prior versions of existing Web sites, reviving information people believed to have

48. Kate Marquess, *Big Players Come to Play Web-Service Game*, 86 A.B.A. J., Nov. 2000, at 72.

49. Emilie Lounsberry, *Weighing the Options; New Practice of Giving Internet Legal Advice Brings Questions about Attorney-Client Relationship*, HOUSTON CHRON., July 14, 2000, at Tech.-1.

50. *See* Brad M. Barber & Terrance Odean, *The Internet and the Investor*, 15 J. ECON. PERSPECTIVES 41, 44 (2001).

51. *Id.* at 49.

52. *See* P. Greg Gulick, *E-Health and the Future of Medicine: The Economic, Legal, Regulatory, Cultural, and Organizational Obstacles Facing Telemedicine and Cybermedicine Programs*, 12 ALB. L.J. SCI. & TECH. 351, 355-56 (2002).

53. *See* FindArticles.com, http://www.findarticles.com (last visited Feb. 21, 2006); FindArticles.com, About Results from FindArticles, http://www.findarticles.com/p/page?sb=AboutFA&tb=art (last visited Feb. 21, 2006); Press Release, Looksmart, Ltd., LookSmart Launches Web's Largest Full Text Article Search (Nov. 24, 2003), *available at* http://www.shareholder.com/looksmart/releaseDetail.cfm?ReleaseID=123285.

54. *See* Jon Marcus, *US Starts Archive of Whole Web*, TIMES HIGHER EDUC. SUPP. (U.K.), Dec. 13, 1996. Grants from the National Science Foundation, the Library of Congress, the Smithsonian, and foundations have bolstered the Archive's funding. *See* Paul Marks, *Way Back When*, NEW SCIENTIST, Nov. 23, 2002, at 46.

55. J.D. Lasica, *The World Wide Web Never Forgets*, AM. JOURNALISM REV., June 1998, at 68.

56. *See* L.A. Lorek, *Site Lets Surfers Explore Net Past; Internet Archive Gives Glimpse of World Wide Web's Early Days*, SAN ANTONIO EXPRESS-NEWS, June 16, 2002, at 1K.

been lost for good.[57] The Archive excludes pay sites, however, as well as free sites the authors no longer want the public to be able to see.[58]

B. Public Investment in Digital Library Projects

In the second half of the twentieth century, scientists and futurists called for large-scale efforts to create virtual libraries.[59] In 1987, the Librarian of Congress announced the American Memory project, a "universal digital library" of the cultural artifacts accumulated by the Library of Congress over the first 190 years of its existence,[60] and a gateway to "all significant publicly available information sources."[61] Considerations of copyright protection, and costs of two to six dollars to digitize a single page, prompted library officials to reject the idea of full digitization and universal dissemination,[62] and to resolve instead to select only "the most important materials" for online access.[63]

The implementation of the American Memory project has been very limited in comparison to the total holdings of the Library of Congress. The few thousand books that have been digitized and placed online represent a very small fraction of the more than twenty-six million books held by the Library of Congress.[64] With more than 100 million items in the Library's collection in 1991, and more than 1.6 million more arriving each year since

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57. *See* LAWRENCE LESSIG, FREE CULTURE 108-09 (2004); Jason Krause, *Netting Information: It's Not All We Were Promised, But the Web Still Has Plenty to Offer*, 89 A.B.A. J., Mar. 2003, at 36.

58. *See* Marks, *supra* note 54, at 46; Brewster Kahle, *Preserving the Internet*, SCI. AM., Mar. 1997, at 82; Brewster Kahle et al., *Public Access to Digital Material*, 7 D-LIB MAG., Oct. 2001, at 1, *available at* http://www.dlib.org/dlib/october01/kahle/10kahle.html.

59. In 1982, a prominent library theorist predicted that in the future, all manner of printed information would be "readily accessible" in digital form to "anyone with a terminal and the ability to pay for their use." GREGG SAPP, A BRIEF HISTORY OF THE FUTURE OF LIBRARIES: AN ANNOTATED BIBLIOGRAPHY 2 (2002) (quoting FREDERICK W. LANCASTER, LIBRARIES AND LIBRARIANS IN AN AGE OF ELECTRONICS (1982)). Decades earlier, Vannevar Bush, science advisor to President Franklin Delano Roosevelt, had imagined a "mechanized file and library" called a memex that would store books and communications for fast access on a screen. *Id.* at xxii-xxiii (quoting Vannevar Bush, *As We May Think*, ATLANTIC MONTHLY, July 1945, at 107).

60. *See* Linton Weeks, *Brave New Library*, WASH. POST, May 26, 1991, (Magazine), at W11.

61. Peter H. Lewis, *Library of Congress Offers to Feed the Data Highway*, N.Y. TIMES, Sept. 12, 1994, at B11.

62. *See id.*

63. *Id.*

64. *See* Carrie Moskal, *Encyclopedia Explores Library of Congress*, WASH. TIMES, Feb. 18, 2005, *available at* http://www.washtimes.com/upi-breaking/20050217-012655-2301r.htm. There are apparently only a few thousand books in the collection, and most of these are from the 19th century. *See* American Memory from the Library of Congress, The Nineteenth Century in Print, http://memory.loc.gov/ammem/ndlpcoop/moahtml/mnchome.html (last visited Feb. 22, 2006); American Memory from the Library of Congress, Literature, http://memory.loc.gov/ammem/browse/ListSome.php?category=Literature (last visited Feb. 22, 2006).

then, much less than ten percent of the collection has been digitized to date.[65] Brewster Kahle estimates that the Library could have digitized its entire collection for about $260 million[66]—only about half of one year's budget[67]—not all that much to replicate the Library's entire contents for browsing anywhere.[68] Federal funding in excess of $175 million has produced nowhere near the tens of millions of digitized books it should have.[69] Public entities much smaller than the Library of Congress, such as state university libraries, may have distributed far more e-books to the public.[70]

The National Library of Medicine's Medline database of biomedical article abstracts has been free to the public since 1997, and became even more useful as the PubMed system.[71] Medline and PubMed currently provide a searchable database of abstracts of ten million biomedical research articles.[72] They have helped American health care consumers become more

65. *See* Weeks, *supra* note 60. The American Memory project provided online access to about nine million items by 2005. *See* American Memory from the Library of Congress, About the Collections, http://lcweb2.loc.gov/ammem/about/about.html (last visited Feb. 22, 2006).

66. *See Visionaries Outline Web's Future*, BBC NEWS, Oct. 8, 2004, http://news.bbc.co.uk/1/hi/technology/3725884.stm.

67. *See* Kahle, *supra* note 1. Mr. Kahle's remarks to this effect begin at 10:30 of his presentation.

68. *See* Weeks, *supra* note 60.

69. Instead, the funding went to narrowly focused research into digital library techniques. *See* BORGMAN, *supra* note 8, at 34; NATIONAL SCIENCE FOUNDATION ET AL., DIGITAL LIBRARIES INITIATIVE—PHASE 2 (1998), *available at* http://www.nsf.gov/pubs/1998/nsf9863/nsf9863.htm; NATIONAL SCIENCE FOUNDATION, DIGITAL LIBRARIES INITIATIVE PHASE 2 (2003), http://www.dli2.nsf.gov/projects.html; Consolidated Appropriations Act of 2001, Pub. L. No. 106-554, 114 Stat. 2763A-194 (codified as amended in scattered sections of 7 U.S.C.).

70. The Electronic Text Center at the University of Virginia, for example, made 2,000 e-books available over the Web, and has distributed 8.5 million e-books since 2000. *See* MICHAEL LESK, UNDERSTANDING DIGITAL LIBRARIES 329 (2005); University of Virginia Library, Free Ebook Library, http://etext.lib.virginia.edu/ebooks (last visited Feb. 22, 2006). Similarly, other state universities have assembled free digital libraries of tens of thousands of e-books. The University of Michigan and Cornell University created digital libraries of 10,000 American books from the 19th century, and links to 20,000 e-books on other Web-based digital libraries. *See* LESK, *supra* at 329. Iowa State University maintains an Eserver of more than 30,000 e-books. *See* Eserver.org, http://eserver.org (last visited Feb. 22, 2006).

71. *See* Press Release, National Institutes of Dental & Craniofacial Research, Public Gains Free Access to MEDLINE, (Sept. 1997), http://www.nidcr.nih.gov/NewsAndReports/ResearchDigest/September1997A3.htm.

72. *See* PubMed, Entrez Pubmed, http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed (last visited Feb. 22, 2006).

sophisticated about their options, and make tens of millions of searches of the medical literature each year since 1998.[73]

Despite a great deal of progress in making abstracts of medical articles searchable, the development of digital libraries of the articles themselves, which frequently owe their existence to the U.S. taxpayer, has proceeded much more slowly than it might have. An "enormous" amount of federally funded medical research remains unavailable to deathly ill taxpayers who paid for it, and who need to read it to determine how to save their own lives.[74] Instead, taxpayers must pay up to thirty dollars per article to access the 60,000 articles the federal government pays for each year.[75] Almost 1.5 million such articles are searchable on PubMed, but the articles' full texts are usually unavailable without paying.[76] Under a compromise policy adopted by the National Institutes of Health, authors would be "asked" to submit their federally funded research for inclusion in PubMed, but keep the right to block free public access.[77]

C. Private Investment in Specific Digital Library Projects

1. The Pioneers: Digitizing the Law and the News

Full-text digital libraries arguably got their biggest start in the legal profession, with Lexis/Nexis and Westlaw predating the Web by almost two decades as huge databases of information electronically accessible on mainframe computers.[78] By the 1980s, Lexis and Westlaw offered searchable databases of federal and state statutes, regulations, and court decisions; legislative history, patents, and securities filings; and law review articles and legal treatises.[79] Nexis, meanwhile, has become a "massive" digital library of millions of searchable and readable full-text articles taken from thousands of newspapers, magazines, and journals published over

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73. *See* Mary Ann Farrell, *Medline Helps Streamline the Latest Medical Information*, KNIGHT-RIDDER/TRIB. (Wash., D.C.), Dec. 18, 1998; P. Greg Gulick, *supra* note 52, at 355-56; Mary Fitzgerald, *Advocate for Access to Medical Data; Linguist Wants Patients to Understand*, WASH. POST, July 28, 2004, at A17.

74. Dee Ann Divis, *The Push for Public Access to Journals*, L.A. TIMES, Jan. 17, 2005, at F1.

75. *See* Rick Weiss, *NIH Proposes Free Access For Public to Research Data*, WASH. POST, Sept. 6, 2004, at A21.

76. *See* Samuel E. Trosow, *Copyright Protection for Federally Funded Research: Necessary Incentive or Double Subsidy?*, 22 CARDOZO ARTS & ENT. L.J. 613, 622 (2004).

77. *See* Rick Weiss, *NIH Grant Recipients Are 'Asked' to Post Data: New Policy on 'Public Access' Draws Criticism*, WASH. POST, Feb. 4, 2005, at A15.

78. *See* Tasini v. N.Y. Times Co., 972 F. Supp. 804, 808 (S.D.N.Y. 1997), *rev'd*, 192 F.3d 356 (2d Cir. 1999), *aff'd*, 533 U.S. 483 (2001).

79. *See* Lawrence Duncan MacLachlan, *Gandy Dancers on the Web: How the Internet Has Raised the Bar on Lawyers' Professional Responsibility to Research and Know the Law*, 13 GEO. J. LEGAL ETHICS 607, 621-22 (2000); T.R. Reid, *Lexis/Nexis: A Buried Treasure Trove*, WASH. POST, Feb 17, 1986, (Washington Business), at 25.

several decades in the national and international press.[80] Despite their impressive offerings, commercial digital libraries such as Lexis/Nexis have remained beyond the reach of the average American.[81] Access to Lexis/Nexis costs anywhere from around $175 to almost $900 per hour,[82] while per-page access costs up to $9 for legal materials and $3 for news.[83]

2. The Next Generation: Digital Libraries of Books and Journals

Academia has been one of the most lucrative potential markets for privately funded digital library schemes, which enable scholars and students to conquer time, space, and the muteness of paper, and deepen their dialogue with their intellectual forbears.

The JSTOR (for "journal storage") initiative has scanned twelve million pages of scholarly journal articles by 2005, the equivalent of up to 5,000 volumes of text.[84] JSTOR charges university libraries a site license for the service.[85] JSTOR's electronic copies of journal articles are accessed about twenty times more often than the paper versions, which could not be searched nearly as readily.[86] This digital library provides some smaller and less wealthy colleges in the U.S., or even in Latin America or Asia, with levels of access to scholarly journals previously reserved to elite research universities such as Oxford or Stanford.[87]

In the late 1990s, a number of for-profit companies sprang up, promising to revolutionize reading and research by offering millions of pages of searchable electronic books on a pay-per-use model.[88] Ebrary, for example, allowed free browsing of thousands of electronic books, but charged fees for printing, downloading, or copying small portions.[89]

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80. *See* Tasini v. N.Y. Times Co., 206 F.3d 161, 164, 168; *see also* Brief for Petitioners at 39-40, N.Y. Times Co. v. Tasini, 533 U.S. 483 (2001) (No. 00-201), 2001 WL 27573.

81. *See* MacLachlan, *supra* note 79, at 608, 621-22.

82. *See* E.B. Williams Library, Cost Effective Research, http://www.ll.georgetown.edu/lib/guides/cost.html (last visited Feb. 22, 2006).

83. *See* LexisNexis, LexisNexis by Credit Card, http://web.lexis.com/xchange/ccsubs/cc_prods.asp (last visited Mar. 7, 2006).

84. *See* LESK, *supra* note 70, at 329.

85. *See* KEVIN M. GUTHRIE, JSTOR: THE DEVELOPMENT OF A COST-DRIVEN, VALUE-BASED PRICING MODEL Tbl. 2 (1997), *available at* http://www.arl.org/scomm/scat/guthries.html.

86. *See* Guernsey, *supra* note 3.

87. *See* WILLIAM G. BOWEN, THE ACADEMIC LIBRARY IN A DIGITIZED, COMMERCIALIZED AGE: LESSONS FROM JSTOR (2001), http://www.jstor.org/about/bowen.html.

88. *See* Guernsey, *supra* note 3.

89. *See* theNode.org, Networking: May 2001 News Briefs, http://thenode.org/networking/may2001/briefs2.html (last visited Feb. 22, 2006).

NetLibrary allowed subscribing libraries to lend each copy to only one patron at a time for only forty-eight hours.[90] Such efforts faltered as a result of limited collections and burdensome restrictions on use (i.e., no saving or printing) that are foreign to library users accustomed to promiscuous photocopying.[91] High costs and competition with the free Internet also took a toll.[92] NetLibrary went bankrupt in 2001 and was taken over by a coalition of libraries.[93]

Publishing houses also plunged into the e-book market, with two of the largest American publishers pledging to digitize their backlists of tens of thousands of books.[94] Such projects inspired hope that electronic publishing would be "a swift and economical way to bring backlist and out-of-print books . . . to the average reader."[95] While for-profit electronic publishing can certainly be swift, it may not always be the most economical or user-friendly method of accessing literature digitally. A commercial e-book of a public domain classic such as Tolstoy's *War and Peace* may cost as much as ten dollars, compared to nothing for a Web version.[96] Publishers often sell e-books at prices comparable to printed books,[97] not wanting to "undercut" their printed book prices, [98] which have shot up by 300% or more in the past three or four decades, and by more than ten times for many popular titles.[99]

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90. *See* Ann Bartow, *Electrifying Copyright Norms and Making Cyberspace More Like a Book*, 48 VILL. L. REV. 13, 108 (2003); Lucia Snowhill, *E-books and Their Future in Academic Libraries*, D-LIB MAG., July/Aug. 2001, *available at* http://www.dlib.org/dlib/july01/snowhill/07snowhill.html.

91. *See* Bartow, *supra* note 90, at 108.

92. *See* Lisa Guernsey, *In Lean Times, E-Books Find a Friend: Libraries*, N.Y. TIMES, Feb. 21, 2002, at G3.

93. *See id.*; Tim Gnatek, *Libraries Reach Out, Online*, N.Y. TIMES, Dec. 9, 2004, at G1; Paula J. Hane, *OCLC Completes netLibrary Acquisition, Raises eBook Fees*, INFO. TODAY, Feb. 11, 2002, *available at* http://www.infotoday.com/newsbreaks/nb020211-2.htm.

94. *See* Doreen Carvajal, *Racing To Convert Books to Bytes: Evolving Market for E-Titles*, N.Y. TIMES, Dec. 9, 1999, at C1.

95. Henry Kisor, *Making E-books: And Other Forecasts for the Literary Year Ahead*, CHI. SUN-TIMES, Jan. 02, 2000, at 16.

96. Compare the results of a Google search for "War and Peace Tolstoy" with Random House, Inc., War and Peace by Leo Tolstoy, http://www.randomhouse.com/catalog/display.pperl?0345472403 (last visited Feb. 22, 2006).

97. *See, e.g.*, International Digital Publishing Forum, Open eBook Forum's eBook Bestseller List, http://www.openebook.org/bestseller/january05.htm (last visited Feb. 22, 2006).

98. *Some Say High Ebook Prices Will Stunt the Growth of the Market*, 25 BOOK PUBLISHING REP. 3 (2000).

99. *See* Christopher Dreher, *Why Do Books Cost So Much?*, SALON.COM, Dec. 3, 2002, http://www.salon.com/books/feature/2002/12/03/prices/index.html?x (according to authoritative publishing industry statistics, price of mass-market paperback fiction title has increased 328% since 1975, so that one popular title that once cost $0.65 was $14 in 2002); Silja J.A. Talvi, *Survival Lit*, EVERGREEN MONTHLY, Oct. 2004, *available at* http://www.evergreenmonthly.com/2004/em2010/survivallit2010.html (noting that the average price of paperback book has increased from as little as $0.25 in 1965 to $7.99 in 2004).

Additionally, unlike printed books and Web versions, most e-book formats do not allow printing or copying excerpts; selling, loaning out, or giving e-books as gifts; or sharing e-books across machines using different e-book reader software.[100]

3. The Near Future: Million-Book Digital Libraries

The perfect library, as Siva Vaidhyanathan has written, would equalize access to fact and fiction by offering free copies of all the books in the world.[101] Pinpoint search technology would conquer the mute resistance of the printed page to the curiosity of the human mind.[102] The library would never close, and people in rural areas and poor countries would no longer be locked out.[103]

Like Vaidhyanathan's model of the perfect library, the aim of the Million Book Digital Library Project is to get *all* published works online, for "[a]ccess to all human knowledge anytime anywhere."[104] The project aims to "create a free-to-read, searchable collection of one million books" available over the Internet.[105] The project had scanned about 50,000 books by 2004, thousands of which were available at the Universal Library (U.S.), Digital Library of India, and Universal Library of China.[106] The Indian government proposes to add one million e-books, and the Chinese government half a million more.[107]

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100. *See* Random House, Inc., Buy This eBook, http://www.randomhouse.com/catalog/display.pperl?isbn=0553898418&view=ebhelp (last visited Feb. 22, 2006).

101. *See* VAIDHYANATHAN, *supra* note 3, at 121.

102. *Id.*

103. *Id.*

104. Raj Reddy et al., The Million Book Digital Library Project, http://www.rr.cs.cmu.edu/mbp623.ppt (last visited Feb. 22, 2006).

105. *See* RAJ REDDY & GLORIANA STCLAIR, THE MILLION BOOK DIGITAL LIBRARY PROJECT (2001), http://www.rr.cs.cmu.edu/mbdl.htm.

106. *See* Carnegie Mellon Libraries: Libraries: Million Book Project FAQ, http://www.library.cmu.edu/Libraries/MBP_FAQ.html (last visited Mar. 7, 2006); *see also* ULIB.org, The Thousand Book Project, http://serv.ul.cs.cmu.edu/zoom/record.html?id=14174 (last visited Feb. 22, 2006) (creating an ability to browse by either author or title for all books included in the digital library).

107. *See* Jack Schofield, *Drive to Put in a Good Word*, THE GUARDIAN (U.K.), May 1, 2003, at 24, *available at* http://technology.guardian.co.uk/online/story/0,3605,946511,00.html.

The Internet Archive has also expanded to include a massive collection of e-books, in addition to its billions of Web pages.[108] In 2004, it announced a Text Archive dedicated to ensuring "permanent and public access to our published heritage,"[109] including over one million books contributed for the purpose by ten libraries in the U.S., Canada, China, India, and Egypt.[110] The Archive already includes many thousands of books scanned by the Million Book Project and Project Gutenberg.[111]

Two of the largest Internet companies, Amazon and Google, recently joined the race to make entire libraries of books freely available over the Internet. By 1997, Amazon had developed an online retail platform to sell millions of books, which it called "Earth's Biggest Bookstore."[112] In 2003, Amazon announced a "search inside the book" feature that would allow customers whose credit card information was on file to search through and preview multiple pages and whole chapters of about 120,000 books for which publishers had granted permission.[113] The results were "better than using a search like Google,"[114] according to some users, and commentators remarked that such services could challenge Google's search dominance.[115] In 2004, an Amazon subsidiary launched a search engine called A9.com, with the capability of combining Amazon's thirty-three million pages of searchable text with Web pages, etc.[116]

4. Google Print: Universal Access to All of the World's Information

In 2003, Google unveiled a service that would break down the barrier between printed and electronic information by providing Internet-based "access to all the world's information" in a way that is "universally useful

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108. *See* Internet Archive, WayBack Machine, http://www.archive.org/web/web.php (last visited Feb. 22, 2006); Internet Archive, Text Archive, http://www.archive.org/details/texts (last visited Feb. 22, 2006).

109. Mark Chillingworth, *Internet Archive to Build Alternative to Google*, INFO. WORLD REV., Dec. 21, 2004, *available at* http://www.iwr.co.uk/information-world-review/news/2083906/internet-archive-build-alternative-google (quoting statement issued by Internet Archive).

110. *See id.*

111. *See* Internet Archive, Million Book Project, http://www.archive.org/details/millionbooks (last visited Feb. 22, 2006); Internet Archive, Welcome to Project Gutenberg, http://www.archive.org/details/gutenberg (last visited Feb. 22, 2006).

112. Amy Schroeder, *Big Suits Northeast: Amazon.com v. Barnes & Noble*, AM. LAW., Nov. 1997, at 90. This boast triggered a "litigation war" with giant book retailer Barnes & Noble. *Id.*

113. Chris Gaither, *Amazon Unveils Search Feature Tool: Lets Users View Book Pages By Phrases*, BOSTON GLOBE, Oct. 24, 2003, at D1.

114. Lisa Guernsey, *In Amazon's Text Search, a Field Day for Book Browsers*, N.Y. TIMES, Nov. 6, 2003, at G7.

115. *See* John Gapper, *Why Google's Technology May Have Reached Its Peak*, FIN. TIMES (U.K.), Oct. 28, 2003, at 23.

116. *See* John Markoff, *Amazon to Take Searches on Web to a New Depth*, N.Y. TIMES, Sept. 15, 2004, at C6; Nancy Dillon, *Amazon Is an Open Book*, DAILY NEWS (N.Y.), Oct. 24, 2003, at 84.

and accessible."[117] In December 2004, Google announced that it had reached an agreement with five large research libraries to digitize and provide full-text search capability for most of Stanford's and the University of Michigan's collections, along with portions selected for public domain status and durability from Harvard's, Oxford's, and the New York Public Library's collections.[118] Internet users will be able to search through and read the entire public domain book collections, and preview very small excerpts from books under copyright.[119] Google's search database might eventually contain twenty million books, or "nearly every respected work of printed scholarship," amounting to one million gigabytes of data.[120] The project could cost ten dollars per book or less, a fraction of the one billion dollar increase in Google's stock market valuation that the news of the library deals triggered.[121]

D. Commons-Based Peer Production of Digital Libraries

1. The Open Source Model

There is an alternative to the models of government-funded digital library projects such as the American Memory project on the one hand, and privately funded projects such as NetLibrary or Google Print on the other. In a recent article, Yochai Benkler gives a sophisticated account of a model of economic and cultural production that he calls "commons-based peer production" because it "relies on decentralized information gathering and exchange" that require "nonproprietary" inputs and public-spirited cooperation.[122] Commons-based peer production, of which open source projects such as the Linux operating system are exemplary, typically utilize

117. John Markoff, Google *Experiment Provides Internet with Book Excerpts*, N.Y. TIMES, Dec. 18, 2003, at C6 (quoting Google press release).

118. *See* Scott Carlson & Jeffrey R. Young, *Google will Digitize and Search Millions of Books from 5 Top Research Libraries*, CHRONICLE OF HIGHER ED., Jan. 7, 2005, at 37; Jeffrey R. Young, *Google's New Deals Promise to Realize a 60-Year-Old Vision*, CHRONICLE OF HIGHER ED. (Wash, D.C.), Jan. 7, 2005, at 38; *see also Shhh! Google Links to Libraries*, CNN MONEY, Dec. 14, 2004, http://money.cnn.com/2004/12/14/technology/personaltech/google_books.

119. *See, e.g.*, University of Michigan, Google/U-M Project Questions and Answers (Jan. 7, 2005), http://www.umich.edu/~urecord/0405/Dec13_04/lib_qa.shtml.

120. Young, *supra* note 118, at 38; *see* Lawrence Lessig, *Let a Thousand Googles Bloom*, L.A. TIMES, Jan. 12, 2005, at B11; John Markoff & Edward Wyatt, *Google Is Adding Major Libraries to Its Database*, N.Y. TIMES, Dec. 14, 2004, at A1.

121. *See Google's Stock Jumps on Library-Book Plan*, L.A. TIMES, Dec. 15, 2004, at C4.

122. Benkler, *supra* note 40, at 375-76, 381.

decentralized networks of voluntary contributors drawing on a commons of shared resources.[123]

The open source software movement is a case study in the vitality of collective intellectual endeavor. Open source software is a commons: it is freely modifiable and redistributable; it can be sold, but the standard open source license prohibits restricting access to or transformation of the code.[124] Decentralized, non-proprietary projects such as Freemail and the Linux operating system are created by a distributed collective intelligence, which resolves "bugs" using a wealth of diverse inputs.[125]

Commons-based peer production is poised to transform the way in which most people access the Web itself, and in the not so distant future. Influenced by the open source model, Netscape decided to open its browser source code to a great public rewrite, with remarkable results.[126] In 1998, Netscape lost its leadership of the GUI browser market to the largest software company in the world, Microsoft,[127] which refused to pass up the opportunities presented by the commercialization of the Internet.[128] Microsoft bound its Internet Explorer browser[129] to Windows in such a way that it could not be easily uninstalled, and contracted with computer makers

123. *See id.*

124. *See* Lawrence Lessig, *The Architecture of Innovation*, 51 DUKE L.J. 1783, 1788 (2002); James Boyle, *The Second Enclosure Movement and the Construction of the Public Domain*, 66 LAW & CONTEMP. PROBS. 33, 44-5 (2003).

125. ERIC STEVEN RAYMOND, THE CATHEDRAL AND THE BAZAAR (2000), http://www.catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar.

126. *See id.*

127. *See* KAPLAN, *supra* note 28, at 278-80; Testimony of Jim Barksdale at ¶¶ 220-22, United States v. Microsoft Corp., 97 F. Supp. 2d 59 (D.D.C. 2000) (Nos. 98-1232, 98-1233), *available at* http://www.usdoj.gov/atr/cases/f1900/1999.htm. Microsoft's share of the personal computer operating system market surged from 65% in 1990 to 90% in 1997, largely on the strength of GUI innovations such as Windows 3.1 and Windows 95. *See* Joint Pretrial Statement of Plaintiffs State of New York et al. at 2-4, *Microsoft Corp.*, 97 F. Supp. 2d 59 (No. 98-1232), *available at* http://www.usdoj.gov/atr/cases/f1900/1977.pdf.

128. *See* KAPLAN, *supra* note 28, at 267-68.

129. Web browsers that could operate on multiple operating systems, such as Netscape Navigator, had threatened to erode Microsoft's dominant share of the operating system market by multiplying the number of applications compatible with more than one operating system. *See* KAPLAN, *supra* note 28, at 271-272. In response, Microsoft licensed the Mosaic browser from Spyglass, Inc. for inclusion in Windows 1995, and launched its own browser, Internet Explorer. *See id.* at 267; Testimony of Jim Barksdale at ¶ 22, *Microsoft Corp.*, 97 F. Supp. 2d 59 (Nos. 98-1232, 98-1233), *available at* http://www.usdoj.gov/atr/cases/f1900/1999.htm; John E. Lopatka & William H. Page, *Antitrust on Internet Time: Microsoft and the Law and Economics of Exclusion*, 7 SUP. CT. ECON. REV. 157, 166-67 (1999); David McGowan, *Innovation, Uncertainty, and Stability in Antitrust Law*, 16 BERKELEY TECH. L.J. 729, 786-87 n.197 (2001). Spyglass had licensed the commercial rights to Mosaic from the University of Illinois, in exchange for royalties on more than 10 million copies distributed to almost 24 commercial entities in 1994 alone. See KAPLAN, *supra* note 28, at 238; Lewis, *Cyberspace*, *supra* note 27.

and ISPs for the exclusive use of its browser.[130] As its market share plummeted,[131] Netscape crafted an open source strategy to regain the lead.[132] In 1998, Netscape announced that it would release the source code to its Web browser in an effort to emulate the success of open source software development efforts.[133] Since then, open source developers, mostly volunteers, have apparently "completely rewritten" the code for Netscape's browser, which was relaunched as Mozilla Firefox by a nonprofit organization called the Mozilla Foundation.[134] Some reviewers have argued that Firefox runs better than Internet Explorer because it is faster and less buggy, and provides superior protection against pop-up advertisements, viruses, and spyware.[135] Firefox has been downloaded more than twenty-

130. Lopatka & Page, *supra* note 129, at 172. Microsoft's license agreements with some computer makers required the installation of Internet Explorer with Windows 1995. *See id.* at 167. Its agreements with many Internet Service Providers, such as AOL, required the designation of Internet Explorer as their default browser, and its Web site allowed computer users to download Internet Explorer at no additional charge. *See* KAPLAN, *supra* note 28, at 278-80; Joint Pretrial Statement of Plaintiffs State of New York et al. at 2-4, *Microsoft Corp.*, 97 F. Supp. 2d 59 (No. 98-1232), *available at* http://www.usdoj.gov/atr/cases/f1900/1977.pdf. The U.S. alleged that Microsoft incorporated Internet Explorer into the Windows 98 operating system with the purpose of monopolizing the Internet browser market and frustrating the emergence of an Internet-based threat to its 80% share of the operating system market. *See* United States v. Microsoft Corp., 253 F.3d 34, 47, 70-72, 84-85 (D.C. Cir. 2001) (en banc) (per curiam); Complaint at ¶¶ 6, 58, 117, *Microsoft Corp.*, 97 F. Supp. 2d 59 (Nos. 98-1232, 98-1233), *available at* http://www.usdoj.gov/atr/cases/f1700/1763.htm. Two courts found that Microsoft had violated the Sherman Act, 15 U.S.C. §§ 1-2, and the U.S. and many of the plaintiff states entered into a consent decree under which Microsoft would ensure a more level playing field for competitive Internet browsers and other "middleware" such as media players. *See* Massachusetts v. Microsoft Corp., 373 F.3d 1199, 1203-09, 1216, 1239 (D.C. Cir. 2004).

131. Netscape's browser market share had dipped below five percent by 2004, with Microsoft at 96%. Byron Acohido & Jon Swartz, *Market to Protect Consumer PCs Seems Poised for Takeoff*, USA TODAY, Dec. 27, 2004, at 1B. Netscape eventually sued Microsoft for its lost browser revenue, and its acquirer AOL Time Warner accepted a $750 million settlement to resolve Netscape's claims. Press Release, AOL Time Warner, AOL Time Warner and Microsoft Agree to Collaborate on Digital Media Initiatives and Settle Pending Litigation (May 29, 2003), http://media.aoltimewarner.com/media/press_view.cfm?release_num=55253203.

132. *See* Lajos Moczar, *The Open Source Monopoly*, IT MANAGER'S J., Feb. 02, 2005, http://www.itmanagersjournal.com/article.pl?sid=05/01/18/053219&from=rss.

133. *See* Press Release, Netscape Communications Corporation, Netscape Announces mozilla.org, a Dedicated Team and Web Site Supporting Development of Free Client Source Code (Feb. 23, 1998), http://wp.netscape.com/newsref/pr/newsrelease577.html.

134. Jonathan Zittrain, *Normative Principles for Evaluating Free and Proprietary Software*, 71 U. CHI. L. REV. 265, 278 n.29 (2004); *see also* John Pain, *Teen Guru on Gates' Trail*, THE AGE (Austl.), Feb. 8, 2005, http://www.theage.com.au/articles/2005/02/07/1107625102289.html.

135. *See, e.g.*, Arik Hesseldahl, *Better Browser Now The Best*, FORBES, Sept. 29, 2004, http://www.forbes.com/2004/09/29/cx_ah_0929tentech.html?partner=tentech_newsletter; Byron Acohido & Jon Swartz, *Signs Your PC's under Siege, and What You Can Do*, USA TODAY, Nov. 18, 2004, http://www.usatoday.com/tech/news/computersecurity/2004-09-08-zombieinfect_x.htm;

five million times, and a developer predicted that it could soon grab up to twenty-five market share points from Internet Explorer.[136]

The resurrection of effective competition in the browser market is a testament to the power of commons-based peer production to innovate on a level surpassing those of the largest corporations in the world. Even though Microsoft boasts a market capitalization in the hundreds of billions of dollars, a nonprofit entity has arguably reclaimed leadership in the browser market by harnessing the collective intelligence of Internet users and open source developers.

2. Independent Web Publishing

Independent Web publishing is a decentralized method for the creation and distribution of knowledge that closely tracks Yochai Benkler's concept of commons-based peer production.[137] Independent Web publishing has several premises, including: (1) the radical equality of Internet speakers engaging in many-to-many communication; (2) the unprecedented diversity of speech that is unleashed when disintermediation removes many of the choke points occupied by the mass media between authors and audiences; and (3) the lifelines into the intellectual commons that are assured by the public domain and the fair use doctrine.[138] It is like becoming a pamphleteer or town crier, amplified many times over by Internet technology.[139]

Independent Web publishing has been responsible for the creation of some of the earliest and best digital libraries. For example, as early as 1994, a volunteer created a digital library of poetry and reference works which he called the "Bartleby Library" after Herman Melville's "humble" scrivener, or copyist.[140] Today that volunteer is the head of Bartleby.com, "the most comprehensive reference publisher on the web."[141] In 1995, a retired software programmer in New Hampshire named Eric Eldred began a digital library of public domain classics of prose and poetry, the Eldritch Press.[142]

Microsoft To Release More Secure Browser, UPI, Feb. 23, 2005, *available at* http://www.kcoy.com/business/story.aspx?content_id=F9FC3AD6-9C0E-4771-82D8-72434CC18A11.

136. *See* Ingrid Marson, *Firefox Community Weighs Up IE 7 Threat*, ZDNET UK, Feb. 16, 2005, http://news.zdnet.co.uk/internet/0,39020369,39188074,00.htm.

137. *See supra* text accompanying note 122.

138. *See* Hannibal Travis, *Pirates of the Information Infrastructure: Blackstonian Copyright and the First Amendment*, 15 BERKELEY TECH. L.J. 777, 851-57 (2000).

139. *See id.* at 853 (citing Reno v. ACLU, 521 U.S. 844, 870 (1997)).

140. Steven H. van Leeuwen, Welcome to Bartleby.com: Great Books Online, http://www.bartleby.com/sv/welcome.html (last visited Nov. 11, 2005); *see also* Michelle V. Rafter, *Cash Shortage Threatens Ambitious Etext Project*, ST. LOUIS POST-DISPATCH, Dec. 11, 1996, at 5C.

141. Leeuwen, *supra* note 140.

142. LESSIG, *supra* note 57, at 213; *see* Eldritch Press, http://www.eldritchpress.org (last visited Mar. 7, 2006).

These are just two of the "literally thousands" of efforts at independent Web publishing of public domain classics.[143]

Other achievements of independent Web publishing involve online fair uses of copyrighted works, rather than digital copies of public domain works. Independent Web publishers dedicated to collecting news and opinion of interest to specific communities, such as libertarians, conservatives, or progressives, have begun to challenge the Web presences of the major media corporations for popularity. Several such sites, which post news articles and opinion pieces to inform their readers or generate debate, now attract more Web traffic than the sites of major newspapers, magazines, and wire services.[144]

3. Open Archives

Open source libraries of academic and scientific information have proliferated, once again illustrating the vitality of commons-based peer production. These "open archives" distribute free copies of scholarly papers normally available only through costly journal subscriptions.[145] They include the arXiv, an online preprint depository for physics scholars;[146] CogPrints for psychology, neuroscience, linguistics, and biology;[147] and RePEc for economics.[148] Scholarship in the humanities, social sciences, and professions is also increasingly posted online free of charge on open archives maintained on faculty Web pages and Web sites such as the Social

143. LESSIG, *supra* note 57, at 214.

144. *See* Travis, *supra* note 138, at 858-59. For example, libertarian Matt Drudge runs a Web site out of his home office that collects headlines and juicy tidbits from hundreds of Internet publications; it attracted more traffic on an ongoing basis in 2004 than the online presence of *USA Today*. *See* Richard Pachter, *Linking News Sites, Matt Drudge Creates Internet Success*, MIAMI HERALD, Sep. 02, 2003. Similarly, the conservative Web site Free Republic became more popular in 2004 than the Web site of *U.S. News and World Report*. *Compare* Alexa Internet, Inc., Free Republic, http://www.alexa.com/data/details/traffic_details?&compare_sites=&y=p&q=&url=freerepublic.com (last visited Feb. 26, 2006) (listing a traffic rank of 1,543 for freerepublic.com), *with* Alexa Internet, Inc., U.S. News and World Report, http://www.alexa.com/data/details/traffic_details?&compare_sites=&y=p&q=&url=usnews.com (last visited Feb. 26, 2006) (listing a traffic rank of 3,640 for usnews.com).

145. *See* Richard A. Danner, *Issues in the Preservation of Born-digital Scholarly Communications in Law*, 96 LAW LIBR. J. 591, 593 (2004).

146. *See* Steven Gass, *Transforming Scholarly Communication for the 21st Century*, *in* ENGINEERING LIBRARIES: BUILDING COLLECTIONS AND DELIVERING SERVICES 6 (2002); arXiv.org e-Print archive, http://www.arxiv.org (last visited Feb. 26, 2006).

147. *See* Cogprints, Welcome to Cogprints, http://www.cogprints.org (last visited Feb. 26, 2006).

148. *See* RePEc: Research Papers in Economics, http://www.repec.org (last visited Feb. 26, 2006).

Science Research Network.[149] Such archives have greatly enhanced the accessibility and affordability of scholarly papers in the arts, sciences, and professions.[150]

4. Wikis

A common critique of independent Web publishing and the "gift economy"[151] of cyberspace is that all they produce is "information," such as gossip or piracy, rather than "sustained works of authorship."[152] The implication is typically that most freely available and openly accessible Internet content will be produced without a "material commitment of time and money" unless broad or expanded copyright protection is enacted to promote "real" authorship.[153] Clearly the encyclopedia, which aims at a "comprehensive" account of human knowledge and is almost necessarily an undertaking of multiple volumes and several thousand pages, is exemplary of a "sustained work of authorship."[154] If commons-based peer production can produce an encyclopedia, it might illustrate its potential as a way of assembling universal digital libraries.

That is precisely what Wikipedia, the free Web-based nonprofit encyclopedia that anyone can edit, represents.[155] The Wiki movement aims, in the words of its founder Jimmy Wales, "to give 'every single person free access to the sum of all human knowledge.'"[156] The English version of

149. *See* Pamela Samuelson, *Mapping the Digital Public Domain: Threats and Opportunities*, LAW & CONTEMP. PROBS. 147, 167 (Winter/Spring 2003); Christopher Farrell, *Academia Goes Online*, BUS. WK., May 8, 1995, at 28; Wendy R. Leibowitz, *It's Not Just For Home Pages Anymore*, AM. LAW., Dec. 1995, at 8; Social Science Research Network (SSRN) Home Page, http://www.ssrn.com/ (last visited Feb. 26, 2006).

150. *See* Gass, *supra* note 146, at 12 (referring to arXiv).

151. Dan Hunter, *Cyberspace as Place and the Tragedy of the Digital Anticommons*, 91 CAL. L. REV. 439, 504 (2003) (noting that online content companies have a hard time getting people to pay for digital content because of the "gift economy" of the internet).

152. Jane C. Ginsburg, *Putting Cars on the "Information Superhighway": Authors, Exploiters, and Copyright in Cyberspace*, 95 COLUM. L. REV. 1466, 1498-99 (1995); *cf.* Neil Weinstock Netanel, *Copyright and a Democratic Civil Society*, 106 YALE L.J. 283, 340 (1996) (responding to critics of independent Web publishing by noting that "there is no reason to assume that the creators of 'sustained works of authorship' . . . will generally make their work available over the Internet").

153. Neil Weinstock Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1, 28-29 (2001).

154. *See* MSN Encarta, Encyclopedia, http://encarta.msn.com/encyclopedia_761551647/Encyclopedia.html (last visited Nov. 10, 2005). Indeed, the first major efforts at encyclopedias are associated with the leading lights of philosophy and the Enlightenment, including Aristotle, Bacon, Diderot, Voltaire, and Hegel. *See id.*; Joseph Sauer, *Encyclopedia*, *in* 5 THE CATHOLIC ENCYCLOPEDIA (1909), *available at* http://www.newadvent.org/cathen/05414a.htm.

155. *See* Wikipedia, Main Page, http://en.wikipedia.org/wiki/Main_Page (last visited Feb. 26, 2006).

156. Brad Stone, *It's Like a Blog, But It's a Wiki*, NEWSWEEK, Nov. 1, 2004, at 34.

Wikipedia, which began in 2001, has already produced 450,000 articles, written and edited by 150,000 users.[157] The current edition of Wikipedia contains several times as many articles as the current edition of the Encyclopædia Britannica, and almost six times more words.[158] While the commercial press frequently questions Wikipedia's "reliability,"[159] many of its articles are more extensive, informative, and timely than the corresponding articles in Encyclopædia Britannica, for example.[160]

As Benkler argues, Wikipedia is a "rich example" of a successful collaboration on an open source project that can achieve the "highbrow" quality of sustained works of authorship.[161] Open source digital libraries like Project Gutenberg, the arXiv, and Wikis create a remarkable "gift economy" that rivals scientific research in motivating enormous expenditures of time, money, and effort in the construction of an intellectual commons. Rather than monetary rewards, their leaders reap the psychological benefits of enhancing their readers' lives and receive the respect and admiration of their peers, like many fine scientists before them.[162]

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157. Aaron Weiss, *The Unassociated Press*, N.Y. TIMES, Feb. 10, 2005, at G5.

158. *See* Simon Waldman, *Who Knows?: It Has No Editors, No Fact Checkers and Anyone Can Contribute an Entry—or Delete One. It Should Have Been a Recipe for Disaster, but Instead Wikipedia Became One of the Internet's Most Inspiring Success Stories*, THE GUARDIAN (U.K.), Oct. 26, 2004, at 2.

159. *See, e.g.*, Weiss, *supra* note 157; Leslie Walker, *Spreading Knowledge, The Wiki Way*, WASH. POST, Sept. 9, 2004, at E01.

160. *See* John Naughton, *Why Encyclopaedic Row Speaks Volumes About the Old Guard*, THE OBSERVER (U.K.), Jan. 9, 2005, at 6 (noting that a search for "tsunami" in the online version of Encyclopædia Britannica produced only a video of the 1946 tsunami that devastated Hawaii, while Wikipedia had an extensive entry on a recent tsunami disaster - the 2004 Indian Ocean tsunami). For example, a search for "2004 election" appears to retrieve much more recent and therefore useful results on Wikipedia than on Britannica, with entries on Wikipedia for the Afghan presidential election, European Parliament election, Indian general elections, U.S. presidential election, etc. *See* Wikipedia, 2004 Election, http://en.wikipedia.org/wiki/2004_election (last visited Feb. 26, 2006). By comparison, most results of a similar search for articles on Britannica's Web site do not address elections conducted in 2004. *See* Encyclopædia Britannica, Search Results for 2004 Election, http://www.britannica.com/search?ct=&query=2004+election (last visited Feb. 26, 2006).

161. Benkler, *supra* note 40, at 386-87.

162. *See* Note, *The Price of Everything, the Value of Nothing: Reframing the Commodification Debate*, 117 HARV. L. REV. 689, 701-2 (2003). In this respect, they emulate preindustrial civilizations' practice of *potlatch*, in which the uncompensated expenditure of precious treasure demonstrates a person's intellectual and moral sovereignty over the world of mere things. *See* 1 GEORGES BATAILLE, THE ACCURSED SHARE 63-77 (1988); Boyle, *supra* note 124, at 45.

5. Open Source Digital Libraries

Commons-based peer production has created what is arguably the largest and most successful digital library, and in a remarkably speedy, efficient, and user-friendly way. In 1971, Michael Hart launched an effort at the University of Illinois to digitize 10,000 works of literature, which he called Project Gutenberg.[163] Since then, more than a thousand "distributed proofreaders," who volunteered to do quality control comparisons between printed and digital versions, have posted over 7,000 public domain works online.[164] This model makes Project Gutenberg "a grassroots phenomenon" to which volunteers contribute a book or two of their choosing a year, or a lifetime, when and how they prefer.[165]

Open source digital libraries promise to open up a universe of cultural treasures (previously reserved for those living in large cities with well-stocked libraries) to global electronic access. While small public libraries in rural or underfunded urban areas may have only a copy or two of Shakespeare, Plato, Twain, or Dickens, Project Gutenberg "offers several editions of Shakespeare, thirty-one works of Plato, fifty of Twain and fifty-six of Dickens."[166] In contrast to faltering models for commercial e-libraries such as NetLibrary, Project Gutenberg harnesses the full power of the Internet, including the ability to upload, download, print, and digitally alter files. Evading the strictures of copyright, its books are free of charge, and free to transform. Focusing on the public domain permits Project Gutenberg to circulate books on a scale rivaling a large public library, with one million downloads per month on an ongoing basis.[167]

III. REFORMING THE LEGAL IMPEDIMENTS TO BUILDING UNIVERSAL DIGITAL LIBRARIES

A universal digital library would aim to include all science, information, opinion, literature, and entertainment ever released to the world, starting

163. *See* LESK, *supra* note 70, at 23; IAN H. WITTEN, HOW TO BUILD A DIGITAL LIBRARY 85 (2003). The project has surpassed Hart's expectations, with 13,000 books digitized for Web distribution by 2005. *See E-books Save You Space, Cash, But Cause Eye Strain*, RICHMOND TIMES-DISPATCH, Feb 6, 2005, *available at* http://www.timesdispatch.com/servlet/Satellite?pagename=RTD%2FMGArticle%2FRTD_BasicArticle&c=MGArticle&cid=1031780660652&path=!business&s=1045855934855.

164. *See* Distributed Proofreaders, Welcome, http://www.pgdp.net/c/default.php (last visited Feb. 26, 2006); Distributed Proofreaders, Statistics Central, http://www.pgdp.net/c/stats/stats_central.php (last visited Feb. 26, 2006).

165. WITTEN, *supra* note 163, at 85.

166. Brief of Amici Curiae The Internet Archive et al. on Behalf of Petitioners at 21, Eldred v. Ashcroft, 537 U.S. 186 (2003) (No. 01-618), *available at* 2002 WL 1059714.

167. *See* Project Gutenberg, The Project Gutenberg FAQ - R-17, http://www.gutenberg.org/faq/R-17.php (last visited Feb. 26, 2006).

with print and moving on to audio, video, computer-generated information, and beyond.[168] While public domain books would be a convenient place to start, in going further, the universal digital library must contend with the laws governing reproduction of copyrighted works in various media.

Accordingly, a government panel found that copyright was the "single most significant barrier to preserving our cultural heritage" in digital libraries.[169] Another expert called copyright concerns among "the most serious problems facing digital libraries."[170] The scanning of books, images, recorded sounds, or videos into digital format is arguably an invasion of a copyright owner's reproduction right.[171] An independent invasion of this right arguably occurs when a copyrighted work is transmitted digitally over the Internet or similar system, which involves making one or more server and end-user copies.[172]

As the length and breadth of copyrights have expanded, the likelihood of establishing truly universal digital libraries has been reduced dramatically. Newer and thornier legal obstacles to the digital libraries of the future have materialized almost as quickly as the libraries themselves. Before

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168. *See* Joseph Alper, *Digital Libraries: Assembling the World's Biggest Library on Your Desktop*, 281 SCI. 1784, 1784-86 (1998).

169. Brief of Amici Curiae The Internet Archive et al. on Behalf of Petitioners at 11-12, *Eldred*, 537 U.S. 186 (No. 01-618), *available at* 2002 WL 1059714 (quoting PRESIDENT'S INFORMATION TECHNOLOGY ADVISORY COMMITTEE, PANEL ON DIGITAL LIBRARIES, DIGITAL LIBRARIES: UNIVERSAL ACCESS TO HUMAN KNOWLEDGE 21 (2001), *available at* http://www.nitrd.gov/pubs/pitac/pitac-dl-9feb01.pdf).

170. *See id.* (quoting MICHAEL LESK, PRACTICAL DIGITAL LIBRARIES 223 (1997)).

171. *See* NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS, FINAL REPORT OF THE NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS 40 (1978), *available at* http://digital-law-online.info/CONTU/PDF/Chapter3.pdf (arguing that "introduction of a work into a computer memory" should be considered as "reproduction of the work" under Copyright Act of 1976). Some copyright experts argue that merely creating a digital version of a printed work is not necessarily a "reproduction," because Congress has not declared computer copies to be reproductions, as it could have done. *See, e.g.*, Jessica Litman, *The Exclusive Right to Read*, 13 CARDOZO ARTS & ENT. L.J. 29, 41-3 (1994); Pamela Samuelson, *The U.S. Digital Agenda at WIPO*, 37 VA. J. INT'L L. 369, 382 n.75 (1997).

172. *See* INFORMATION INFRASTRUCTURE TASK FORCE, WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE 66 & n.205 (1995), *available at* http://www.uspto.gov/web/offices/com/doc/ipnii.pdf (noting that transferring digital file between computers creates a copy); Needham J. Boddie, II et al., *A Review of Copyright and the Internet*, 20 CAMPBELL L. REV. 193, 225 (1998) (noting that Internet transmission creates a copy). Many American copyright holders and scholars oppose treating digital transmissions as reproductions or distributions of copies, because this would upset decades' worth of recording and television contracts, impose crippling liability on telecommunications companies for transmissions of copyrighted works over telephones and the Internet, and curtail many existing consumer rights to share copyrighted material among family and friends. *See* Litman, *supra* note 171, at 31 n.16; Samuelson, *supra* note 149, at 154-58.

cataloguing these obstacles in detail, I will explore their common denominator: overblown fears that new technologies will undermine established markets. These fears lead inexorably to outraged demands that the law protect people's livelihoods by strangling new technologies in the crib. The failure of such predictions of doom to come true in many cases must inform any assessment of the legal barriers to universal digital libraries.

A. Recognizing Holdout Power as an Obstacle to the Growth of New Technologies

History provides us with some helpful guidance to the process by which property owners try, but often fail, to leverage their "holdout power" to block progress. Large public projects such as highways or railroads are particularly vulnerable to the power of individual property owners to "hold out" for a "prohibitively high price" that reflects not simply the value of their land, but the "public value" of the project.[173] Such holdout behavior can "destroy" value out of proportion to the benefit accruing to the property owner, and lead to inefficient underproduction of a resource such as a digital library.[174]

Holdout behavior seems to be common when new technologies with a potential to benefit the public enormously, such as digital libraries, intrude upon the properties or monopolies of vested interests. In the end, however, most such interests leap on board the bandwagon, and profit from the new opportunities that technological advances make possible. Thus, late medieval scribes mobilized to ban printing presses once cheap books began to erode their control over the written word, until many gave up and went to work designing printed books.[175] Composers and publishers of sheet music attacked the recorded music industry as a massive piracy, relenting only after Congress imposed a statutory license as a "deliberate anti-monopoly condition," which resulted in "an outpouring of recorded music."[176] The major American radio and wireless telephony corporations worked mightily to suppress competition in radio broadcasting.[177] Some record companies

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173. Carol Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public* Property, 53 U. CHI. L. REV. 711, 749-50, 752 (1986).

174. Lee Anne Fennell, *Common Interest Tragedies*, 98 NW. U. L. REV. 907, 928-29 (2004); *see also* Richard A. Epstein, *A Clear View of* The Cathedral*: The Dominance of Property Rules*, 106 YALE L.J. 2091, 2091, 2112 (1997) (law of eminent domain aims to redress power of property owners to block public projects).

175. *See* DANIEL J. BOORSTIN, THE DISCOVERERS 515 (1983).

176. LESSIG, *supra* note 57, at 57-58 (quoting H.R. Doc. No. 90-83, at 66 (1967)).

177. The Radio Corporation of America (RCA) formed a "cartel" that "was able to control the [radio] industry for more than three decades." Robert W. McGee, Book Review, 15 NW. J. INT'L L. & BUS. 428, 428 (1994) (reviewing PHILIP J. CURTIS, THE FALL OF THE U.S. CONSUMER

attempted to proscribe broadcast of their music over the radio,[178] but broadcasters secured an exemption for their performances of recorded music,[179] and the major labels ended up *paying* for airplay once the power of radio to sell records became clear.[180] Music composers and publishers, for their part, agreed to a blanket license that paid them for radio broadcasts at rather low rates.[181] Audiocassette tapes and their digital progeny DATs similarly attracted litigation,[182] with Congress refusing in both instances to ban home taping outright.[183]

ELECTRONICS INDUSTRY: AN AMERICAN TRAGEDY (1994)). RCA prevailed upon the Federal Communications Commission to impose onerous restrictions on high-fidelity FM radio, which benefited RCA's stranglehold on AM radio. *See* LESSIG, *supra* note 57, at 3-5. American Telephone and Telegraph (AT&T) entered into an arrangement with RCA, GE, and Westinghouse whereby AT&T would "withdraw from the radio broadcast, phonograph, and motion picture markets," in exchange for "a monopoly of both domestic and international radio telephony." Kurt M. Saunders & Linda Levine, *Better, Faster, Cheaper—Later: What Happens When Technologies Are Suppressed*, 11 MICH. TELECOMM. & TECH. L. REV. 23, 53-54 (2004). AT&T eventually admitted that it had agreed with these entities to restrain trade in the radio markets. *See* Yochai Benkler, *Overcoming Agoraphobia: Building the Commons of the Digitally Networked Environment*, 11 HARV. J.L. & TECH. 287, 312-13 (1998).

178. *See* Jerome H. Remick & Co. v. Am. Auto. Accessories Co., 5 F.2d 411 (6th Cir. 1925); Pastime Amusement Co. v. M. Witmark & Sons, 2 F.2d 1020 (4th Cir. 1924); RCA Mfg. Co. v. Whiteman, 28 F. Supp. 787, 793 (S.D.N.Y. 1939) (enjoining radio broadcast of music distributed on phonograph records labeled "Not Licensed for Radio Broadcast"), *rev'd*, 114 F.2d 86 (2d Cir. 1940); M. Witmark & Sons v. L. Bamberger & Co., 291 F. 776 (D.N.J. 1923) (finding that plaintiff's copyright in musical composition was infringed by radio broadcasts); Waring v. WDAS Broad. Station, Inc. 194 A. 631, 637-38 (Pa. 1937) (enjoining radio broadcasts of music because recordings were stamped "[n]ot licensed for [r]adio [b]roadcast").

179. *See* LESSIG, *supra* note 57, at 58-59; Leslie Walker, *Web Radio Waves Drying Up*, WASH. POST, Aug. 11, 2002, at H07.

180. *See* Matthew Fagin et al., *Beyond Napster: Using Antitrust Law to Advance and Enhance Online Music Distribution*, 8 B.U. J. SCI. & TECH. L. 451, 501 n.228 (2002) (describing how nearly "all airplay on FM commercial radio is paid for by the five major record labels," so that it "costs $100,000 to $250,000 to launch a single on rock radio") (citations omitted).

181. *See* Timothy Wu, *Copyright's Communications Policy*, 103 MICH. L. REV. 278, 310-11 (2004) (after being charged with multiple antitrust violations, the American Society of Composers, Authors, and Publishers agreed to "limit[] the scope of copyright in compositions rather like a statutory or compulsory license," with "blanket licenses to its copyrights" granted on a non-exclusive basis and at "reasonable" rates, and a court granted "the final say in music pricing"); Dan Carney, *Odd Allies in Song Royalties Battle*, N.Y. TIMES, July 15, 1996, at D9 ("Blanket licenses typically cost about 1.5 percent of a [radio] station's gross revenues; per-program licenses vary depending on the size of the station and the popularity of the individual title. On a per-minute basis, blanket licenses are much cheaper, in part because they represent a volume discount. . . .").

182. *See* Elektra Records Co. v. Gem Elec. Distrib., 360 F. Supp. 821 (E.D.N.Y. 1973) (recording companies obtained preliminary injunction against defendant's provision of blank tapes and copying facilities to retail customers); Complaint, Cahn v. Sony Corp., 90 Civ. 4537 (S.D.N.Y. filed July 9, 1990) (seeking to restrain defendant's sale of DAT tapes, alleged to enable infringement of music copyrights). A report commissioned by Congress estimated that "Americans tape-record individual musical pieces over [one] billion times per year," and noted that "the public—those who had taped

Copyright owners have objected particularly strenuously to the growth of innovative new technologies for the distribution of video images, including cable television, videocassette recorders (VCRs), digital audiotapes (DATs), digital video recorders (DVRs), and computer software. Litigation and regulation held back cable television, which makes money by selling other people's audiovisual content without seeking permission, for many years.[184] The Supreme Court rejected claims that cable infringed copyright, however,[185] and Congress subsequently enacted a statutory licensing system for it.[186] These developments allowed the cable industry to rapidly gain in popularity, quadrupling in a decade and overtaking broadcast as the "dominant technology of television."[187] Movie studios, broadcasters, and copyright owners charged that VCRs abetted piracy of film and television, and would destroy any incentive to create new content.[188] The

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and those who had not—believe it is acceptable to copy recorded music for one's own use or to give to a friend as long as the copies are not sold." U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, COPYRIGHT AND HOME COPYING: TECHNOLOGY CHALLENGES THE LAW 3 (1989), *available at* http://www.wws.princeton.edu/ota/disk1/1989/8910/8910.PDF.

183. In 1971, Congress refused to "restrain the home recording, from broadcasts or from tapes or records, of recorded performances, where the home recording is for private use," calling the practice "common and unrestrained today." H.R. Rep. No. 92-487, at 7, *reprinted in* 1971 U.S.C.C.A.N. 1566, 1572. In 1992, Congress enacted legislation that limited second-generation copies and imposed a compulsory license scheme, in exchange for immunizing DAT manufacturers from copyright liability. *See* Audio Home Recording Act (AHRA) of 1992, 17 U.S.C. §§ 1001-1010. (2000); Daniel E. Abrams, *Personal Video Recorders, Emerging Technology and the Threat to Antiquate the Fair Use Doctrine*, 15 ALB. L.J. SCI. & TECH. 127, 133-35 (2004).

184. *See* LESSIG, *supra* note 57, at 59-61 (cataloguing attacks by broadcasters, copyright owners, and movie actors on cable industry's alleged "piracy" of audiovisual content); Wu, *supra* note 181, at 320 ("By 1970, broadcasters had successfully convinced the FCC to impose serious limits on the growth of cable.").

185. *See* Teleprompter Corp. v. Columbia Broad. Sys., Inc., 415 U.S. 394, 411-14 (1974), *superseded by statute*, Copyright Revision Act of 1976, 17 U.S.C. §§ 101-810 (2000), *as recognized in* Capital Cities Cable, Inc. v. Crisp, 467 U.S. 691 (1984).

186. *See* LESSIG, *supra* note 57, at 57-61; Wu, *supra* note 181, at 322.

187. Wu, *supra* note 181, at 323.

188. *See Home Recording of Copyrighted Works: Hearings on H.R. 4783, H.R. 4794, H.R. 4808, H.R. 5250, H.R. 5488, and H.R. 5705 Before the Subcomm. on Courts, Civil Liberties, and the Administration of Justice of the H. Comm. on Judiciary*, 97th Cong. 4, 8 (1982) (statement of Jack Valenti, President, MPAA) (predicting that "VCR avalanche" would "strip[]" aftermarket for motion pictures of any "profit potential," leaving them "decimated"); Brief Amicus Curiae of CBS Inc. in Support of Respondents at 2, 10-11, Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417 (1984) (No. 81-1687), 1981 U.S. Briefs 1687 (LEXIS) (noting that, "Every broadcaster is directly threatened by [the] argument that the broadcasting of copyrighted materials makes them fair game for home copying. . . . Home taping . . . decreases the economic incentives for authors to create"); Brief of The Authors League of America as Amicus Curiae at 5, Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417 (1984) (No. 81-1687), 1981 U.S. Briefs 1687 (LEXIS) (observing an inevitable "consequence of unauthorized and uncompensated home-recording of broadcast motion pictures, plays and television programs may well be the drying-up of financing for worthwhile films and television programs"); LESSIG, *supra* note 57, at 76 (quoting a representative of motion picture studios who claimed that ability of consumers to tape movies and television would "take from [copyright] owners the very essence of their property," remove all prospect of "profit"

Supreme Court disagreed, however, and Congress rebuffed efforts to impose new royalty payments.[189] Since then, revenues from VCR usage have "dwarfed" box office receipts,[190] making VCRs very profitable for the film industry.[191] Nevertheless, copyright holders have driven makers of DVRs and DVD copying software, the digital heirs to VCRs, out of business.[192] They have lobbied to outlaw taping digital television broadcasts, restrict the capabilities of DVRs like Tivo, and prohibit the sale of DVD players that let parents filter out sex, violence, and profanity.[193]

When technologies permitting the efficient compression and digital distribution of music and the spoken word debuted in the 1990s, vested

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from the reproduction of their work, and wreak "devastation" upon "the creative community in this country").

189. *See* Go-Video, Inc. v. Motion Picture Ass'n of Am., No. 91-16039, 1992 U.S. App. LEXIS 26384, at *2 (9th Cir. Oct. 9, 1992) (recognizing that "[w]hile the Betamax case was pending, the MPAA tried to obtain legislation placing a royalty on VCR hardware and software").

190. Mark S. Nadel, *How Current Copyright Law Discourages Creative Output: The Overlooked Impact of Marketing*, 19 BERKELEY TECH. L.J. 785, 823 (2004).

191. *See Franklin Pierce Law Center's Seventh Biennial Intellectual Property System Major Problems Conference: Digital Technology and Copyright: A Threat or a Promise?*, 39 IDEA 291, 305 (1999) (remarks of Dean Marks, senior intellectual property counsel for Time Warner).

192. *See* Universal City Studios, Inc. v. Corley, 273 F.3d 429, 453-60 (2d Cir. 2001) (holding that software capable of being used to back up DVDs could constitutionally be outlawed); Paramount Pictures Corp. v. 321 Studios, No. 03-CV-8970, 2004 WL 402756, at *2 (S.D.N.Y. 2004); 321 Studios v. Metro Goldwyn Mayer Studios, Inc., 307 F. Supp. 2d 1085, 1108 (N.D. Cal. 2004) (enjoining distribution of software that could be used to back up DVDs); Benny Evangelista, *Reining in Tech; Learning from the Napster Case, the Entertainment Industry Is Trying to Block New Technology Before It Takes Off*, S.F. CHRON., Aug. 30, 2004, at C1 (attributing bankruptcy of DVR manufacturer Sonicblue Inc., to "lawsuits filed by major entertainment companies, which wanted to stop features that allowed users to share shows via the Internet and automatically skip commercials," and demise of DVD copying software manufacturer 321 Studios Inc. to similar "court battles").

193. *See Protecting Innovation and Art while Preventing Piracy: Hearing on S. 2560 Before the S. Comm. on the Judiciary*, 108th Cong. (2004) (statement by Andrew Greenberg, Vice Chairman, Intellectual Property Committee of Institute of Electrical and Electronics Engineers – USA), *available at* http://judiciary.senate.gov/testimony.cfm?id=1276&wit_id=3751 (objecting to legislation proposed by copyright owners that requires "virtually every new technology converging with a network . . . to satisfy the desire of each and every owner of copyrighted content . . . to modify the technology to his satisfaction"); Evangelista, *supra* note 192 (describing campaigns against digital radio transmissions, DVRs, and DVD players made for parental filtering); Bill McConnell, *Salute for 'Broadcast Flag'; Copyright Official Supports Copy Protection for Digital Content*, BROADCASTING & CABLE, Mar. 10, 2003, at 2 (Register of Copyrights testified that consumers should have no right to engage in "the kind of unrestrained recording permitted for analog VHS tapes," such as making "libraries of recorded shows" or giving copies to friends); Nick Wingfield & Sarah McBride, *Green Light for Grokster*, WALL ST. J., Aug. 20, 2004, at B-1 (entertainment industry lobbied Congress to outlaw technologies "associated with piracy"); Tom Zeller Jr., *Federal Effort to Head Off TV Piracy Is Challenged*, N.Y. TIMES, Feb. 21, 2005, at C1 (proposed limits to home taping of digital television broadcasts would outlaw fair uses and distribution of public domain material).

interests whose business models could be upset by these innovations tried to shut them down. The recording industry and musicians won rulings from the U.S. Copyright Office and the Librarian of Congress that subjected webcasting, or the broadcasting of music over the Internet rather than radio waves, to much more onerous royalty payment obligations than traditional radio stations face.[194] The requirement of royalty payments closed hundreds of small webcasters,[195] and could force many others out of business.[196] The record companies, motion picture studios, and other interests have sought to outlaw the use of MP3 technology[197] and peer-to-peer (p2p) file-sharing software like Napster.[198] They have succeeded so far in establishing a "zero tolerance" policy for p2p software implemented using centralized directories of MP3s on computer user's hard drives,[199] and are currently striving, with

194. *See* Beethoven.com LLC v. Librarian of Cong., 394 F.3d 939, 949 (D.C. Cir. 2005) (rejecting challenge filed by webcasters to arbitrariness of royalty scheme); Bonneville Int'l Corp. v. Peters, 347 F.3d 485, 500 (3d Cir. 2003) (rejecting statutory challenge to royalty scheme); Webcaster Alliance, Inc. v. Recording Indus. Ass'n of Am., Inc., No. C 03-3948 WHA, 2004 U.S. Dist. LEXIS 11993, at *16-19 (N.D. Cal. 2004) (rejecting antitrust challenge to royalty scheme); Rates and Terms for Eligible Nonsubscription Transmissions and the Making of Ephemeral Reproductions, 37 C.F.R. § 261.3(a)(1) (2004) (setting forth webcasting royalty scheme); *see also* LESSIG, supra note 57, at 198-99 ("Internet radio has to pay a *type of copyright fee* that terrestrial radio does not" because, according to very prominent webcaster, the recording industry demanded royalties "ten times higher than what radio stations pay to perform the same songs for the same period of time" in order to reduce "thousands of webcasters" to "*an industry with . . . five or seven big players who can pay a high rate.*").

195. *See* M. Corey Goldman, *The Static Blocking Internet Radio*, TORONTO STAR, Sept. 27, 2004, at D05; Bob Tedeschi, *Proponents Say That the Time Has Come for Online Radio, and Now They Hope Mainstream Advertisers Come Along*, N.Y. TIMES, Mar. 22, 2004, at C7 (only largest stations owned by major radio chain can afford to engage in webcasting).

196. Walker, *supra* note 179; *see also* D.C. Denison, *Webcasters 'Silently' Hit Royalty Rates, US Ruling on Fees Threatens Internet Radio, Some Warn*, BOSTON GLOBE, May 2, 2002, at E01; Michael Papish, *College Radio, Struggling to Be Heard*, WASH. POST, Nov. 10, 2002, at B02; Rob Pegoraro, *They're Not Treating Webcasters Like Royalty*, WASH. POST, May 26, 2002, at H05.

197. "The technology known as 'MP3' permits rapid and efficient conversion of compact disc recordings ('CDs') to computer files easily accessed over the Internet." UMG Recordings, Inc. v. MP3.com, Inc., 92 F. Supp. 2d 349, 350 (S.D.N.Y. 2000). Courts have imposed copyright liability on providers of Internet-based "space-shifting" services that allow owners of recorded music to access digital versions of their music over the Internet, see *id.*, but rejected the attempt by recording industry to hold the manufacturers of portable MP3 players liable for alleged copyright infringement by consumers. *See* Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys, Inc., 180 F.3d 1072, 1081 (9th Cir. 1999) (affirming denial of motion for preliminary injunction).

198. The technology of p2p achieves unprecedented efficiency in the distribution of digital information by allowing Internet users to access and copy an incredible variety of files stored on the computers of other Internet users. The technology employs a system of "distributed intelligence" that, like the Internet itself, achieves an "ease and inexpensiveness" that traditional distribution models have not. LESSIG, *supra* note 57, at 17, 67.

199. *See In re* Aimster Copyright Litig., 334 F.3d 643, 643 (7th Cir. 2003) (following *Napster* case to hold provider of Internet-based directory of MP3s on users' computers liable for copyright infringement); Arista Records, Inc. v. MP3Board, Inc., 00 Civ. 4660 (SHS), 2002 U.S. Dist. LEXIS 16165, at *10-14 (S.D.N.Y. 2002) (holding that, depending on outcome of trial, operator of search engine for hyperlinks to MP3 and other media files available over Internet could be held liable for

the support of the U.S. Government, to ban decentralized p2p technology such as Kazaa.[200]

As a coalition of Internet industry leaders recently pointed out, "[c]opyright owners always employ ominous rhetoric (more suited to a mystery novel than a legal brief) to describe the supposed threat created by advances in distribution technology. In hindsight, the concerns expressed by copyright owners about such threats have frequently proven overblown or unfounded."[201] Printing did not destroy books and writing, as the scribe guilds maintained; instead, ten to twenty million books were printed in the first few decades of the technology's adoption.[202] Somehow the music industry struggled on after its largest companies failed to stop radios, audiocassettes, CD burners, MP3s, file sharing, and iPods from becoming wildly popular.[203] Indeed, just as Napster and MP3s became popular in

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copyright infringement by its users); A&M Records, Inc. v. Napster, Inc., 114 F. Supp. 2d 896 (N.D. Cal. 2000), *aff'd in part and rev'd in part*, 239 F.3d 1004, 1027 (9th Cir. 2001) (holding provider of Internet-based directory of MP3 files on its users' computers liable for contributory and vicarious copyright infringement), *remanded to* No. C 99-05183 MHP, 2001 U.S. Dist. LEXIS 2186 (N.D. Cal. Mar. 5 2001), *aff'd*, 284 F.3d 1091, 1096-98 (9th Cir. 2002) (adopting "zero tolerance" policy towards infringing MP3s on p2p networks, which resulted in permanent closure of Napster service); Complaint, Twentieth Century Fox Film Corp. v. Scour, Inc., 00CV-5385 (S.D.N.Y. filed July 20, 2000) (copyright infringement case filed against p2p service enabling exchange of audio and video files), *available at* http://www.riaa.com/news/filings/pdf/pastissues/scourcomplaint.pdf; Rob Pegoraro, *BitTorrent May Prove Too Good to Quash*, WASH. POST, Mar. 13, 2005, at F07 (describing lawsuits by movie studios against entities linking to files on BitTorrent network, which combines elements of p2p and downloading); Matt Richtel, *Music and Movies Web Site in Bankruptcy-Law Filing*, N.Y. TIMES, Oct. 14, 2000, at C4 (discussing closure of Scour Media p2p service due to copyright infringement lawsuits filed by record companies and movie studios).

200. *See* Metro-Goldwyn-Mayer Studios, Inc., v. Grokster Ltd., 380 F.3d 1154, 1158-59, 1162-63 (9th Cir. 2004) (holding that providers of p2p software based on "completely decentralized" and "supernode" indexing systems were not contributorily or vicariously liable for copyright infringement by users of their software because providers lacked specifically knowledge or ability to control infringing activity), *vacated*, 125 S. Ct. 2764, 2764 (2005) (remanding for determination of whether p2p software providers induced user infringement so actively as to trigger copyright liability, notwithstanding lawful uses of p2p technology); Brief for the United States as Amicus Curiae Supporting Petitioners at 24, Metro-Goldwyn-Mayer Studios, Inc., v. Grokster Ltd., 125 S. Ct. 2764 (2005) (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/050124_US_Amicus_Br_04-480.pdf (arguing that p2p software makers could be liable for copyright infringement based on "overwhelming predominance of infringing uses of [their p2p] networks, and the centrality of copyright infringement to the viability of [their] businesses").

201. Brief of Internet Amici in Support of Affirmance at 11, *Grokster*, 125 S. Ct. 2764 (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/20050301_internet_industry.pdf.

202. *See* BOORSTIN, *supra* note 175, at 533-34.

203. *See* Brief of Amici Curiae Internet Law Faculty in Support of Respondents at 3-7, *Grokster*, 125 S. Ct. 2764 (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/20050301_internet_law_profs.pdf.

1999, CD sales soared, and the likes of the Backstreet Boys and Britney Spears broke records.[204] The Hollywood movie studios had their "best year ever" in 2002 with *Spider-Man* and other blockbusters,[205] after failing to prevent the marketing and sale of hundreds of millions of VCRs, DVRs, and DVD burners.[206]

B. Accelerating the Growth of the Public Domain to Feed Digital Libraries

Digital libraries operating on every model—public, private, and peer-produced—are greatly impeded by the holdout power of publishers and authors' groups, which is magnified by copyright terms that span centuries of time, rendering the public domain irrelevant to most twentieth century works. Although new copyrights could last for as few as fourteen years under the Copyright Act of 1790,[207] copyrights may last for as long as 95, 120, 150, or even 200 years after the Copyright Term Extension Act (CTEA) of 1998.[208] Congress and the courts appear to have adopted a policy of perpetual copyrights, under which most or all twentieth-century copyrights must last forever so that the rights to famous cartoon characters and popular songs will never expire.[209] The Supreme Court effectively embraced such a

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204. *See* VAIDHYANATHAN, *supra* note 3, at 44 ("In 1999, the year Napster debuted and MP3s became widely available through various other means around the Internet, compact disc revenues were up more than 12 percent."); Jim Farber, *Squeals of Fortune; Singers with Teen Appeal Performed Very Nicely on the Charts in '99*, NEWSDAY, Dec. 28, 1999, at 34 (Backstreet Boys sold more than 10 million recordings in 1999, while Britney Spears sold 7 million); Phyllis Furman, *BMG Hits All Right Notes; Music Chief's Young Pop Stars Bring Sales Bonanzae*, DAILY NEWS (NEW YORK), Sept. 07, 1999, at 27 (noting that the Backstreet Boys broke sales record in 1999).

205. *See* Victoria Lindrea, *2002 at the Movies*, BBC NEWS, Dec. 24, 2002, http://news.bbc.co.uk/1/hi/entertainment/film/2573201.stm. Movie attendance increased by 20% in the past decade. *See* R. Kinsey Lowe, *MPAA: Movie Attendance Dips, But So Do Costs*, L.A. TIMES, Mar. 16, 2005, at E2.

206. *See* Francine Brevetti, *Small Startups Find Underserved Rental Niches*, OAKLAND TRIB., Apr. 2, 2005, at Bus. (noting that 48 million DVD burners were shipped with personal computers in 2004); McConnell, *supra* note 193, at 2; Margaret McGurk, *As Prices Fall, DVD Players Come of Age*, CINCINNATI ENQUIRER, June 10, 2001, *available at* http://www.enquirer.com/editions/2001/06/10/tem_as_prices_fall_dvd.html (noting the use of more than 400 million VCRs worldwide).

207. *See, e.g.*, Travis, *supra* note 138, at 813 (discussing Copyright Act of 1790).

208. *See* Brief of Amici Curiae The Internet Archive et al. on Behalf of Petitioners at 5, Eldred v. Ashcroft, 537 U.S. 186 (2003) (No. 01-618), *available at* 2002 WL 1059714 (after CTEA, term of copyright is minimum 70 years and often exceeds 100 years); William M. Landes & Richard A. Posner, *Indefinitely Renewable Copyright*, 70 U. CHI. L. REV. 471, 471, 473, 477 n.18 (2003) (describing how Louisa May Alcott's "fourth-generation descendants" secured copyright in her first novel, written in 1849, for copyright spanning three centuries); Travis, *supra* note 138, at 828 (noting that after CTEA, term of copyrights owned by corporate authors was ninety-five years, and term of copyrights owned by individual authors was life plus seventy years, or up to 150 years if author obtains a copyright at age twenty and dies at 100).

209. *See* Peter Jaszi, *Caught in the Net of Copyright*, 75 OR. L. REV. 299, 303 (1996); Travis, *supra* note 138, at 815-19, 828-31. The Congressmen for whom the CTEA was named, Sonny

policy in *Eldred v. Ashcroft*[210] when it refused an effort by a coalition of digital libraries, including the Eldritch Press, Project Gutenberg, and the Internet Archive, to overturn, on constitutional grounds, Congress' periodic retroactive extensions of copyright terms.[211] A copyright term of a century or more creates a "virtually perpetual" copyright, and leaves the public with almost no expectation of a usable public domain.[212] The public domain is receding from public awareness; its "newest works" predate the Great Depression.[213]

All major models for building digital libraries have suffered from the holdout power of copyrights, looming in the background, which results in a narrowed public domain. The American Memory project of the Library of Congress was stymied because a "substantial part" of the Library's collection is copyrighted.[214] The Library of Congress has limited itself to making available "materials produced by the U.S. Government, those likely to be out of copyright by virtue of their date of creation, or collections where a single organization or individual appears to hold copyright and commercial interest is unlikely."[215] As a result, the American Memory project often resembles a smattering of historical trinkets more closely than a fully-fledged digital library of "American memory."[216] Similarly, digital libraries of the medical and physical sciences such as PubMed and PubSCIENCE are a mere shadow of the searchable full-text resources they could have been, with PubMed restricted to brief abstracts, and PubSCIENCE discontinued

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Bono, wanted copyrights to last forever. *See* 144 Cong. Rec. 9946, 9952 (1998) (statement of Rep. Bono).

210. 537 U.S. 186 (2003).

211. *See id.* at 242 (Stevens, J., dissenting) ("Congress may extend existing monopoly privileges *ad infinitum* under the majority's analysis."); Brief of Amici Curiae The Internet Archive et al. on Behalf of Petitioners, *Eldred*, 537 U.S. 186 (No. 01-618), *available at* 2002 WL 1059714; *The Coming of Copyright Perpetuity*, N.Y. TIMES, Jan. 16, 2003, at A28 (suggesting that Supreme Court's upholding of CTEA may mean end of public domain and start of perpetual copyright).

212. *See Eldred*, 537 U.S. at 243 (Breyer, J., dissenting).

213. Jason Krause, *The Education of Larry Lessig: A Supreme Court Loss Inspires a Stanford Professor to Renew his Copyright Fight*, 90 A.B.A. J., Jan. 2004, at 36, 38.

214. Lewis, *supra* note 61.

215. Caroline R. Arms, *Getting the Picture: Observations from the Library of Congress on Providing Online Access to Pictorial Images*, 48 LIBR. TRENDS 379, 405 (1999).

216. For example, if one searches the American Memory Project for "Roosevelt," one retrieves a haphazard collection of sheet music, photographs, and letters, rather than full books or articles about the Roosevelts. *See* The Library of Congress, American Memory, http://memory.loc.gov/ammem (last visited Mar. 2, 2006).

after "intense lobbying."[217] All such open archives of scientific research are under siege from copyright owners who oppose their existence.[218]

Similarly, the copyright lobbies have restricted Amazon and Google from helping consumers access full digital previews or fair uses of books, or even providing small samples of most books. Google must hold off implementing a truly universal digital library with robust full-text searching, reading, copying and printing capabilities, because its copyright liability for doing so "could reach into the billions."[219] The architects of Google Print planned to display only "bibliographic information" and three "very small text snippets" from books in copyright,[220] a "snippet" being limited to a very few lines of text around a search term.[221] Google also planned to forbid Internet users from copying or printing excerpts from books altogether.[222] Despite these draconian restrictions, publishing industry lobbyists raised the specter of litigation, arguing that even the rudimentary access that Google planned to provide would be far too much.[223] The Association of American Publishers demanded that Google freeze its digital library project for six months or more while publishers negotiated with Google about copyright concerns.[224] The President of the Association of American University Presses characterized Google's provision of small snippets of books as a

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217. *See* Katherine Hobson, *Hunting for Health*, U.S. NEWS & WORLD REP., Nov. 17, 2003, at 48 (arguing that PubMed "has free abstracts and not-so-free full articles"). PubSCIENCE was discontinued in 2002 after "intense lobbying" from the Software & Information Industry Association, which feared competition. *See* Andrew Albanese, *PubSCIENCE Dies Despite Comments*, LIBR. J., Dec. 15, 2002, at 17.

218. James Fallows, *The Twilight of the Information Middlemen*, N.Y. TIMES, May 16, 2004, § 3 (Sunday Business), at 5.

219. Lessig, *supra* note 120.

220. Jeffrey R. Young, *Publishing Groups Say Google's Book-Scanning Effort May Violate Copyrights*, CHRON. OF HIGHER EDUC., Feb. 18, 2005, at A35.

221. *Id.*

222. *See* Markoff & Wyatt, *supra* note 120; *see also* Gary Price, *Google Partners with Oxford, Harvard & Others to Digitize Libraries*, SEARCH ENGINE WATCH, Dec. 14, 2004, http://searchenginewatch.com/searchday/article.php/3447411; Google Book Search Help: Frequently Asked Questions, http://print.google.com/googleprint/help.html (last visited Mar. 2, 2006); Google Book Search Tour: Your Content Is Protected, http://www.google.com/services/print_tour/print4.html (last visited Mar. 2, 2006) ("[P]rinting and image copying functions are disabled on all Google Print content pages.").

223. *See* Young, *supra* note 220.

224. *See* Dan Carnevale & Jeffrey R. Young, *Publishers' Group Asks Google to Stop Scanning Copyrighted Works for 6 Months*, CHRON. OF HIGHER EDUC., July 1, 2005, at A29 ("Many publishers say that Google does not have the right to scan a copyrighted book. They argue that making a digital copy of a volume for any commercial purpose requires the permission of the copyright holder."); Burt Helm & Hardy Green, *Google This: Copyright Law*, BUS. WK., June 6, 2005, at 42 (discussing a British publisher's argument that Google could "Napsterize" books like the Harry Potter novels by creating digital copies that could be stolen from Google and posted to the Web).

"systematic infringement of copyright on a massive scale."[225] Google partially bowed to this pressure, and announced that it would not even scan the books of publishers who object to the idea of fair use, despite its belief that the original plan of restricting users to small snippets of copyrighted books was indisputably compliant with the fair use doctrine.[226] The publishing lobbyists were unsatisfied, and seemingly wanted the whole project to be scrapped regardless of whether individual publishers wanted to opt out or not.[227]

The erosion of the public domain has been most damaging of all to commons-based peer-production of digital libraries. A distributed network of volunteers typically lacks the large institutional clout of a Library of Congress or Google that is needed to secure licenses of copyrighted material. When Congress and the courts remove great works of literature such as *The Great Gatsby* (1925) or *The Magic Mountain* (1927) from the public domain, as they did in passing and upholding the CTEA, efforts such as Project Gutenberg can do little more than wait and hope that another decades-long term extension is not forthcoming a generation later.[228] Without the CTEA, commons-based peer-produced digital libraries would have uploaded many more books to the Web for free public access.[229] The CTEA inflicted a "serious blow" on digital libraries by sweeping untold thousands of works out of the public domain.[230]

Near-perpetual copyrights offend traditional Anglo-American principles of the public domain as a bulwark against the power of monopolies to frustrate progress. After the British rejected the perpetual monopoly model of the "guild[s] of scribes, bookbinders, and booksellers" (i.e. the Stationers' Company), the first copyright statute they passed vested copyrights in authors or purchasers of existing works for a limited term of twenty-one years, and of new works for a limited term of fourteen to twenty-eight

225. Helm & Green, *supra* note 224, at 42 (internal quotation omitted).

226. *See* Yuki Noguchi, *Google Delays Book Scanning; Copyright Concerns Slow Project*, WASH. POST, Aug.13, 2005, at D01.

227. *See id.*; Edward Wyatt, *Google Library Database is Delayed*, N.Y. TIMES, Aug. 13, 2005, at B9.

228. *See* Brief of Amici Curiae The Internet Archive et al. on Behalf of Petitioners at n.17, Eldred v. Ashcroft, 537 U.S. 186 (2003) (No. 01-618), *available at* 2002 WL 1059714.

229. *See id.* ("Project Gutenberg estimates that, based on current growth rates for creating ebooks, virtually all pre-1923 public domain books could be available online by the end of the decade. But for the CTEA, we could already have digital copies of [many post-1923 books as well].").

230. *See* Michael Geist, *National Web Library Do-able, Affordable, Visionary*, TORONTO STAR, Jan. 10, 2005, at D03 (referring to likely effect of proposal to equalize Canadian copyright term with post-CTEA U.S. term).

years.[231] The statute followed the much older limitation on royal monopolies to fourteen years, which was endorsed by the English Parliament, and passed with the purpose of protecting free trade and progress from overweening state power.[232]

With the history of British publishing monopolies fresh, the Framers of the U.S. Constitution (atypically[233]) restricted the power of Congress to issue copyrights as to permissible length ("limited"), purpose ("[t]o promote the Progress of Science"), and scope ("[w]ritings" of "Authors").[234] In enacting the Copyright and Patent Clause, the Framers intended copyright to "promote the progress of science and the useful arts, and admit the people at large, *after a short interval*, to the full possession and enjoyment of all writings and inventions without restraint."[235] Following the Statute of Anne, the Copyright Act of 1790 limited the term of copyrights in new works to an initial term of fourteen years and a renewal term of fourteen more years.[236] Moreover, under the Act, about 95% to 100% of published works "fell immediately into the public domain" due to registration requirements and

231. *See* Lasercomb Am., Inc. v. Reynolds, 970, 974-75 (4th Cir. 1990) (noting that the first British copyright statute "granted the creator a monopoly for a limited time only," so as to revoke the Stationers' Company's "exclusive right to publish and print all published works") (citation omitted); PAUL GOLDSTEIN, COPYRIGHT'S HIGHWAY 41 (1994); Eric B. Easton, *Who Owns 'The First Rough Draft of History?': Reconsidering Copyright in News*, 27 COLUM. J.L. & ARTS 521, 532-33 (2004) (noting that Queen Mary issued a charter in 1557 to the "ancient guild" of scribes, printers, and dealers known as Stationers' Company, vesting it with a monopoly over the printing and sale of books); John Tehranian, *Et Tu, Fair Use? The Triumph of Natural-Law Copyright*, 38 U.C. DAVIS L. REV. 465, 467-70 (2005) (explaining that to "break up the publishing monopoly," the Statute of Anne "severely curtailed the duration of copyright protection" down "to a mere fourteen years for all new works (with the possibility of a single renewal term if the author were still alive . . .)"); Travis, *supra* note 138, at 810-11 (discussing how the Statute of Anne, 1710, 8 Ann., c.19 (Eng.), developed out of a campaign against perpetual common-law copyrights claimed by printing monopolist Stationers' Company).

232. *See* Statute of Monopolies, 1623, 21 Jac. I, c. 3 (Eng.); WILLIAM BLACKSTONE, 4 COMMENTARIES *159 (noting that the Statute of Monopolies declared royal monopolies of trade "to be contrary to law and void").

233. Most of the other clauses in Article I grant powers to Congress without apparent limitations as to purpose, timing, or scope of exercise. *See, e.g.*, U.S. CONST. art. I, § 8, cl. 1 (taxing power).

234. U.S. CONST. art. I, § 8, cl. 8; *see* Brief of Malla Pollack as Amicus Curiae Supporting Petitioners at nn.3-5 & accompanying text, Eldred v. Ashcroft, 537 U.S. 186 (2003) (No. 01-618), *available at* http://cyber.law.harvard.edu/openlaw/eldredvashcroft/supct/amici/pollack.html; Tyler T. Ochoa, *Patent and Copyright Term Extension and the Constitution: A Historical Perspective*, 49 J. COPYR. SOC'Y U.S.A. 19, 100-02 (2002).

235. JOSEPH STORY, COMMENTARIES ON THE CONSTITUTION OF THE UNITED STATES § 1147 (R. Rotunda & J. Nowack eds., 1987), *available at* http://www.constitution.org/js/js_319.htm (emphasis added).

236. *See* Travis, *supra* note 138, at 813.

the total denial of copyrights to British works,[237] "which outnumbered American works by a large number into the nineteenth century."[238]

Thus, the Framers envisioned a vibrant public domain into which all British and the vast majority of American works would immediately fall, followed by the remaining American works after a "short interval" of fourteen to twenty-eight years.[239] For almost 200 years of American history, just about all books over thirty-two years old were in the public domain, a standard that would guarantee contemporary Americans free access to everything published before 1973.[240] The current system of copyrights for 95 to 150 years grants almost *five times* the censorial prerogative to authors and licensees than did the twenty-eight-year maximum term under the Copyright Act of 1790. The constitutionality of such a radical departure from the Framers' vision therefore needs to be rethought.

We also need a revitalized public domain to vindicate the First Amendment interests of Internet users, digital librarians, independent Web publishers, and Wiki writers. The First Amendment defends a "countervailing speech interest" that must be balanced against the moral or economic case for near-perpetual copyright in books.[241] This interest is not fully protected, as many opponents of a vibrant public domain argue, by the idea-expression distinction and fair use doctrine.[242] These doctrines cannot define the outer boundaries of the First Amendment because they post-dated it in American law; do not even come close to replicating the freedom that the Framers' generation enjoyed to transform, adapt, and republish British and American works; and do not adequately address the fact that employing particular words may be necessary to convey, criticize, or satirize certain

237. Lessig, *supra* note 124, at 1794; Complaint at 10, Kahle v. Ashcroft, No. C. 04-1127 BZ (N.D. Cal. filed Mar. 22, 2004), *available at* http://cyberlaw.stanford.edu/about/cases/Civil%20Complaint%203-22-04.pdf.

238. Travis, *supra* note 138, at 848 n.366.

239. *See id.* at 815 (noting that in 1788, Thomas Jefferson wrote to James Madison that he favored allowing copyrights to last for a term not exceeding nineteen years, or the span of a generation in his day).

240. *See* LESSIG, supra note 57, at 24-5.

241. Melville B. Nimmer, *Does Copyright Abridge the First Amendment Guarantees of Free Speech and Press?*, 17 UCLA L. REV. 1180, 1193 (1970).

242. *Compare, e.g.*, Eldred v. Ashcroft, 537 U.S. 186, 219-21 (2003) (holding that "copyright's built-in free speech safeguards," including idea/expression distinction, fair use doctrine, and archival copying exemptions, "are generally adequate" to address First Amendment interests harmed by "extension of existing copyrights"), *with* Nimmer, *supra* note 241, at 1193-95 (notwithstanding idea/expression distinction and fair use doctrine, "extension of an existing copyright term" may have sufficiently adverse impact on speech interests to violate First Amendment).

ideas.[243] The minimum standard for the "freedom of speech" that copyright laws may not "abridg[e]" must take account of the fact that the Copyright Act of 1790 mandated a maximum twenty-eight-year term,[244] and that most British and American works of authorship were denied protection entirely.[245] The extension of copyright to protect all works for centuries substantially reduces the freedom of Internet users and digital librarians to read and publish public domain materials.[246] This freedom must be cognizable under the First Amendment, or it will be lost.

Eldred may not entirely foreclose First Amendment challenges to retrospective extension of copyright terms by decades at a time. In *Golan v. Ashcroft*,[247] a district court refused to dismiss a First Amendment, Copyright Clause, and substantive due process challenge to the retroactive restoration of copyrights to foreign authors by section 514 of the Uruguay Round

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243. *See* S.F. Arts & Athletics, Inc. v. U.S. Olympic Comm., 483 U.S. 522, 569 (1987) (Brennan, J., dissenting) ("[W]e cannot indulge the facile assumption that one can forbid particular words without also running a substantial risk of suppressing ideas in the process." (quoting Cohen v. California, 403 U.S. 15 (1971))); Parks v. LaFace Records, 329 F.3d 437, 449 (6th Cir. 2003) (ruling that use of trademark rights to police song lyrics would censor ideas and violate First Amendment); Rogers v. Grimaldi, 875 F.2d 994, 999 (2d Cir. 1989) (ruling that use of trademark rights to police film titles would censor ideas and violate First Amendment); Lessig, *supra* note 124, at 1793-94 (noting that under first American copyright law, "the actual scope of protection" was "slight," because "you could translate or adapt or abridge or set to song copyrighted works, without the permission of the author . . ." as well as set up "pirate presses" to steal with impunity from British and French publishers); Travis, *supra* note 138, at 846-47 (noting that the idea-expression distinction and fair use doctrine were developed to aid "unprecedented expansion of copyright liability" in the nineteenth century, and they cannot resolve conflict between copyright and the First Amendment because they proscribe "activities that were legal at the time the Constitution and Bill of Rights were drafted"); Eugene Volokh, *Freedom of Speech and Intellectual Property: Some Thoughts After Eldred, 44 Liquormart, and Bartnicki*, 40 HOUS. L. REV. 697, 712 (2003) (debunking the notion that First Amendment is satisfied whenever you are "free to communicate your idea using other words"). Although English and early American law recognized similar distinctions, the idea-expression dichotomy in its current form had its origin in 1880 at the earliest, almost a century after the First Amendment was ratified. *See* Toro Co. v. R & R Prods. Co., 787 F.2d 1208, 1212 (8th Cir. 1986) (citing Baker v. Selden, 101 U.S. 99 (1880)); *cf.* GEORGE TICKNOR CURTIS, A TREATISE ON THE LAW OF COPYRIGHT 9, 13 (1847) (after publication of a work, an author has no right to "exclusive possession" of "the ideas or sentiments which he originates and puts on paper," but simply to enjoy "the exclusive multiplication of copies of that particular combination of characters, which exhibits to the eye of another the ideas that he intends shall be received"). The fair use doctrine in American law dates to 1841. *See* Travis, *supra* note 138, at 846-47.

244. *See* Travis, *supra* note 138, at 849-51.

245. See Lessig, *supra* note 124, at 1793-94.

246. For more in-depth doctrinal analyses of the First Amendment implications of constricting the public domain, see C. Edwin Baker, *First Amendment Limits on Copyright*, 55 VAND. L. REV. 891 (2002); Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354, 357 & n.14 (1999); David Lange, *Recognizing the Public Domain*, 44 LAW & CONTEMP. PROBS. 147 (1981); Lawrence Lessig, *Copyright's First Amendment*, 48 UCLA L. REV. 1057 (2001).

247. 310 F. Supp. 2d 1215, 1221 (D. Colo. 2004).

Agreements Act (URAA).[248] The court initially held that *Eldred* disposed only of challenges to copyright term extensions that are prospective in effect and do not alter the "traditional contours of copyright protection," while revocation of public domain status *does* alter those contours.[249] Specifically, section 514 of the URAA mandates a "wholesale removal of vast amounts of existing works – thousands of books, paintings, drawings, music, films, photographs, and other artistic works – from the public domain."[250] The URAA constrains the freedom of authors, artists, and publishers who invested substantial time and energy in reworking or making available creative works in reliance on their public domain status.[251]

Nevertheless, the *Golan* court eventually granted summary judgment against all constitutional challenges to the URAA, holding that retroactive copyright extensions do not offend the Copyright and Patent Clause, even though the same clause forbids Congress to expand patents to "remove existent knowledge from the public domain."[252] The court reasoned that unlike a patent, a copyright cannot possibly grant a "monopoly on any knowledge," and so copyright expansion "does not impede the progress of

248. Pub. L. No. 103-465 (amending 17 U.S.C. §§ 104A, 109(a)(2000)); *see Golan*, 310 F. Supp. 2d at 1216-21.

249. *Golan*, 310 F. Supp. 2d at 1220 (quoting Eldred v. Ashcroft, 537 U.S. 186, 191).

250. First Amended Complaint at 3, *Golan*, 310 F. Supp. 2d 1215 (No. 01-B-1854), *available at* http://cyberlaw.stanford.edu/about/cases/Amended%20Complaint.pdf.

251. *See id.* at 13-14.

252. Golan v. Gonzales, 74 U.S.P.Q. 2d (BNA) 1808, 1811 (D. Colo. 2005) (quoting Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 6 (1966)). U.S. courts have an unfortunate tendency to dismiss constitutional challenges to overbroad copyright laws without permitting discovery or fact-finding regarding the extent to which such laws offend American citizens' constitutional rights to a vigorous public domain. *See Eldred*, 537 U.S. at 219-21 (affirming judgment on the pleadings rejecting First Amendment and Copyright Clause challenges to CTEA); 321 Studios v. Metro Goldwyn Mayer Studios, Inc., 307 F. Supp. 2d 1085, 1099-1104 (N.D. Cal. 2004) (dismissing First Amendment, Copyright Clause, and Commerce Clause challenge to Digital Millennium Copyright Act's statutory prohibition on software capable of circumventing technological locks on DVD movies in order to access public domain materials or engage in fair uses); Kahle v. Ashcroft, 72 U.S.P.Q.2d (BNA) 1888 (N.D. Cal. 2004) (granting pretrial motion to dismiss First Amendment and Copyright Clause challenges to statute narrowing scope of public domain by eliminating certain copyright formalities); United States v. Elcom Ltd., 203 F. Supp. 2d 1111, 1131-32, 1138-42 (N.D. Cal. 2002) (pretrial order dismissing First Amendment, Copyright Clause, and Commerce Clause challenges to criminal charges brought under Digital Millennium Copyright Act against programmer of software capable of circumventing technological protections on Adobe e-books in order to access public domain materials or engage in fair uses); Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294 (S.D.N.Y.), *final judgment entered at* 111 F. Supp. 2d 346 (S.D.N.Y. 2000), *aff'd*, 273 F.3d 429, 436 (2d Cir. 2001) (post-trial appeal disposing of First Amendment and Copyright Clause challenge to injunction against Internet distribution of software code capable of circumventing technological protections on DVD movies to aid public domain access or fair uses); Travis, *supra* note 138, at 846-51.

science and the useful arts to the extent that expansion of the patent might."[253] Following *Eldred*, the courts hearing constitutional challenges to retroactive term extensions have stressed that copyright never protects facts or ideas,[254] while neglecting to mention that the line between the two is notoriously difficult to draw.[255] While copyrights may generally remove less "knowledge" from the public domain than patents, this does not mean that retroactive copyrights are any less harmful on balance than retroactive patents, or that there is any constitutional basis, let alone an economic or public policy one, to allow retroactive copyright extensions.[256] The right to perform a symphony of Stravinsky or Prokofiev, at issue in *Golan*,[257] may contribute more to "knowledge" or "progress" than the right to practice a patent, such as the one covering a "Clamp for vibrating Shank Plows," which was before the Supreme Court when it declared that Congress cannot remove existing knowledge from the public domain.[258]

Failing implementation of Americans' constitutional rights to a vibrant public domain by courts, legislative reform will be the focus. As Brewster Kahle has pointed out, a reform effort should begin with "orphan works," which are out of print but in copyright, a category that unfortunately includes a huge amount of twentieth century culture.[259] In-print works are generally more accessible due to commercial distribution, traditional public libraries, and free previews on services such as Amazon's "Search Inside!"[260] Public domain works are also on track to be widely accessible before too long, largely due to the herculean efforts of Project Gutenberg and now

253. *Golan*, 74 U.S.P.Q. 2d (BNA) at 1818.

254. *See id.* at 1811; Luck's Music Library, Inc. v. Ashcroft, 321 F. Supp. 2d 107, 116 (D.D.C. 2004) (asserting that because copyrights do not grant exclusive right to use an idea, concerns about reviving expired patents do not apply), *aff'd*, 407 F.3d 1262, 1266 (D.C. Cir. 2005) (asserting that "ideas applicable to [patents] don't automatically apply to [copyrights]").

255. *See* Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. at 582-605 (Brennan, J., dissenting) (noting that "distinction between literary form and information or ideas is often elusive in practice," and that by too generously protecting expression, the majority had "curtail[ed]" the "free use of knowledge and of ideas").

256. *See* Appellants' Opening Brief at 50, *Golan*, 74 U.S.P.Q.2d 1808 (No. 05-1259), *available at* http://cyberlaw.stanford.edu/archives/GolanAOB.pdf/Appellants%20Opening%20Brief.pdf (arguing that "the parallel construction" of the Copyright and Patent Clause demonstrates that both of the "respective monopolies secured by that clause" are equally subject to the "limited Times" proviso of the Clause).

257. *See id.* at 13-19.

258. *See* Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 4-6 (1966).

259. Mr. Kahle's argument for reform of the legal treatment of orphan works begins at 19:30 of his presentation to the Library of Congress. *See* Kahle, *supra* note 1. According to the U.S. Copyright Office, "[e]mpirical analysis of data on trends in copyright registrations and renewals over the last century suggests that a large number of works may fall into the category of orphan works." Orphan Works, 70 Fed. Reg. 3739, 3741 (Jan. 26, 2005).

260. *See* Amazon.com Help: Our Site Features / Search Inside!, http://www.amazon.com/exec/obidos/tg/browse/-/10197041/ref=br_bx_c_2_0/103-8682359-6360622 (last visited Mar. 3, 2006).

Google Print to digitize and distribute them without charge. But unless the public domain is expanded and clarified, these projects will most often be unable to provide full access to books published after 1923, biasing research and culture towards the obsolete.[261]

Without copyright reform, digital libraries will not be able to salvage countless books and other works from the oblivion into which they have been cast by their authors and distributors. Up to ninety-eight percent of books are no longer commercially distributed after a couple of decades; they "fall into never-never land[,]" as the "publishers go bust, the authors can no longer be contacted, and it costs hundreds of dollars per book to research who owns the rights."[262] Only about one percent of the books ever published are still in print; about 100 million book titles were out-of-print in 1999, compared to 1.2 million books available for purchase in the marketplace.[263] More than 100,000 titles have fallen out of print every year since then, or almost as many as are published for the first time in any given year.[264] Even as late as the 1940s, only about one to two percent of all the books published in the United States were in print as of 2001,[265] while only about five percent of books published in the United States in 1950 were in print as of 2001.[266] Publishers often simply shredded their inventories of books that seemed unprofitable to sell.[267]

Commercially-abandoned motion pictures, music, radio, and television are even more inaccessible. Some major studios have allowed more than

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261. *See* Roy Tennant, *Google Out of Print*, LIBR. J., Feb. 15, 2005, at 27.

262. Schofield, *supra* note 107, at 24 (quoting Brewster Kahle).

263. *See* Michael Rollins, *Amazon.com Rewriting Book on How We Shop*, SUNDAY OREGONIAN (PORTLAND), Apr. 25, 1999, at A01. According to another source, more than 200 million books were out of print by 1988, if a broader universe of books is considered. *See* Beverley Slopen, *A Would-Be Ghost Misses Out on European Bestseller*, TORONTO STAR, Apr. 17, 1988, at A25.

264. *See* JASON EPSTEIN, BOOK BUSINESS: PUBLISHING PAST, PRESENT, AND FUTURE 16 (2001) (noting that Barnes & Noble vice-chairman estimates that some 90,000 books went out of print in 1999); R. Anthony Reese, *The First Sale Doctrine in the Era of Digital Networks*, 44 B.C. L. REV 577, 593 & n.52 (2003) (noting that 120,000 books fell out of print in 1994 alone; about as many books as were published for the first time that year); Doreen Carvajal, *Trying to Put 'Out of Print' Back in Play*, N.Y. TIMES, Dec. 10, 1999, at C6 (noting that Stephen Riggio, vice-chairman of Barnes & Noble, estimated that 90,000 books went out of print in 1999).

265. *See* Brief Amici Curiae of the American Ass'n of Law Libraries et al in Support of Petitioners at 21-22, Eldred v. Ashcroft, 537 U.S. 186 (2003) (No. 01-618), *available at* http://cyber.law.harvard.edu/openlaw/eldredvashcroft/supct/amici/libraries.pdf; Reese, *supra* note 264, at 593 n.51.

266. *See* Reese, *supra* note 264, at 593 n.51 (citing estimate that 3.6% of those published in 1920, 1.7% of those published in 1930, 1.9% of those published in 1940, and 3.9% of those published in 1950 were in print as of 2001).

267. *See* Slopen, *supra* note 263.

eighty percent of feature films made before 1929, and half of all feature films made before 1950, to be irretrievably lost, rather than let anyone copy and preserve them.[268] Out of the 100,000 to 200,000 theatrical releases of films, and the one to two million films distributed by other means in the twentieth century, only about 5,000 are available in most video stores for purchase or rental.[269] While about two to three million vinyl records, tapes, and CDs of music and other audio content have ever been produced, the average record store only stocks about one percent of these titles, or about 20,000-30,000.[270] Old radio and television broadcasts are mostly lost.[271] Some archives exist of broadcast and cable television of more recent vintage, but they are, for the most part, inaccessible to the public.[272]

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268. *See Eldred*, 537 U.S. at 253 (Breyer, J., dissenting) (citing 1 LIBRARIAN OF CONGRESS, REPORT OF THE LIBRARIAN OF CONGRESS, FILM PRESERVATION 3-4 (1993)).

269. *See* LESSIG, *supra* note 57, at 114; Brewster Kahle, *Archiving the Internet*, SCI. AM., Nov. 4, 1996, at 82. Mr. Kahle cites this estimate of films released starting at 25:10 of his presentation to the Library of Congress. *See* Kahle, *supra* note 1.

270. See LESSIG, *supra* note 57, at 114; Ed Christman et al., *Customer Service: Biz Still Needs Help*, BILLBOARD, Dec. 11, 2004. Mr. Kahle also discusses this possibility starting at 21:45 of his presentation to the Library of Congress. *See* Kahle, *supra* note 1.

271. *See* 1 WILLIAM T. MURPHY, LIBRARIAN OF CONGRESS, TELEVISION AND VIDEO PRESERVATION 1997: A REPORT ON THE CURRENT STATE OF AMERICAN TELEVISION AND VIDEO PRESERVATION (1997), *available at* http://www.loc.gov/film/tvstudy.html ("Early television was broadcast live, kinescope [or film copies] were used selectively, other programs were deliberately destroyed, and [video]tapes were erased and recycled, still unfortunately the frequent practice in the production of local television news."); 4 WILLIAM T. MURPHY, LIBRARIAN OF CONGRESS, TELEVISION AND VIDEO PRESERVATION 1997: A STUDY OF THE CURRENT STATE OF AMERICAN TELEVISION AND VIDEO PRESENTATION (1997), *available at* http://www.loc.gov/film/hrng96dc.html (Statement of Dr. James H. Billington, the Librarian of Congress, presented by Winston Tabb) ("Like American film, much of the early history of television has already been lost. Broadcasts were live and kinescope or film recordings were used selectively."); *Ask the Globe*, BOSTON GLOBE, Sept. 1, 1995, at 118 ("Federal regulations require stations to keep programs for only three years. . . . During the 1920s and 1930s when radio programs and performances were broadcast live, not much attention was given to preserving the electrical transcriptions. . . ."). Even the limited archives of public radio and television that exist are unavailable to the public. *See* 1 MURPHY, *supra* at ch. 3, Public Television.

272. *See* LESSIG, *supra* note 57, at 110 ("While much of twentieth-century culture was constructed through television, only a tiny proportion of that culture is available for anyone to see today."); *see also* Museum of Television & Radio, The Scholars Room, http://www.mtr.org/scholars/index.htm (last visited Mar. 6, 2006) (stating that Museum's collection of radio and television programs "is only available to researchers"). The Television News Archive at Vanderbilt University lends copies of broadcast and cable television news and other content to the public, but the cost is very high, up to $100 per half-hour of programming, despite the substantial aid the Archive already receives from the federal government. *See* Vanderbilt University Television News Archive, Videotape Loan Fees, http://tvnews.vanderbilt.edu/TVN-orders-fee-schedule.pl?SID=20060303809783935&UID =&CID=&auth=&code= (last visited Mar. 3, 2006); Vanderbilt University Television News Archive, Vanderbilt University Television News Archive (2005), http://tvnews.vanderbilt.edu/index.pl?SID=20050321774780273&UID=&CID=&auth=&code=. Other than through this archive, television is "almost unavailable." LESSIG, *supra* note 57, at 110 (quoting Brewster Kahle).

Born-digital content is arguably being lost at an even faster rate. Of the 50,000 or so software titles published over the years released, it appears that the vast majority is currently unavailable commercially.[273] The average Web page was taken down after a mere seventy-five days in 2000, with about half of all Web sites disappearing within a year's time in 1999, and news pages being lost even more quickly.[274] Although the Internet Archive is striving to save as much of this Web content as possible,[275] it does not archive the Web sites of the *New York Times* or the *Washington Post*, for example, because they have instructed archivers not to preserve their content.[276] In light of overbroad copyright laws such as the Digital Millennium Copyright Act, the Internet Archive faces litigation if it does not respect such instructions.[277] Thus, under the regime of near-perpetual copyright, a "vast" array of our political, cultural, and economic history will "remain unavailable to the public in a meaningful way for many more years."[278]

The Public Domain Enhancement Act (PDEA),[279] introduced in Congress in 2003, would be an important step towards copyright reform to address the problem of "orphan works." The PDEA would add vast amounts of unused copyrighted material to digital libraries by restoring works to the public domain if their owners failed to register them fifty years after the date

273. Mr. Kahle explains this situation starting at 31:45 of his presentation to the Library of Congress. *See* Kahle, *supra* note 1. The "vast majority" of 10,000 software packages that the Internet Archive has sampled were unavailable for purchase in retail stores. Comments from Brewster Kahle & Alexander Macgillivray on behalf of The Internet Archive, to Office of General Counsel, United States Copyright Office, at 4, 10 (Dec. 18, 2002), http://www.copyright.gov/1201/2003/comments/025.pdf.

274. *See* Peter Lyman, *Archiving the World Wide Web*, *in* LIBRARY OF CONGRESS, BUILDING A NATIONAL STRATEGY FOR PRESERVATION: ISSUES IN DIGITAL MEDIA ARCHIVING (2002), *available at* http://www.clir.org/pubs/reports/pub106/web.html; MICHAEL DAY, COLLECTING AND PRESERVING THE WORLD WIDE WEB 7 (2003), *available at* http://library.wellcome.ac.uk/assets/WTL039229.pdf.

275. *See* Richard Koman, *How the Wayback Machine Works* O'REILLY WEBSERVICES.XML.COM, Jan. 22, 2002, http://www.oreillynet.com/pub/a/webservices/2002/01/18/brewster.html.

276. Specifically, these sites employed robots.txt, "a means by which web site owners can instruct automated systems not to crawl their sites." Internet Archive Wayback Machine, FAQs, http://web.archive.org/collections/web/faqs.html#exclusions (last visited Mar. 3, 2006).

277. The Archive was recently sued by a firm that lost a lawsuit after a competitor obtained copies of the suing firm's old Web site by clicking on it until the Archive served it up notwithstanding robots.txt. *See Internet Archive Gets Sued*, RED HERRING, July 13, 2005, *available at* http://www.redherring.com/Article.aspx?a=12748&hed=Internet+Archive+Gets+Sued+&sector=Industries&subsector=Computing.

278. Brief Amici Curiae of the American Association of Law Libraries et al. 21, Eldred v. Ashcroft, 537 U.S. 186 (2003) (No. 01-618), 2002 WL 1059710.

279. H.R. 2601, 108th Cong. (2003).

of publication.[280] Based on the observation that the vast majority of old copyrights lack significant commercial value, the PDEA would "breathe life into older works whose long-forgotten stories, songs, pictures and movies are no longer published, read, heard or seen."[281] In another welcome development, the U.S. Copyright Office has proposed denying a damages remedy to a copyright owner whose work is infringed for a noncommercial purpose, no matter how recently the copyrighted work was published, provided the infringer tried but failed to locate the owner via a "reasonably diligent search," and ceased the infringement after receiving notice of the copyright owner's claim.[282] Without the PDEA or similar "orphan works" reforms, millions of out-of-print books, hundreds of thousands of movies, and hundreds of millions of Web sites threaten to become orphan works, available nowhere and absent from universal digital libraries.

A more robust version of PDEA might be warranted for relief of digital librarians. For example, the registration fee contemplated by the PDEA would be only one dollar.[283] A much larger fee, more comparable to the

280. *See* Lawrence Lessig, *Free(ing) Culture for Remix*, 2004 UTAH L. REV. 961, 974. Fifty years may have been chosen because it is the minimum term of protection for works by anonymous or pseudonymous authors under the Berne Convention; the minimum term of protection for identifiable individual authors is fifty years after the death of the author. *See* Berne Convention for the Protection of Literary and Artistic Works art. 7(1), Sept. 9, 1886, 25 U.S.T. 1341, 943 U.N.T.S. 178 (as revised July 24, 1971); Alan J. Hartnick, *Intellectual Property; Maintenance Fee for Copyright?*, N.Y.L.J., Oct. 14, 2005, at 3. The Berne Convention would not necessarily prohibit the United States from imposing a registration requirement such as that contemplated by the PDEA, at least on American authors, because the Convention permits a signatory state to "subordinate the existence or exercise" of copyrights in works created in its territory "to such conditions or formalities as it thinks fit" as "a matter of domestic law." Christopher Sprigman, *Reform(aliz)ing Copyright*, 57 STAN. L. REV. 485, 497, 542 (2004) (quoting WORLD INTELLECTUAL PROP. ORG., GUIDE TO THE BERNE CONVENTION FOR THE PROTECTION OF LITERARY AND ARTISTIC WORKS (PARIS ACT, 1971) 33 (1978)).

281. Press Release, Reps. Lofgren and Doolittle Announce the Public Domain Enhancement Act to Address the Need for Copyright Reform (June 25, 2003), http://www.house.gov/lofgren/news/2003/pr_030625_PublicDomain.html (stating that ninety-eight percent of copyrights more than fifty-five years old lack significant commercial value). The American Library Association has argued that an orphan works reform law such as the PDEA would "enable libraries to preserve many materials that would otherwise be lost." Andrew Albanese, *Bills Would Boost the Public Domain*, LIBR. J., Aug. 15, 2003, at 16.

282. U.S. COPYRIGHT OFFICE, REPORT ON ORPHAN WORKS 93-127 (2006), *available at* http://www.copyright.gov/orphan/orphan-report-full.pdf. To avail itself of this defense, the infringer must have provided appropriate attribution to the author and any known owners of the work. *See id.* at 9-10, 110-12, 127. A modified version of this defense would be available to an infringer that engaged in sales of the work or made another commercial use, with the primary difference being that the copyright owner would be entitled to "reasonable compensation" for the use. *Id.* at 127; *see id.* at 12-13, 115-19. The Copyright Office also proposed denying injunctive relief to copyright owners whose works are incorporated into transformative derivative works, again subject to the infringer's obligation to pay "reasonable compensation" and provide appropriate attribution. *Id.* at 119-20, 127.

283. *See* Brian Krebs, *Bill Seeks to Loosen Copyright Law's Grip*, WASH. POST, June 25, 2003, http://www.washingtonpost.com/ac2/wp-dyn?pagename=article&node=&contentId=A32488-2003Jun25.

hundreds or thousands of dollars it costs to renew a trademark or patent, would help ensure that only those works that have a reasonable prospect for commercial distribution will remain subject to copyright.[284] Moreover, the fifty-year registration requirement needs to be altered with respect to born-digital works such as software or Internet content, which tend to disappear or become inaccessible more quickly than books or film.

C. *Ensuring that Licensing Chaos Does Not Frustrate Digital Library Development*

Along with near-perpetual copyright terms, the chaos and confusion that characterize the contemporary regime for licensing of intellectual property threaten to cripple any effort to construct comprehensive digital libraries. Even assuming that the public domain remained irrelevant from the perspective of most twentieth-century works, the prospect of licensing these works for inclusion in digital libraries on fair and reasonable terms might exist. Unfortunately, the owners of their copyrights are almost certainly too difficult to find and deal with to make such an arrangement feasible, for several related reasons. Thus, the existing framework for locating copyright holders and negotiating licenses for inclusion in large-scale projects such as digital libraries needs to be changed.

First, unlike real property, for which deeds are recorded and publicly filed, and the owners of which are often easy to track down and either contract with or impose use rights on, the owners of copyrights are notoriously difficult to find and deal with.[285] There is no "deed system" or

284. For example, the renewal fee for trademarks was $300 in 2000, almost six times the fee to renew copyrights, and the owner must additionally "file an affidavit during the sixth year after registration, and in every tenth year, stating that the trademark is still in use, and he must also file a renewal application every ten years." Landes & Posner, *supra* note 208, at 513-17. A patent owner must pay even more draconian fees, including "maintenance fees of $890 at three and a half years, $2,050 at seven and a half years, and $3,150 at eleven and a half years after the patent has been issued." *Id.* at 517 n.76.

285. *See, e.g.*, A&M Records, Inc. v. Napster, Inc., 114 F. Supp. 2d 896, 925 (N.D. Cal. 2000) (noting that record companies acknowledged "that it would be burdensome or even impossible to identify all of the copyrighted music they own"); Brief for the Petitioners at 5-6, Eldred v. Ashcroft, 537 U.S. 186 (2003) (No. 01-618) (stating that many "copyright owners" of films that are potentially in public domain "cannot even be identified"); Sprigman, *supra* note 280, at 500 (stating that unlike "typical real estate title registry," which is "reliable" and "easy to search," copyright registry maintained by U.S. Copyright Office is not quick or inexpensive to use, so that "many would-be users" of copyrighted works "never get to the negotiation stage" because it is too costly to identify copyright owners without complete and accurate registry of authors and purchasers).

comprehensive list of authors and assignees of copyrighted works.[286] The Copyright Act of 1976 eliminated the penalty of public domain status for failing to register, deposit public copies, or file renewals for copyrightable works created on or after January 1, 1978.[287] Consequently, if the Internet Archive wants to digitize the thousands of out-of-print books published decades ago, and make them freely available in a digital library, it would "literally have to hire a private detective" to ascertain the copyright status and ownership of all these old books.[288] To find the copyright holders, the detective, or team of lawyers more likely, would have to page through volume after volume of copyright renewal records, and track down the inheritors under thousands of wills, trusts, and succession battles.[289] Finding the current address or descendants of an author is "extremely difficult," and corporate assignments and bankruptcies frequently leave "no clear title to works."[290] Under this system, which is "cumbersome, bloated, expensive, inefficient, [and] too lawyer-centric," there "is no architecture for guaranteeing a simple way to identify even who you'd have to *ask* to do the right thing."[291] The "extraordinary" wealth of copyrighted out-of-print books is unavailable to Mr. Kahle's digital library because it is "locked up by a system of regulation that blocks its reuse for no good copyright-related interest."[292] Forbidding public access to books that are not being exploited or for which copyright is not needed substantially restricts the freedom of speech, as the Internet Archive's founder pointed out in a complaint filed in federal district court.[293]

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286. Prof. Lessig's remarks to this effect are available starting at minute 43 of the streaming video of a presentation he made to the Library of Congress, posted on C-SPAN's website. *See* Lawrence Lessig, Speech to the Library of Congress as part of the "Digital Future" series (Mar. 3, 2005) (C-Span television broadcast Mar. 3, 2005), *available at* http://www.c-span.org/congress/digitalfuture.asp.

287. *See* Copyright Act of 1976 § 203(a)(3), 17 U.S.C. §§ 101-808 (1994 & Supp. III 1997); *Eldred*, 537 U.S. at 221-22. These requirements dated back to the Copyright Act of 1790 and had been reiterated in 1831 and 1909. *See* Copyright Act of 1790 § 3, 1 Stat. 124; Copyright Act of 1831, §§ 3-5, 4 Stat. 435, 437-38; Copyright Act of 1909 §§ 9-13, 18-21, 35 Stat. 1075. Registration remained necessary after 1978 to institute a lawsuit or obtain certain damages. *See* 17 U.S.C. §§ 411, 412 (2000).

288. Lessig, *supra* note 286.

289. *See id.*

290. *Copyright Term Extension Act of 1995: Hearing on S. 483 Before the S. Comm. on the Judiciary*, 104th Cong. 42 (1995) (Statement of Marybeth Peters, Register of Copyrights), *quoted in* Brief of College Art Association et al. as Amici Curiae in Support of Petitioners at 6 n.3, *Eldred*, 537 U.S. at 186 (No. 01-618).

291. Lessig, *supra* note 286.

292. *Id.*

293. *See* Complaint at 20, Kahle v. Ashcroft, 2004 U.S. Dist. LEXIS 24090 (N.D. Cal. 2004) (No. C. 04-1127 BZ), *available at* http://cyberlaw.stanford.edu/about/cases/Civil%20Complaint%203-22-04.pdf. The court in *Kahle v. Ashcroft* held that copyright is immunized from First Amendment scrutiny by the idea/expression distinction and fair use doctrine, and rejected Mr. Kahle's argument that Congress triggered First Amendment scrutiny when it altered the traditional contours of

We need a much more reliable system for the registration of existing copyrights and recordation of all transfers, or search costs, far more often than royalty payments, will stand as the primary obstacle toward making abandoned works freely available in digital libraries. Mandatory filing of all copyright applications and transfers into a Web-based registry such as the U.S. Copyright Office's Copyright Catalog[294] would facilitate free Internet dissemination of works with scant commercial value.[295] As Christopher Sprigman has recently proposed, such a system could establish a compulsory license in the absence of registration and recordation, which would incentivize authors and assignees to provide the public with notice of their rights.[296] When it is impossible to determine who owns a work, innovators should be able to license its use cheaply. Otherwise, the incentive to keep ownership information current will be outweighed by the hope of earning high compulsory license fees as a default.[297]

Second, the exclusive rights in books and other works created by copyright overlap and intersect in a way that makes efficient arrangements for inclusion in digital libraries extremely unlikely. Unlike other public projects, such as highways, which need to deal with a few hundred distinct property owners, digital libraries would be assailed by millions of licensees claiming slivers of interests in the books to be included. And while a person who "sells a farm which five years later becomes a valuable real estate development because of an expanding city" has no claim to own the profits from the increase in value of the land, an author may sue for "additional compensation" as soon as a book or other work sold long ago is exploited using a new technology.[298] As every new technology for distributing information has come along, lawsuits have followed in which various claimants fought for years, even for decades, to determine who owned the rights to make previously created copyrighted works available using these new technologies. The history of copyright law is "replete" with these cases, which challenged the forward progress of communications technology

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copyright protection by eliminating the registration and renewal requirements. *See* Kahle v. Ashcroft, 72 U.S.P.Q. 2d (BNA) 1888 (N.D. Cal. 2004).

294. U.S. Copyright Office, Copyright Catalog: Books, Music, Etc., http://www.copyright.gov/records/cohm.html (last visited Mar. 4, 2006).

295. See Cecil C. Kuhne, III, *The Steadily Shrinking Public Domain: Inefficiencies of Existing Copyright Law in the Modern Technology Age*, 50 LOY. L. REV. 549, 562-63 (2004).

296. *See* Sprigman, *supra* note 280, at 555-56.

297. *See id.* at 555.

298. Ettore v. Philco Television Broad. Corp., 229 F.2d 481, 488 (3d Cir. 1955).

from print to radio, motion pictures, television, and VCRs.[299] Nearly a century of disordered and disorienting precedents have accumulated regarding new technological uses of copyrighted works, from which different and often conflicting rules for construing copyright licenses have emerged.[300]

Contemporary copyright licensing law generates a great deal of confusion as to who owns the rights to digitize print materials for Internet distribution, as several recent cases have demonstrated. For example, in *Random House, Inc. v. Rosetta Books LLC*,[301] the Second Circuit held that the entitlement of an e-book business to operate would depend on extensive "fact-finding" on matters such as the technology and societal uses of e-books and the "customs, practices, usages and terminology" of the publishing

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299. COMMITTEE ON INTELLECTUAL PROPERTY RIGHTS IN THE EMERGING INFORMATION INFRASTRUCTURE, NATIONAL RESEARCH COUNCIL, THE DIGITAL DILEMMA: INTELLECTUAL PROPERTY IN THE INFORMATION AGE ch. 1 (2000), *available at* http://www.nap.edu/html/digital_dilemma/ch1.html (collecting cases).

300. *See, e.g.*, Boosey & Hawkes Music Publ'rs, Ltd. v. Walt Disney Co., 145 F.3d 481, 487 (2d Cir. 1998) (demonstrating that the Second Circuit and Ninth Circuit have adopted conflicting approaches to new technological uses of licensed copyrighted material); Corey Field, *New Uses and New Percentages: Music Contracts, Royalties, and Distribution Models In The Digital Millennium*, 7 UCLA ENT. L. REV. 289, 309 (2000) (discussing "conflicting judicial decisions in different jurisdictions and venues"). *Compare* Manners v. Morosco, 252 U.S. 317, 323-27 (1920) (determining that a license of right to put on theatrical performance of play did not grant right to create motion pictures out of it, because express language of contract did not mention motion pictures), *and Boosey & Hawke Music Publ'rs, Ltd.*, 145 F.3d at 483, 488-91 (ordering that trial be held on question of whether license granting "motion picture" rights conveyed right to distribute videocassettes), *and* Rey v. Lafferty, 990 F.2d 1379, 1390 (1st Cir. 1993) (determining that license granting "television" rights to "Curious George" films did not convey right to distribute them in videocassette form), *and* Cohen v. Paramount Pictures Corp., 845 F.2d 851, 853-54 (9th Cir. 1988) (determining that the license of certain "motion picture" and "television" rights did not also convey right to distribution of videocassettes containing motion picture for home viewing because such a use was "not then known to, or contemplated by the parties"), *and Ettore*, 229 F.2d at 483, 491 (determining that the sale of "motion picture" rights did not convey television broadcast rights because television "was nonexistent" at time of contracting), *and* Chambers v. Time Warner, Inc., 123 F. Supp. 2d 198 (S.D.N.Y. 2000), *vacated*, 282 F.3d 147 (2d Cir. 2002) (determining that license granting rights to distribute plaintiff's performances "by any method now known, or hereafter to become known" does include right to Internet distribution of these performances), *with* Kalem Co. v. Harper Bros., 222 U.S. 55, 61 (1911) (determining that statutory grant of "exclusive right to dramatize" book for which plaintiffs had obtained copyright also conveyed exclusive right to create motion pictures), *and* Bourne v. Walt Disney Co., 68 F.3d 621, 628, 630 (2d Cir. 1995) (determining that agreements to license motion picture rights to musical compositions could include videocassette rights, even though "videocassette technology was unknown at the time of the agreements"), *and* Bloom v. Hearst Entm't., Inc., 33 F.3d 518, 525 (5th Cir. 1994) (determining that the license of "motion picture rights" was "potentially broad enough to contemplate" distribution in videocassette form), *and* Murphy v. Warner Bros. Pictures, Inc., 112 F.2d 746, 747-48 (9th Cir. 1940) (determining that the license of "photoplay" rights conveyed talking motion picture rights, even though technology was invented after license was drafted), *and* L. C. Page & Co. v. Fox Film Corp., 83 F.2d 196, 198-200 (2d Cir. 1936) (determining that the license of "moving picture rights" granted in era of silent motion pictures conveyed right to create talking pictures, even though they were "unknown and not within the contemplation of the parties" who prepared license).

301. 283 F.3d 490 (2d Cir. 2002) (per curiam).

industry in drafting book contracts.[302] Similarly, extensive proceedings lasting over seven years were necessary to determine whether the National Geographic Society's contracts with freelance authors and photographers enabled the Society to participate in digitization projects without entering into further negotiations about paying additional compensation.[303] Most significantly, the Supreme Court has cast a pall of uncertainty over digital library projects by holding that the *New York Times* and others exceeded the scope of their rights in licensing the digitization and creation of searchable versions of their back issues.[304] Litigation brought by freelance writers against several for-profit digital libraries of news and opinion such as Nexis resulted in many thousands of freelance articles being made unavailable because the owners of the libraries "obviously cannot locate and negotiate with thousands of freelance authors, their heirs and/or assigns . . . ."[305] Under these precedents, an entity like Google may need to negotiate not only with "thousands and thousands" of publishers, but millions of authors as well, before adding books to its search results.[306]

Copyright licenses should be interpreted in a manner that would enable their owners and third parties to unambiguously determine what rights exist, and to gather together diverse materials in digital libraries. The determination of whether Internet dissemination of currently inaccessible copyrighted material would be within the bounds of the law should not depend on whether a case will arise in California or New York.[307] Nor should ambiguous contracts that are not publicly available, and that may not even exist, be allowed to impede progress.[308] A system similar to that

302. *Id.* at 491-92 (quoting Random House, Inc. v. Rosetta Books LLC, 150 F. Supp. 2d 613, 618 (S.D.N.Y. 2001)).

303. *See, e.g.*, Faulkner v. Nat'l Geographic Enters. Inc., 409 F.3d 26, 41 (2d Cir. 2005) (holding that Society was within its rights in developing digital versions of back issues of *National Geographic* magazine, except as to two contributors who secured "contractual language expressly denying [the Society] any electronic rights"), *cert. denied*, 126 S. Ct. 833 (2005); Greenberg v. Nat'l Geographic Soc'y, 244 F.3d 1267, 1268-69, 1272-76 (11th Cir. 2001) (holding that Society committed copyright infringement by developing digital versions of *National Geographic* magazine, but encouraging lower court to "consider alternatives, such as mandatory license fees, in lieu of foreclosing the public's computer-aided access to this educational and entertaining work").

304. *See* N.Y. Times Co. v. Tasini, 533 U.S. 483, 488-502 (2001).

305. Brief for Petitioners at 49, *Tasini*, 533 U.S. at 483 (No. 00-201), *available at* http://fusion.sims.berkeley.edu/briefbank/briefs/nytimes_v_tasini_writ_petition.pdf.

306. Young, *supra* note 220, at 35 (quoting official at Association of Learned and Professional Society Publishers).

307. *See* Jessica Litman, *Sharing and Stealing*, 27 HASTINGS COMM. & ENT. L.J. 1, 22 (2004).

308. *See id.*

established for dissemination of music over the radio should be considered to protect digital libraries from haphazard litigation and holdout power.[309]

Third, even if the founders of a universal digital library could locate and negotiate with the owners of all the fragmented copyright interests in the millions of books that would be included, it is likely that the amount of compensation that many of these owners would demand would be prohibitively expensive. Previous technologies for the distribution of information have faltered at precisely this point, in the absence of legislation or judicial intervention to alleviate the burdens copyright owners impose. Statutory licenses are required to allow these technologies to develop unhampered by unreasonable and unsustainable demands for compensation by copyright owners. Lessig and Wu have showed this using the examples of radio, television, cable, and webcasting, among others.[310] Just as these technologies for efficiently disseminating copyrighted material would have been impossible absent significant reforms to the then-extant copyright laws, so will a universal digital library be impossible absent statutory licenses enabling the digital lending of books at reasonable rates. These rates must take account of the limited resources of educational and noncommercial entities, or the burden the rates impose will suppress small and nonprofit digital libraries just like their webcasting counterparts.[311]

D. Denying Copyrights to Unoriginal Reproductions of Public Domain Works

Over the past few decades, large corporations and nonprofit institutions with massive holdings of public domain literature and art have contrived to deny the public many of the benefits of free availability of no longer copyrighted works. Museums and corporations holding large inventories of public domain works seek to deprive the public of access to "high-quality reproductions," hoping to enjoy exclusive control over and huge profits from

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309. *See* Electronic Frontier Foundation, File-Sharing: It's Music to Our Ears, http://www.eff.org/share/legal.php (last visited Mar. 4, 2006) (describing how voluntary collective licensing solved problem of piecemeal litigation brought by copyright owners trying to sue radio stations "out of existence").

310. *See* LESSIG, *supra* note 57, at 194 (Congress has employed "statutory" "licenses" to protect new technologies against "powerful use" of copyright to "defeat competitors"); *id.* at 55-61 (describing development of statutory compromises between copyright owners and innovators of phonograph, radio, and cable television); Wu, *supra* note 181, at 279-80 (many U.S. copyright laws are "government mandated access schemes," "compulsory licensing schemes," and "technologically specific immunities" developed for radio, television, and other innovative technologies); *id.* at 290-91 (listing nine statutory licenses and immunities created for phonograph, radio, jukebox, broadcast television, cable, satellite, DATs, webcasting, and Internet).

311. *See* Goldman, *supra* note 195 (reporting that high webcasting royalties have "forced the closure of hundreds of small Internet radio stations"); Tedeschi, *supra* note 195 (royalties drive out less lucrative webcasters).

these works, most of whose creators are long dead.[312] By controlling physical access to the works, and forbidding even paying visitors from taking photographs in museums, these entities monopolize the market in reproductions.[313] While some reproductions are eventually released, museums and corporations like Corbis restrict further reproduction or transformation by claiming copyright in the photograph or digital image.[314] These entities claim that ownership of "a unique, privately-held original object" grants its owner "perpetuity rights" in photographs of it that are "more durable than copyright itself."[315] Creators, scholars, and consumers must scour the archives for older, out-of-copyright photographs of the works.[316] These are unlikely to exist after the CTEA, and add another layer of cost, confusion, and deterrence even if they do.

Copyrights in mere reproductions of privately-held and jealously-guarded public domain works are proliferating rapidly. The JSTOR initiative asserts copyrights in the electronic versions of almost three million academic journal articles, many dating back to the 19th century.[317] ProQuest

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312. *See* Kathleen Connolly Butler, *Keeping the World Safe from Naked-Chicks-in-Art Refrigerator Magnets: The Plot to Control Art Images in the Public Domain through Copyrights in Photographic and Digital Reproductions*, 21 HASTINGS COMM. & ENT. L.J. 55, 69-72 (1998).

313. *See id.* at 73-74.

314. *See id.* at 75-77; *see also id.* at 103-04 (quoting counsel for Corbis Corporation as arguing that "copy photography is protected by the Copyright Act"). As of 2000, corporate counsel for Corbis claimed copyrights in the "vast majority" of 16 million images, including a great deal of public domain material, on the basis that the digitization process represented "Corbis' significant authorship in its digital file." E-mail from David Green to Gerald Barnett re: Copyright in Bettmann Archive Images (Jan. 10, 2000, 3:59 p.m.), *available at* http://legalminds.lp.findlaw.com/list/cni-copyright/msg09540.html. He added that the right to access the images is further restricted "by the terms of a standard license agreement." *Id.* Corbis was then "home to" at least "65 million of the world's most significant images." Corbis Corp., Press Room, About Corbis, http://web.archive.org/web/20000303113209/http://www.corbis.com/press/corbis.asp?s=1 (last visited Mar. 4, 2006); *see* Carey Goldberg, *What's Wrong With This Picture?*, N.Y. TIMES, May 18, 1997, at 6-32; Andrew Marshall, *Electronic Art: Beware the New Culture Vultures*, THE INDEPENDENT (U.K.), Feb. 6, 2000, at 18 (discussing concerns that Corbis is "cornering the market in our visual history").

315. Butler, *supra* note 312, at 75 (quoting Robert A. Baron, *Digital Fever: A Scholar's Copyright Dilemma*, 15 MUSEUM MGMT. & CURATORSHIP 49, 57 (1996)); Mitch Tuchman, *Inauthentic Works of Art: Why Bridgeman May Ultimately Be Irrelevant to Art Museums*, 24 COLUM.-VLA J.L. & ARTS 287, 312 & n.134 (2001).

316. Corbis, for example, "does not intend to restrict individuals from lawfully reproducing copies of public domain material acquired from other sources." E-mail from David Green, *supra* note 314. Given the CTEA's extension of copyright terms back into the 1920s, few usable photographs of public domain works of art are likely to be found.

317. *See* ROGER C. SCHONFELD, JSTOR: A HISTORY 21, 34-35, 38, 65, 218-19, 222-24 (2003) (JSTOR negotiated "joint copyright ownership of the digitized version" of journals dating back to 1876); JSTOR, JSTOR® Library License Agreement ¶¶ 1, 7, http://www.jstor.org/about/license.pdf

Information and Learning and a coalition of educational institutions are asserting copyrights in digital reproductions of 125,000 public domain works published in England from 1473 to 1700.[318] Similarly, the Thomson Corporation claims copyrights in 150,000 public domain works published in the Kingdom of Great Britain from 1701 to 1800, and plans to do so for an equal number of public domain works published from 1800 to 1900.[319] Thomson reportedly owns 1.5 billion titles that it intends to digitize and exploit in this manner.[320]

When large entities assert rights in perpetuity against the free lending and display of countless masterpieces, the promise of digital libraries to efficiently gather the world's heritage for easy searchable access is thwarted.[321] Any benefit that results from such copyrights is likely to be outweighed by the harm to competition in, and free access to, public domain work. Although copyrights in digital reproductions of public domain materials may encourage investments in the art and science of photography and digitization,[322] advances in technology are making digitization easier and cheaper every day.[323] The costs imposed by exclusive rights in

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(last visited Mar. 4, 2006) (JSTOR claims copyrights in "electronic archive of journals"); JSTOR: Facts and Figures, http://www.jstor.org/about/facts.html (last visited Mar. 4, 2006).

318. *See* Goldie Blumenstyk, *A Project Seeks to Digitize Thousands of Early English Texts*, CHRON. OF HIGHER EDUC., Aug. 10, 2001, at 47; Early English Books Online Text Creation Partnership, http://www.lib.umich.edu/tcp/eebo/ (last visited Mar. 4, 2006); Early English Books Online (EEBO) Sub-Licence Agreement, http://www.jisc.ac.uk/coll_eebo_sub_con.html (last visited Jan. 25, 2006); PROQUEST INFORMATION AND LEARNING, EARLY ENGLISH BOOKS ONLINE (2003), *available at* http://www.proquest.co.uk/products/product_brochures/eebo_brochure_08_03.pdf. ProQuest created these digital reproductions by scanning existing microfilmed copies of the works. *See* Blumenstyk, *supra* at 47. ProQuest, and a coalition of educational institutions that financed the project, claim ownership of the full-text searchable digital versions of the works. *See id.*; University of Michigan Library Name Resolver Service, http://www.hti.umich.edu/cgi/b/bib/bibperm?q1=A48884.0001.001 (last visited Mar. 5, 2006).

319. *See* Cheryl LaGuardia, *Eighteenth Century Collections Online*, LIBR. J., May 15, 2004, at 123; Press Release, Thompson Gale, Thomson Gale Introduces Nineteenth Century Collections Online—The World's Most Comprehensive 19th Century Online Library (Nov. 30, 2004), http://www.galegroup.com/servlet/PressArchiveDetailServlet?articleID=200411_ncco.

320. *See* Paula D. Watson, *Rich Offerings: E-Publishing Growth Areas*, LIBR. TECH. REPS., Nov.-Dec. 2004, at 7, 31.

321. *See* Robert C. Matz, *Bridgeman Art Library, Ltd. v. Corel Corp.*, 15 BERKELEY TECH. L.J. 3, 3-4 (2000) (asserting that museums and companies that claim copyrights in mere photographic or digital reproductions "impede" democratizing trend to give "the masses unprecedented access to public domain works of art").

322. Dennis Karjala has made a particularly forceful case for a "thin" copyright in painstakingly created electronic reproductions of public domain works, which would proscribe making direct copies of such reproductions in order to reward the photographic or digital labor involved without unduly monopolizing the work itself. *See* Dennis S. Karjala, *Copyright and Misappropriation*, 17 U. DAYTON L. REV. 885, 904-9 (1992).

323. *See, e.g.*, *A Real Page Turner*, 24 IEEE CONTROL SYSTEMS MAG., Apr. 2004, at 13, *available at* http://www.kirtas-tech.com/uploads/other/IEEE-April04Cover.pdf (describing a "fully automated device [that] scans and digitizes books at a rate of 1,200 pages per hour"); Kirtas Technologies, Inc.: APT BookScan 1200: FAQ, http://www.kirtas-tech.com/APT_1200/faq.asp (last

reproductions are legion: they force competing publishers and producers of audiovisual content to seek licenses and pay royalties before distributing public domain works more widely, forbid creative individuals from copying too much of a work in building on it or repackaging it in original ways (e.g., for the theater or screen), deny consumers the chance to save money on works by purchasing cheaper versions, and restrain teachers and researchers from incorporating works into their classrooms or scholarship without having to pay onerous fees for the privilege.[324] With the advent of the Internet, another harm takes precedence: copyright blocks widespread free dissemination of the work to millions of people who have never seen it.[325]

The solution is to strengthen and enforce the originality requirement for copyright protection. Mere "'slavish copies' of public domain works of art" or literature in digital form lack the "spark of originality" requisite for copyright protection.[326] Instead of a creative inspiration, only a "manual operation" is performed in digitizing or photographing an artwork, or page of a book or journal article, that is in public domain.[327] Loosening the originality requirement to allow mere copies of others' works to qualify as original depletes the public domain by propertizing unoriginal works.[328] To extend copyright to digital reproductions would "simply put a weapon for harassment in the hands of mischievous copiers intent on appropriating and monopolizing public domain work."[329] Enforcing the originality requirement rigorously would greatly encourage the growth and development of digital libraries by allowing free collection and distribution of digital copies of public domain works.

Owners of large stockpiles of public domain materials may respond to judicial decisions denying copyright protection to digital reproductions by

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visited Mar. 4, 2006) (estimating that automatic book scanning technology reduces "cost per page" of digitizing books to less than three cents).

324. *See* Butler, *supra* note 312, at 62-63; M.W. Krasilovsky, *Observations on Public Domain*, 14 BULL. COPYRIGHT SOC'Y U.S.A. 205, 213 (1967).

325. *See* Butler, *supra* note 312, at 64-65 (digitization of public domain art in "royalty-free, high-quality" files gives members of the public "access to museums they would never visit") (internal citation omitted); Travis, *supra* note 138, at 830 ("Joyce's *Ulysses* and Eliot's *The Waste Land*, to cite just two examples, are freely accessible on the Web less than two years after entering the public domain in 1998.").

326. Bridgeman Art Library, Ltd. v. Corel Corp., 36 F. Supp. 2d 191, 197 (S.D.N.Y. 1999); *accord* Simon v. Birraporetti's Rests., Inc., 720 F. Supp. 85, 86-88 (S.D. Tex. 1989); Hearn v. Meyer, 664 F. Supp. 832, 836 (S.D.N.Y. 1987).

327. Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53, 59 (1884).

328. *See* Ryan Littrell, *Toward a Stricter Originality Standard for Copyright Law*, 43 B.C. L. REV. 193, 194 (2001)); Matz, *supra* note 321, at 4.

329. L. Batlin & Son, Inc. v. Snyder, 536 F.2d 486, 492 (2d Cir. 1976) (en banc).

claiming copyrights or other rights in compilations of such reproductions.[330] Compilations of public domain works that would be considered canonical or great should not be copyrightable, however, because selections dictated by "external" social or aesthetic factors, or that are "obvious, garden-variety, or routine," do not display the creative spark of originality.[331] While legislation has been proposed to outlaw any copying of substantial extracts from collections of information that has the effect of undermining "potential markets" for them, such a departure from the originality requirement violates the First Amendment.[332]

E. Reversing the Erosion of the Fair Use Doctrine

For a long time, the fair use doctrine was sufficiently robust to provide digital libraries with a sanctuary from the ravages of overbroad and overlong copyrights. However, the doctrine in its current form has little to offer digital libraries, because courts have eviscerated it. These courts have fallen under the influence of a theory that even uses of copyrighted material that have no provable adverse effect on the sales of a work are unfair if there is a "potential" for harm to schemes for licensing the work.

At the time of the adoption of the Constitution and First Amendment, copyright law had no fair use doctrine, because it didn't need one. British law, and then American, instead offered an "expansive right of fair abridgement," which provided readers and authors with the giddy freedom to republish copyrighted works in abridged, adapted, or translated form, or to use the works as fodder for their own creativity.[333] The Copyright Revision Act of 1831, for example, granted the public the "right to produce abridged or translated versions" of copyrighted books.[334]

The fair use doctrine originated in the mid-19th century, with an opinion by Joseph Story, an eminent jurist who harbored an "intense dislike" for the fair abridgement doctrine, eventually eliminating it altogether.[335] In its place, Justice Story erected a vague rule permitting citation only for

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330. *See* Matz, *supra* note 321, at 20-21; 17 U.S.C. § 101 (2000).

331. Matthew Bender & Co. v. West Publ'g Co., 158 F.3d 674, 682 (2d Cir. 1998); *cf. Hearn*, 664 F. Supp. at 851.

332. Collections of Information Antipiracy Act, H.R. 354, 106th Cong § 1402 (1999); *see, e.g.*, Benkler, *supra* note 246, at 440-43 (arguing that such legislation creates a "conflict with the First Amendment," because it "requires no originality," among other things).

333. Travis, *supra* note 138, at 848-51. The "general doctrine of the English law" was that "a real and fair abridgement may with propriety be called a new book, because the invention, learning and judgment of the maker are shown in it," so that "one man may compose a work . . ., another abridge it, a third translate it, and a fourth write annotations upon it; and every one of them will acquire a copyright in the product of his own ingenuity and labor." CURTIS, *supra* note 243, at 265, 268 n.3.

334. Judith L. Marley, *Guidelines Favoring Fair Use: An Analysis of Legal Interpretations Affecting Higher Education*, 25 J. ACAD. LIBRARIANSHIP 367, 368 (1999).

335. *Id.*

purposes of "fair and reasonable criticism," but prohibiting authors from saving any "trouble and expense" by copying each other's works in ways that might "prejudice the sale" thereof, which became known as the fair use doctrine.[336] Justice Story held that a biography of President George Washington infringed the copyright in a collection of Washington's official and private letters and documents, which another man had copyrighted, by quoting from them in the course of an altogether new biographical narrative.[337]

The fair use doctrine contracted further after the Supreme Court held in 1985 that a review of President Gerald Ford's autobiography infringed his copyright by quoting 300 out of his 200,000 words in order to discuss his policies.[338] Neither the quotations from George Washington nor those from Gerald Ford would have been prohibited under copyright law as known to the Framers, because the right of fair abridgement provided much greater freedom to adapt existing passages into new works.[339]

Even after the demise of the right of fair abridgment, courts facilitated technological and cultural progress by requiring proof of harm to sales before finding a use unfair and thus infringing. Up to the mid-1980s, courts

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336. Folsom v. Marsh, 9 F. Cas. 342, 344-45, 348-49 (C.C. Mass. 1841) (No. 4,901) (quoting Lord Langdale in Lewis v. Fullarton, (1839) 48 Eng. Rep. 1080 (Ch.)). *See also* Travis, *supra* note 138, at 821-24 (citing *Folsom*, 9 F. Cas. at 345).

337. *Folsom*, 9 F. Cas. at 345. Justice Story was unmoved by the fact that Congress had purchased Washington's papers for $25,000 dollars, making them "national property." *Id.* at 347.

338. *See* Travis, *supra* note 138, at 821-24 (citing Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 558 (1985)).

339. *See* Newbery's Case, (1773) 98 Eng. Rep. 913 (Ch.) (abridgment of another author's novel was "a new and a meritorious work" and not infringing); Dodsley v. Kinnersley, (1761) 27 Eng. Rep. 270, 271 (Ch.) (abridgment of novel in magazine "was a fair abridgment, and, as such, not a piracy"); Gyles v. Wilcox, (1740) 26 Eng. Rep. 489, 27 Eng. Rep. 682 (Ch.) (abridgment of legal treatise was lawful because it required "invention, learning, and judgment" and may be "extremely useful;" "the translator has bestowed his care and pains upon it, and so [is] not within the prohibition" of copyright); Burnett v. Chetwood, (1720) 35 Eng. Rep. 1008, 1009 (Ch.) (translation of copyrighted work differs from "reprinting" it because translation is new contribution); Story v. Holcombe, 23 F. Cas. 171, 173 (C.C.D. Ohio 1847) (No. 13,497) ("[a] fair abridgment of any book is considered a new work, as to write it requires labor and exercise of judgment"); Travis, *supra* note 138, at 820-21 & n.220 ("The right of 'fair abridgement' was endorsed by all four justices sitting in the much-publicized case of *Millar v. Taylor* [(1769) 98 Eng. Rep. 201 (K.B.)], decided in 1769 by the Court of King's Bench, the highest common-law court in England, and by some of the most prominent British jurists, including Lord Mansfield, an avowed champion of authorial rights.") (internal citations omitted); *Id.* at 821 n.220 (observing that the court in Stowe v. Thomas, 23 F. Cas. 201 (C.C.E.D. Pa. 1853) (No. 13,514), "ably summarized the law of copyright scope as the Framers understood it" when it followed Millar v. Taylor, (1769) 98 Eng. Rep. 201, 252 (K.B.) to hold that copyright prohibits republishing the identical work, but does not prohibit translations, abridgments, adaptations from prose into verse, improvements, or imitations); Tehranian, *supra* note 231, at 479-80 (noting that U.S. law "adopted" abridgement and translation rules from British law).

used lack of harm to sales to provide surprisingly robust protection against lawsuits based on the types of uses digital libraries engage in, i.e. noncommercial reproduction of copyrighted works in their entirety for the advancement of education, scholarship, and research. For example, when a publisher of medical journals sued over the unauthorized photocopying of two million pages of medical journals per year by the National Library of Medicine and National Institutes of Health, the fair use doctrine shielded these libraries from liability.[340] An equally divided Supreme Court affirmed the appellate court's holding that plaintiff's rising sales and profits, and failure to adduce "solid evidence that photocopying has caused economic harm to any other publisher of medical journals," established that the extensive copying at issue was fair.[341] In what became the "Magna Carta" of the high technology and Internet industries, the Supreme Court held in 1982 that VCR manufacturers were not liable for copyright infringement by their users, because the technology was capable of facilitating substantial fair uses of television.[342] The Court found that recording of television programs for later viewing constituted "fair use" of the programs because there was no evidence that recording harmed the market for television production, which was more profitable than ever, and VCRs could be used to promote teaching, scholarship, democratic participation, and "personal enrichment."[343] These cases reflected express language in the Copyright Act of 1976 that making copies of copyrighted work may be a fair use when the copies are made "for purposes such as . . . teaching (including multiple copies for classroom use), scholarship, or research."[344]

Even in the pro-technology *Sony* case, however, the Supreme Court planted the seeds of the erosion of the fair use doctrine. The lower courts in that case had questioned the legality of building personal libraries of televised movies and other programming for repeated viewing.[345] The

340. *See* Williams & Wilkins Co. v. United States, 172 U.S.P.Q. (BNA) 670 (Ct. Cl. 1972), *rev'd*, 487 F.2d 1345 (Ct. Cl. 1973), *aff'd by an equally divided court*, 420 U.S. 376 (1975) (per curiam); GOLDSTEIN, *supra* note 231, at 83, 99, 109-10, 119, 126-27.

341. Williams & Wilkins Co. v. United States, 487 F.2d at 1357-58, *aff'd by an equally divided court*, 420 U.S. 376 (1975) (per curiam).

342. *See* Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417 (1984). The Consumer Electronics Association of America has praised the *Sony* decision as the "Magna Carta" of the electronics industry, as well as its "Declaration of Independence." Brian Kladko, *NOT in a Sharing Mood*, THE RECORD (BERGEN COUNTY, NJ), Nov. 20, 2004, at F01.

343. *See Sony*, 464 U.S. at 451-55 & n.40 (noting that Betamax could be used to copy programs in authorized way or as fair use, such as educational programs, news broadcasts, sports events, and religious broadcasts).

344. 17 U.S.C. § 107 (2000).

345. *See* Universal City Studios, Inc. v. Sony Corp. of Am., 480 F. Supp. 429, 450, 467-69 (C.D. Cal. 1979). (noting that "potential" harms may negate claim of fair use, so existence of librarying would have bolstered plaintiff's case against Betamax if they had offered "concrete evidence to suggest that the Betamax will change the studios' financial picture," such as by proving that "movie

average owner of a Betamax VCR owned "between 25 and 32 tapes," while "at least 40% of users had more than 10 tapes in a 'library.'"[346] The majority opinion in the Supreme Court, and the four dissenting justices, stated that merely "potential" harm to the revenue earned by motion picture studios and distributors from consumer libraries of televised motion pictures or other shows could negate fair use.[347] This focus on "potential" harm had some basis in, but was not dictated by, the Copyright Act of 1976, which made the "effect of the use upon the potential market for or value of the copyrighted work" a factor in fair use analysis.[348]

In *Harper & Row, Publishers, Inc. v. Nation Enterprises*,[349] the Supreme Court declared merely potential harm to be not simply a factor, but the very key to fair use analysis.[350] The Court cited *Sony* for the principle that "to negate fair use one need only show that if the challenged use 'should become widespread, it would adversely affect the *potential* market for the copyrighted work.'"[351] This principle elevates potential harm from a factor to be considered along with many others, which makes sense, into a new test, which does not. The Court compounded the damage to fair use by declaring it to be an affirmative defense on which the burden of proof falls on the alleged infringer, rather than a limitation on exclusive rights, in avoiding which the burden of proof falls on the plaintiff.[352] The Copyright Act of 1976, by contrast, had enshrined fair use as a boundary limitation on

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audiences will decrease" as result of librarying, and that this decrease was not "offset by the corresponding increase in the audience for the original telecast of movies"), *rev'd*, 659 F.2d 963, 974 (9th Cir. 1981) (holding that "copying of entertainment works for convenience" was not fair use, and following the dissent in *Williams & Wilkins Co.* to conclude that plaintiff did not need to show actual harm to sales in order to negate fair use), *rev'd*, 464 U.S. 417 (1984).

346. *Sony*, 464 U.S. at 483 n.35.

347. *See id.* at 450-51 (noting that noncommercial uses that have a "demonstrable effect upon the potential market for, or the value of, the copyrighted work" may need to be "prohibited in order to protect the author's incentive to create," and citing plaintiffs' expert testimony that "time-shifting *without librarying* would result in 'not a great deal of harm'") (emphasis added); *see also id.* at 483 & n.35 (Blackmun, J., dissenting) (arguing that VCRs should be liable for potential harm caused by home taping, citing "expert testimony that both time-shifting and librarying would tend to decrease [the owners'] revenue from copyrighted works").

348. 17 U.S.C. § 107 (2000). The Copyright Act of 1976 required courts to consider three other factors in addition to the effect on potential sales, including character of the use, nature of the work, and quantity of material used. *See id.*

349. 471 U.S. 539 (1985).

350. *See id.* at 566 (calling potential harm "undoubtedly the single most important element of fair use").

351. *Id.* at 568 (quoting *Sony*, 464 U.S. at 451).

352. *See id.* at 561.

exclusive rights,[353] placing it in Chapter 1 of the Act, entitled "Subject Matter and Scope of Copyright," rather than Chapter 5, which set forth affirmative defenses to infringement such as the statute of limitations.[354]

Courts and commentators have steadily undermined educational fair use using the principle articulated in *Sony* and *Harper & Row* that mere "potential" harm to the market for copyrighted work may be considered sufficient in itself to negate fair use. Of course, it is much easier to establish "potential" harm to some conceivable licensing market, than that sales or profits enjoyed by the copyright owner have declined. For example, one court cited the *Sony* case to hold that photocopying as few as eleven pages of copyrighted material for noncommercial "classroom use" can constitute an unfair use.[355] The court held that "[t]he mere absence of measurable pecuniary damage" may not support "a finding of fair use" under the "potential market" inquiry required by the *Sony* case.[356] Similarly, several courts have held that the fair use doctrine may not extend to educational activities such as taping television broadcasts or photocopying scholarly articles for classroom use or scientific research, despite a complete absence of evidence of actual damages or reduced profits from exploitation of the copyrighted works.[357] A federal government report summarized these cases by claiming that the "mere reproduction" of a copyrighted work for an "educational" purpose is no longer a fair use.[358] The report argued (erroneously) that recent authority envisioned a "reduced application and

353. *See* 17 U.S.C. § 107 (2000) (providing that fair use is "not an infringement of copyright").

354. *See* 17 U.S.C. ch. 1 (2000); 17 U.S.C. ch. 5 (2000); 17 U.S.C. § 507 (2000).

355. *See* Marcus v. Rowley, 695 F.2d 1171, 1173, 1178-79 (9th Cir. 1983).

356. *See id.* at 1177-78. In this case, the court followed the Ninth Circuit opinion in *Sony*, which was subsequently reversed by the Supreme Court. *See id.* at 1177 (citing Universal City Studios, Inc. v. Sony Corp. of Am., 659 F.2d 963, 974 (9th Cir. 1981)).

357. *See* Encyclopaedia Britannica Educ. Corp. v. Crooks, 447 F. Supp. 243, 245-47, 250-51 (W.D.N.Y. 1978), *further proceedings at* 558 F. Supp. 1247, 1252 (W.D.N.Y. 1983) (holding that non-commercial taping of television broadcasts for educational classroom use was unfair use even though plaintiff failed to establish actual damages or provide evidence of lost profits); *see also* Princeton Univ. Press v. Mich. Document Servs., 99 F.3d 1381, 1384-85, 1388 (6th Cir. 1996) (holding that off-campus photocopying of instructional materials requested by college professors and teachers on behalf of their students for classroom use was unfair use because it carried "potential for destruction" of market for charging permission fees for photocopying); Am. Geophysical Union v. Texaco Inc., 802 F. Supp. 1, 20 (S.D.N.Y. 1992), *aff'd*, 37 F.3d 881, (2d Cir. 1994) (holding that copying for purposes of scientific research was unfair use, even though "copyright owner is realizing rich profits from the exploitation of its copyrights despite the unauthorized copying," because "significantly higher revenue" could be imagined without copying); Basic Books, Inc. v. Kinko's Graphics Corp., 758 F. Supp. 1522, 1534 & n.7, 1544-45 (S.D.N.Y. 1991) (holding that off-campus photocopying was unfair use even though it simply enabled teachers and college professors to assemble anthologies of selected materials "for educational use in the classroom," where plaintiff apparently did not quantify any claimed lost sales or licensing fees).

358. INFORMATION INFRASTRUCTURE TASK FORCE, *supra* note 172, at 77. The report cited three "potential harm" cases for this proposition. *See id.* (citing *Marcus*, 695 F.2d at 1171; *Encyclopaedia Britannica Educ. Corp.*, 558 F. Supp. at 1247; *Basic Books, Inc.*, 758 F. Supp. at 1522).

scope of the fair use doctrine," which undermined the "precedential value" of the *Williams & Wilkins* case's holding that the systematic photocopying of journal articles for scientific research was a fair use.[359]

This "reduced" fair use doctrine systematically deters the sorts of educational and scholarly fair uses that digital libraries would provide. Large copyright owners rely upon its reduced contours to warn scholars and educators against even modest fair uses. In the late 1970s, for example, the Association of American Publishers and other groups prevailed upon Congress to consent to "minimum . . . standards of educational fair use" that allowed teachers and professors to photocopy only about 500 to 1,000 words from a copyrighted work for their students.[360] Even this amount of photocopying could be unfair, the guidelines suggested, if it was ordered at the beginning of a semester for reading at some later time in the semester.[361] University professors and law schools objected to the resulting guidelines as "too 'restrictive'" of educational and scientific freedom.[362] Indeed, the guidelines have proven to be "so restrictive that compliance . . . virtually precludes beneficial usage of a lengthy work for classroom purposes."[363] Going beyond the guidelines threatens an educator with copyright liability imposed by a court that erroneously treats the guidelines as the "maximum scope of fair use."[364] By the 1990s, publishers could demand that educators and their students "pay permission fees for the privilege of making any [photocopies] at all, whether or not the use might be a fair one, and in some cases even when the work is not eligible for copyright protection."[365]

The evisceration of fair use is even more apparent in the case of audiovisual content, a critical component of a truly universal digital library. Some regard copying even a few seconds of a sound recording as an infringing use.[366] The Copyright Society of the U.S.A. claims that it is

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359. INFORMATION INFRASTRUCTURE TASK FORCE, *supra* note 172, at 82 (arguing that *Am. Geophysical Union*, 802 F. Supp. at 1, undermined the precedential value of *Williams & Wilkins Co. v. United States*, 487 F.2d 1345 (Ct. Cl. 1973)).

360. *Princeton Univ. Press*, 99 F.3d at 1390; *see also* Ann Bartow, *Educational Fair Use in Copyright: Reclaiming the Right to Photocopy Freely*, 60 U. PITT. L. REV. 149, 159-61 (1998).

361. *See* Bartow, *supra* note 360, at 161 (citing *Basic Books, Inc.*, 758 F. Supp. at 1537).

362. *Id.* at 159 (citing *Agreement on Guidelines for Classroom Copying in Not-For-Profit Educational Institutions with Respect to Books and Periodicals*).

363. *Id.* at 162.

364. *See id.* at 162, 184 (suggesting that this is what occurred in *Basic Books, Inc.*, 758 F. Supp. at 1522, and *Princeton Univ. Press*, 99 F.3d at 1381).

365. *Id.* at 151.

366. *See* Rebecca Tushnet, *Copy This Essay: How Fair Use Doctrine Harms Free Speech and How Copying Serves It*, 114 YALE L.J. 535, 582 (2004) (citing multiple examples where brief copying was held to be infringement).

illegal and an unfair use to copy "just a few seconds of a movie or a television program," even if the use is "de minimis or short."[367] An overly narrow fair use doctrine prohibits educators from showing their students historical photographs or films of historic battles or other important events, or playing recorded oral histories of former slaves or other eyewitnesses to history.[368] These are precisely the sorts of rich educational experiences that digital libraries are uniquely equipped to offer, but which they are restrained from doing by attacks on fair use.

The elimination of the fair use doctrine in any context in which "potential" harm to the market for copyrighted work could result has tied the hands of digital librarians. As Jane Ginsburg counseled them, the fair use doctrine of the 1990s made copying for the "library of the future" unfair if it could create "potential economic harm."[369] She argued that the doctrine would not shield a digital library that makes multiple copies of a book in the library's collection, provides multiple borrowers with access to a digital copy of a decaying work, substitutes digital files for books for which borrower demand exceeds the library's supply, gives an entire digital work to a user for purposes of private study or scholarship if the work is available at a fair price, allows a user to print out or download more than "short excerpts" of a work, creates an online library catalog that includes excerpts or the full-text of works, preserves a decaying book by making a digital version of it (unless the book is out-of-print *and* unavailable at a "reasonable" price), or offers digital versions of works to users from other libraries via interlibrary loan.[370] Her vision of the fair use doctrine's response to the possibility of a digital library "without walls" is that it would erect imaginary walls "wherever possible" to block free access.[371]

Copyright owners are also relying upon the reduced fair use doctrine to hold out against the inclusion of their work in Internet search engines and digital directories of publicly available information. For example, in *Kelly v. Arriba Soft Corp.*,[372] the operator of a "visual search engine" allegedly violated the rights of a photographer and Web site owner by reproducing and displaying thirty-five of his photographs in both thumbnail-sized and full-sized links to the photographs' Internet location.[373] Creating a search engine

367. William F. Patry & Richard A. Posner, *Fair Use and Statutory Reform in the Wake of Eldred*, 92 CAL. L. REV. 1639, 1654 (2004) (quoting The Copyright Society of the USA, Moving Images Frequently Asked Questions, http://www.csusa.org/face/movim/faqs.htm#props (last visited Mar. 5, 2006)).

368. *See* Eldred v. Ashcroft, 537 U.S. 186, 253 (2003) (Breyer, J., dissenting).

369. Jane C. Ginsburg, *Copyright Without Walls?: Speculations on Literary Property in the Library of the Future*, 42 REPRESENTATIONS 53, 53-55 (1993).

370. *See id.* at 54-59.

371. *Id.* at 59.

372. 77 F. Supp. 2d 1116 (C.D. Cal. 1999).

373. *See id.* at 1116-18.

that employs thumbnail versions of copyrighted material to link to the original version is a "transformative" fair use, the court found, but framing or "in-line linking" the material may constitute copyright infringement.[374] The Ninth Circuit properly focused on the lack of actual harm to the market for the photographs, while rejecting the argument that the potential market to license photographs for use as thumbnails would be impaired.[375] An international news agency has now sued Google for $17.5 million for reproducing thumbnail-sized links to its photographs, as well as the headlines and lead sentences of its news stories, via its Google News search engine of 4,500 news sources; Google claims it is engaging in fair uses of the news leads and images it indexes.[376]

Should Google or Arriba Soft lose their cases defending the right to index and link, the organization and aggregation of the vast troves of news, opinion, and knowledge on the Internet may become impossible. If the reproduction of copyrighted material made available on the Internet within links, caches, or frames constitutes a copyright infringement, efforts such as those Google and the Internet Archive are undertaking to assemble and provide access to digital libraries of Web content will fail. For example, Google's caching of Web sites for purposes of preserving ephemeral content and highlighting search terms might be found to be illegal under a strict construction of fair use, as might the Internet Archive's digital library of publicly accessible sites.[377] These results would be unfortunate because the world needs "permanent historical accounts of events and Web pages," and caching, linking, and framing represent *de minimis* invasions of copyrights in any event.[378] Services like the Internet Archive and Google's caching of

374. *See id.* at 1121; Kelly v. Arriba Soft Corp., 336 F.3d 811 (9th Cir. 2003). In-line linking permits a Web site, such as a search engine, to retrieve an image from another site and incorporate it into the linking site, for example in a list of search results, so as to make the image looks like "a seamless part" of the linking page. *Kelly*, 336 F.3d at 816.

375. *Kelly*, 336 F.3d at 821.

376. *See* Google Inc.'s Answer and Counterclaims at 15, 27-28, Agence France Presse v. Google Inc., Civil Action No. 1:05CV00546 (D.D.C. filed May 19, 2005), *available at* http://law.marquette.edu/goldman/afrgoogleanswer.pdf; Anick Jesdanun, *News Agency Sues Google, Testing Fair Use*, ABC NEWS, Mar. 23, 2005, http://abcnews.go.com/Technology/wireStory?id=604746; Stefanie Olsen, *Tough Week Prompts Closer Look at How Google Gathers Its News*, S.F. CHRON., Mar. 26, 2005, at C1, *available at* http://sfgate.com/cgi-bin/article.cgi?file=/c/a/2005/03/26/BUGTOBUVTV1.DTL.

377. *See, e.g.*, Stefanie Olsen, *Google Cache Raises Copyright Concerns*, CNET NEWS, July 9, 2003, http://news.com.com/2100-1038_3-1024234.html; *Internet Archive Gets Sued*, *supra* note 277.

378. Courts are beginning to make clear that Google's caching of Web sites may be a fair use because it "enhanc[es] information-gathering techniques on the internet" while having little or no adverse effect on the market for copyrighted Web content. Field v. Google Inc., No. CV-S-04-0413,

Web sites are the Internet's version of a public library, and search engines are the Internet's version of a card catalog.[379] A ruling that caching, linking, or framing triggers copyright liability would empty these libraries of their contents, and undermine or destroy their cataloging systems.

The fair use doctrine should guarantee much more protection to digital library projects than it is currently portrayed as providing. Its central focus should return to the actual effects of unauthorized uses on revenue or profits earned on copyrighted works, rather than speculation about conceivable harms to the "potential" markets for such works. This practical focus enabled the Supreme Court to uphold findings of fair use after the development of two new technologies, the photocopier and the VCR. A return to it would similarly protect digital libraries from lawsuits based on fair uses of copyrighted works.

Tethering the fair use doctrine to actual economic effects is critical in the digital age because most of the evidence suggests that free electronic access to information *enhances*, rather than undermines, demand for and sales of copyrighted material. After Amazon unveiled its "search inside the book" function allowing Internet users to preview whole pages and read whole chapters of copyrighted books, sales of those books increased by almost ten percent compared to the mute, print-only versions,[380] despite predictions from the Author's Guild that providing so much free access would depress book sales.[381] This result was foreseeable to careful students of digital technology. Notwithstanding intense competition from electronic information and free Web content, net sales of books doubled between 1992 and 2004,[382] and in 2005 adult hardcover and mass-market paperback sales

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2006 U.S. Dist. LEXIS 10923, at *29 (D. Nev. Jan. 19, 2006) (quoting *Kelly*, 336 F.3d at 820); *see also* Olsen, *supra* note 377 ("A judge might look at the market impact of Google's caching and find that it's valuable, given that it could ultimately drive traffic to the cached site."); *cf.* Linda J. Lacey, *Of Bread and Roses and Copyrights*, 1989 DUKE L.J. 1532, 1545 n.65 ("The idea that a *de minimis* copying may constitute fair use has existed for decades and was apparently endorsed by Justice Blackmun in the *Betamax* case... Justice Blackmun gave examples of situations in which *de minimis* copying was appropriate, such as photocopying newspaper clippings....") (internal citation omitted).

379. *See* Brief of Google Inc. as Amicus Curiae in Support of Petition for Panel Rehearing and Rehearing En Banc by Defendant-Appellee Ditto.Com, Inc. at 2-3, 6, Kelly v. Arriba Soft Corp., 336 F.3d 811 (9th Cir. 2003) (No. 00-55521), *available at* http://briefbank.samuelsonclinic.org/briefs/google_amicus_final.pdf.

380. *See* Monica Soto Ouchi, *New Amazon Feature Aids Sales*, SEATTLE TIMES, Oct. 31, 2003, at E3.

381. *See* Monica Soto Ouchi, *Amazon's Inside Look Irks Writers*, SEATTLE TIMES, Oct. 29, 2003, at E1.

382. *See* Association of American Publishers, Table S-1 – Estimated Book Publishing Industry Net Sales 1992, 1997, 2002-2004 in Millions of Dollars, http://www.publishers.org/press/pdf/S1%202004%2021%20final%20FEB%20051.pdf (last visited Mar. 5, 2006).

are "surg[ing]" at a rate in excess of twenty-five percent.[383] Demand for library books has also risen sharply, as the number of library visits has doubled in the past decade,[384] and circulation in some of the nation's largest public library systems increased by more than seventy percent in the years preceding 2002.[385] Overall, the number of books published increased by four times in the fifty years that saw the debut of "free" information on television and the Internet.[386]

Properly understood, the fair use doctrine shields the activities online libraries such as Google Print undertake in digitizing copyrighted books for the benefit of the public. When a digital library makes millions of dense and dusty pages instantly searchable at the click of a mouse, rescues orphan works from obscurity, lets consumers preview pages before buying, or makes screen-ready or backup copies available to lawful owners of books, it does not unduly prejudice authorial rights.[387] Only if Google Print were to allow unlimited, free downloading of large excerpts of copyrighted works,

383. Press Release, Association of American Publishers, Publishing Sales Surge in January (Mar. 10, 2005), http://www.publishers.org/press/releases.cfm?PressReleaseArticleID=251.

384. *See Shhh! Google Links to Libraries*, *supra* note 118.

385. *See* Hoye, *supra* note 9 (reporting increase in circulation from 1.29 million checkouts to 1.79 million between 1995-96 and 2001-2 in one California public library system).

386. *See* Edward Tenner, *A Decade Ago, Seers Predicted that Technology Would Bury the Printed Word. So Why Are There More Books Than Ever?*, BOSTON GLOBE, Apr. 25, 2004, at D02.

387. *See, e.g.*, Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 450-55 (1984) (enabling consumers to reproduce copyrighted works for purposes of time-shifting was fair use); Kelly v. Arriba Soft Corp., 336 F.3d 811, 821 (9th Cir. 2003) (holding that search engine's inclusion of copies of copyrighted works was fair use); Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys., 180 F.3d 1072, 1079 (9th Cir. 1999) (enabling consumers to make personal copies of copyrighted works to "space-shift" them from computer hard drives to MP3 players is fair use); Maxtone-Graham v. Burtchaell, 803 F.2d 1253, 1264 n.8 (2d Cir. 1986) ("A key, though not necessarily determinative, factor in fair use is whether or not the work is available to the potential user. If the work is 'out of print' and unavailable for purchase through normal channels, the user may have more justification for reproducing it. . . .") (citing S. Rep. No. 94-473, at 64 (1965); H.R. Rep. No. 94-1476, at 67 (1966), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5680); Brief of Appellant at 18-26, Video Pipeline, Inc. v. Buena Vista Home Entm't., Inc., 342 F.3d 191 (3d Cir. 2003) (No. 02-2497), 2002 WL 3286881 (arguing that enabling consumers to preview copyrighted works before buying is fair use); Elisabeth Hanratty, *Google Library: Beyond Fair Use?*, 2005 DUKE L. & TECH. REV. 10, ¶ 20 (suggesting that "the public service that Google is offering by digitizing all of these books and making them searchable online" promotes progress of "science and the useful arts" by "enhancing information gathering techniques on the internet") (quoting *Kelly*, 336 F.3d at 820); Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 STAN. L. REV. 1345, 1416 (2004) (uploading of out-of-print works that are not available from copyright owner is among "strongest" cases that uploading copyrighted works is a fair use); Eugene Volokh, *Crime-Facilitating Speech*, 57 STAN. L. REV. 1095, 1108 n.64 (2005) (uploading out-of-print work to Internet is "probably" a fair use when done noncommercially because "it won't affect the economic value of the work").

such as whole chapters, in a way that provably reduces sales, would its activities warrant closer scrutiny.[388]

F. Maximizing the Distribution of Digital Library Output by Leveraging Advances in Software and Internet Technology

Neither the Framers nor Congress ever amended the Copyright Act to impose liability on businesses or technologists for contributing to, profiting from, or inducing copyright infringement.[389] The *Sony* case was therefore an "unprecedented attempt to impose copyright liability upon the distributors of copying equipment . . . ."[390] Nevertheless, the Supreme Court stated in that case that the Copyright Act may make "one individual accountable for the [copyright infringement] of another."[391] No such liability, however, would face a distributor of a technology "capable of commercially significant noninfringing uses."[392] The Court deemed the Betamax system to be capable of substantial noninfringing uses, specifically: authorized taping of public television and sporting events, unauthorized time-shifting of commercial television programming, and a "significant potential for future authorized copying."[393]

Over the twenty years since the *Sony* case, a new line of authority has developed that is based more on the opinions of the dissenting Justices, than on the majority's strong defense of innovation and the consumer. In *Sony*, Justice Harry Blackmun insisted in his dissent that "the percentage of legal versus illegal home-use recording" should be more important than the capability and potential for authorized and fair uses.[394] Precisely as Justice Blackmun had suggested, the Seventh Circuit held in the *Aimster* case that *Sony* protects only technologies typically used for legal purposes, so that the

388. *See Kelly*, 336 F.3d at 821 (declining to fully consider whether search engine's providing full-sized copies of copyrighted works to consumers was fair use); Hanratty, *supra* note 387, ¶ 20 (Google "do[es] not supplant the need for originals," a key factor in fair use analysis, if "the entirety of the work will not be available to a Google user") (quoting *Kelly*, 336 F.3d at 820).

389. *See* Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 125 S. Ct. 2764, 2776 (2005); *Sony*, 464 U.S. at 434-435 (noting that in contrast to the Patent Act, the Copyright Act "does not expressly render anyone liable for infringement committed by another"). The Digital Millennium Copyright Act (DMCA), Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of 17 U.S.C., and in 28 U.S.C. § 4001), was agnostic on secondary liability, providing that "[n]othing in this section shall enlarge or diminish vicarious or contributory liability for copyright infringement."

390. *Sony*, 464 U.S. at 421.

391. *Id.* at 435.

392. *Id.* at 442.

393. *See id.* at 444.

394. *See id.* at 493, 498-99 (Blackmun, J., dissenting) (internal quotations omitted).

providers of software typically used for illegal purposes should be held secondarily liable for copyright infringement.[395]

In *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, the Supreme Court was asked to outlaw software for the efficient distribution of digital content over the Internet because such software is often used to infringe copyrights. Neither the United States government nor the general public has been allowed to view the full evidence in the *Grokster* case, prompting poorly informed commentary based primarily on the allegations of the parties.[396] The recording industry, motion picture studios, and some authors, musicians, and music publishers sought a ruling that the abuse of p2p file-sharing software by copyright infringers made the producers of such software liable for contributory copyright infringement.[397] The plaintiffs argued that copyright piracy "is the only commercially significant use of file sharing."[398] Based on its reading of the *Sony* opinion and dissents, and of cases like *Aimster*, the government of the United States joined the large copyright holders in arguing that secondary copyright liability should be imposed whenever a new technology will foreseeably be used for copyright infringement, and its profitability depends on permitting such uses.[399] The government added that any inventor who "actively 'encouraged' [copyright] infringement" should be liable.[400] Technology companies argued, on the other hand, that p2p file-sharing software is lawful under *Sony* because it is capable of substantial noninfringing uses, including the efficient transfer of public domain works, fair uses of various kinds, and downloading samples and authorized tracks.[401]

A majority of the Supreme Court Justices reached a compromise in *Grokster* that saved a narrower version of the *Sony* rule, to the effect that a defendant who distributes a product capable of substantial noninfringing uses is not liable for copyright infringement by the product's users solely

395. *In re* Aimster Copyright Litig., 334 F.3d 643, 650-51 (7th Cir. 2003), *cert. denied*, 540 U.S. 1107 (2004).

396. *See* Brief for the United States as Amicus Curiae Supporting Petitioners at 3 n.1, Metro-Goldwyn-Mayer Studios, Inc., v. Grokster Ltd., 125 S. Ct. 2764 (2005) (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/050124_US_Amicus_Br_04-480.pdf.

397. Jonathan Krim, *Court Weighs File Sharing; Technology Advances vs. Copyrights in Grokster Case*, WASH. POST Mar. 30, 2005, at E01 (quoting counsel for entertainment industry).

398. *Id.*

399. Brief for the United States as Amicus Curiae Supporting Petitioners at 5, Metro-Goldwyn-Mayer Studios, Inc., v. Grokster Ltd., 125 S. Ct. 2764 (2005) (No. 04-480).

400. *Id.* at 28 (citation omitted).

401. *See id.*

because the defendant had constructive knowledge of the infringing use.[402] *Sony* does not shield those who "invoke[] infringing use by advertisement," the Court held.[403] Under the common law "inducement rule," any person or company that sells a product or provides a service while taking "affirmative steps . . . to foster infringement" becomes liable for all infringing acts by the users of the product or service.[404] The Court declared that instructing people that copyright infringement is possible using a product "overcomes the law's reluctance to find liability when a defendant merely sells a commercial product suitable for some lawful use."[405]

Within hours after it was handed down, the decision in *Grokster* was hailed by many copyright owners and denounced by many technologists and Internet law experts. The head of the Motion Picture Association of America proclaimed that, henceforth, any business or technologist that "aids" or "abets" infringement would be punished[406] An official with the Consumer Electronics Association, on the other hand, warned that the Court's condemnation of taking steps that "foster" copyright infringement was too vague and promoted standardless litigation.[407] As many technology industry leaders, consumer advocates, and Internet law experts have demonstrated, the danger of *Grokster*'s "foster infringement" standard is that it will chill innovation of digital and telecommunications technology in the United States.[408] American leadership in computing and Internet technology

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402. *See Grokster*, 125 S. Ct. at 2778 ("*Sony* barred secondary liability based on presuming or imputing intent to cause infringement solely from the design or distribution of a product capable of substantial lawful use, which the distributor knows is in fact used for infringement."); *see also id.* at 2778-79 (limiting scope of rule announced in *Sony*, 464 U.S. at 439).

403. *Id.* at 2779.

404. *Id.* at 2780. The Court's opinion generally referred to products, rather than services, but on at least one occasion clearly suggested that the rule it announced applies equally to services. *See id.* at 2776 (stating that lawsuits brought "on a theory of contributory or vicarious infringement" may be "only practical alternative" when "a widely shared service or product is used to commit infringement") (citing *In re* Aimster Copyright Litig., 334 F.3d 643, 650-51 (7th Cir. 2003), *cert. denied*, 540 U.S. 1107 (2004)).

405. *Id.* at 2779.

406. Linda Greenhouse & Lorne Manly, *Justices Reinstate Suits on Internet File Sharing*, N.Y. TIMES, June 28, 2005, at A1.

407. *See id.* (citing an official at Consumer Electronics Association who noted that for technology companies, "the legal clarity has decreased and the risk of litigation has increased").

408. *See Protecting Innovation and Art While Preventing Piracy: Hearing on S. 2560 Before the Senate Committee on the Judiciary*, 108th Cong. (2004) (written Statement of Gigi B. Sohn, President, Public Knowledge, Gene Kimmelman, Senior Director of Advocacy, Consumers Union, and Mark Cooper, Director of Research, Consumer Federation of America), *available at* http://www.publicknowledge.org/news/testimony/tesinduce; Brief of Internet Amici in Support of Affirmance, Metro-Goldwyn-Mayer Studios, Inc. v. Grokster Ltd., 125 S. Ct. 2764 (2005) (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/20050301_internet_industry.pdf; Brief Amici Curiae of 40 Intellectual Property and Technology Law Professors Supporting Affirmance, Metro-Goldwyn-Mayer Studios Inc., v. Grokster, Ltd., 380 F.3d 1154 (9th Cir. 2004)

may thereby be forfeited to nations in Europe or Asia whose courts encourage inventiveness by narrowly limiting the circumstances in which a person or company may be held liable for copyright infringement by customers or other users.[409]

Depending on its outcome, the *Grokster* case may impose high costs on some digital library projects by depriving them of a method of distributing their output efficiently without incurring high costs. File-sharing software, including the p2p applications Kazaa and Grokster, is capable of cheaply and quickly distributing "thousands of public domain literary works made available through Project Gutenberg as well as historic public domain films released by the Prelinger Archive."[410] Distributing books, music, and movies over the Web can be prohibitively expensive for nonprofit entities such as Project Gutenberg or the Internet Archive, which must divert scarce resources to purchasing bandwidth and data storage instead of digitizing

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(Nos. 03-55849 and No. 03-55901), *available at* http://www.law.berkeley.edu/cenpro/samuelson/papers/briefs/Grokster_Amicus_092603.pdf.

409. *See, e.g.*, KaZaA/Buma-Stemra, Gerechtshof [Hof] [Court of Appeal], Amsterdam, 28 maart 2002, rolnr. 1370/01 (Neth.) (holding that the distributor of P2P file sharing program Kazaa could not be held liable for downloading of copyrighted works because distributor was not itself reproducing such works, and Kazaa program had other uses, including transfer of works that are not copyrighted, whose authors consent to such transfer, or that may be transferred consistent with legal limitations on copyright); Brief Amici Curiae of 40 Intellectual Property and Technology Law Professors Supporting Affirmance at 3 n.3, *Grokster*, 380 F.3d 1154 (Nos. 03-55849 and No. 03-55901) (noting that the laws of Germany and the United Kingdom do not make suppliers of instrumentalities used to infringe copyrights secondarily liable absent "actual knowledge of a specific infringement at the time when the supplier could take action to prevent it"), *available at* http://www.law.berkeley.edu/clinics/samuelson/projects_papers/2003f_mgm_grokster_brief.pdf; Jung A-Song, *Korean Court Acquits Music Swap Service*, FIN. TIMES (U.K.), Jan. 13, 2005, at 20 (South Korean appeals court held that distributors of Napster-like P2P music file-sharing software were not legally responsible for copyright infringement by 8 million users of the software); Marcel Michelson & Bernhard Warner, *Dutch Court Throws Out Attempt to Control Kazaa*, REUTERS, Dec. 19, 2003, http://msl1.mit.edu/furdlog/index.php?p=1091 (Dutch Supreme Court held that makers of P2P file sharing program Kazaa cannot be sued for alleged copyright infringements by Kazaa's users); *Dutch Judge Protects Privacy of File Swappers*, MSNBC, July 12, 2005, http://msnbc.msn.com/id/8552779 (Dutch court held that Internet users' privacy rights trump interests of entertainment companies seeking to discover identity of persons distributing movies or music); *Online Pirates Forced to Walk the Plank*, ECONOMIST.COM, June 27, 2005 (noting that some will "continue to write file-sharing software away from American jurisdiction"); *see also* Victoria Shannon, *P2P Starts to Mature*, INT'L HERALD TRIB., July 9, 2005, at 16 (in July 2005, "the Norwegian company Opera, which makes the alternative Web browser of the same name, released a version of its software with the BitTorrent technology . . . [to] manage file downloads from P2P networks;" and further noting that an English company has patented a method of conducting P2P file sharing over cell phones using "public Wi-Fi hot spots").

410. Metro-Goldwyn-Mayer Studios, Inc. v. Grokster Ltd., 380 F.3d 1154, 1161 (9th Cir. 2004), *vacated*, 125 S. Ct. 2764 (2005).

more books.[411] File-sharing software permits these entities to shift storage and bandwidth costs onto readers and Internet users more generally, and preserve limited budgets for core mission tasks.[412] Audio and video recordings of legislative or judicial proceedings, such as hearings in Congress or oral arguments, are excellent candidates for p2p networks, as the resulting files can be very costly to distribute over the Web.[413] Disseminating music is, of course, even more common, as p2p users have assembled the "greatest library of recorded music ever," including many uncopyrighted, unavailable, and out-of-print titles.[414] File-sharing programs let Internet users do much more than substitute MP3 downloads for CD purchases, including locate public domain music, listen to recordings of live performances in which musicians do not claim copyright, rediscover out-of-print or hard-to-find books or music, and sample albums before buying.[415]

Although the Supreme Court avoided squarely addressing the application of the *Sony* doctrine of secondary liability to the facts in *Grokster*, the Ninth Circuit may need to grapple with the issue on remand.[416] The *Grokster* court held that when a software company encourages or advertises the possibility of infringement, its failure to "develop filtering tools or other mechanisms to diminish the infringing activity using [its] software" may support copyright liability.[417] In this it followed the lead of the Bush administration, which argued in *Grokster* that p2p software providers have an obligation to use certain "safeguards" to "monitor the uses to which customers put [their] products."[418] Its brief argued that a software producer's decision not to monitor the "real names and IP addresses" of users who will foreseeably engage in illegal activity should be regarded as a form of "[w]illful blindness" that defeats the *Sony* defense.[419]

The Ninth Circuit should exercise great care on remand in *Grokster* to shield Internet technology and p2p file-sharing companies from crippling liability based on a failure to handicap their software tools and

411. *See* Brief of The American Civil Liberties Union et al. as Amici Curiae in Support of Respondents at 9, *Grokster*, 125 S. Ct. 2764 (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/20050301_aclu.pdf.

412. *See id.*

413. *See id.* at 11-12.

414. Frank Ahrens, *Music Industry Reluctantly Yielding to Internet Reality*, WASH. POST, Nov. 27, 2003, at E01.

415. *See Grokster*, 125 S. Ct. at 2789 (Breyer, J., concurring); LESSIG, *supra* note 57, at 68-9.

416. *See Grokster*, 125 S. Ct. at 2787 (Ginsburg, J., concurring) (indicating that Ninth Circuit may need to "reconsider, on a fuller record, its interpretation of *Sony*'s product distribution holding").

417. *Id.* at 2781.

418. Brief for the United States as Amicus Curiae Supporting Petitioners at 20 n.3, *Grokster*, 125 S. Ct. 2764 (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/050124_US_Amicus_Br_04-480.pdf.

419. *Id.* at 29-30.

systematically violate their users' privacy. It should reject any proposed modifications to the *Sony* doctrine that would proscribe all technologies with foreseeable infringing uses or that guarantee anonymity, notwithstanding the potential for substantial noninfringing uses. Instead, it should narrowly focus, as the Supreme Court did in the main, on the *Grokster* defendants' intent to "get in trouble with the law and get sued . . . to get in the new[s],"[420] as well as their explicit advertising of their networks as a source of the copyrighted music of Madonna, Bruce Springsteen, Shania Twain, and Puff Daddy.[421]

As Justices Breyer, O'Connor, and Stevens maintained in their concurring opinion, the lower courts must consider all *potential* future uses of p2p file-sharing in determining whether it "will be used *almost exclusively* to infringe copyrights," as required by *Sony*, in cases not involving active inducement of infringement.[422] After all, although "reproduction of copyrighted materials was either 'the most conspicuous use' or 'the major use' of the Betamax product,"[423] watching purchased or rented movies or television programs has developed into the most commercially significant use, even though this market did not exist at all when the VCR was launched.[424] None of the great advances in information and communications technology, from the photocopier to the videocassette recorder, personal computer, and Internet, would have been viable had all copyright infringements by their users been imputed to their manufacturers.[425] The zero tolerance policy articulated in the *Napster* and *Aimster* cases represents a radical departure from Anglo-American legal principles of civil law, and will unnecessarily deprive Internet users of a variety of noncommercial content[426] and many of the benefits of MP3 and

420. *Grokster*, 125 S. Ct. at 2773.

421. *See* Brief for the United States as Amicus Curiae Supporting Petitioners at 28-29, *Grokster*, 125 S. Ct. 2764 (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/050124_US_Amicus_Br_04-480.pdf.

422. *Grokster*, 125 S. Ct. at 2791 (Breyer, J. concurring).

423. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 428 (1984) (quoting Universal City Studios, Inc. v. Sony Corp. of Am., 659 F.2d 963, 975 (9th Cir. 1981)).

424. *See* Brief Amici Curiae of 40 Intellectual Property and Technology Law Professors Supporting Affirmance at 7-8, Metro-Goldwyn-Mayer Studios, Inc. v. Grokster Ltd., 380 F.3d 1154 (9th Cir. 2004) (Nos. 03-55849 and No. 03-55901), *available at* http://www.law.berkeley.edu/clinics/samuelson/projects_papers/2003f_mgm_grokster_brief.pdf.

425. *Cf.* Krim, *supra* note 397 (attributing this argument to Justice David H. Souter and Justice Antonin Scalia, with respect to Xerox photocopier and Apple iPod MP3 player).

426. *See* Chris Anderson, *The Grokster Case's Silent Majority*, L.A. TIMES, Mar. 30, 2005, at B11.

p2p technology,[427] while potentially depressing, rather than increasing, record sales.[428]

File-sharing software represents a much cheaper and more efficient method of distributing public domain books, music, films, and other audiovisual content, not to mention of downloading copyrighted material for the purpose of making a noncommercial fair use of it. For this reason, a statutory license on file-sharing software that pays copyright owners in proportion to the lost sales proven to have resulted from file sharing would be vastly preferable to outlawing the software until such time as all misuse would be policed and prevented. Congress should consider imposing a levy on p2p-related goods and services that compensates artists and the entertainment industry for those losses they could prove to be caused by p2p file-sharing software to the exclusion of all other causes.[429] Such a levy would allow digital libraries to flourish by permitting free noncommercial dissemination and transformation of copyrighted material using p2p technologies, conditioned upon payment to injured copyright owners of a percentage of any revenues earned on p2p-related products.[430] The "net

427. *See* LESSIG, *supra* note 57, at 74 (recognizing that the "zero tolerance" policy adopted in *Napster* is contrary to history of "balance" in American law, because it deprives society of all beneficial uses of p2p simply to reduce level of copyright infringement to zero); David Nimmer, *Codifying Copyright Comprehensibly*, 51 UCLA L. REV. 1233, 1370, 1375 (2004) (referencing that the result in *Napster* was inconsistent with notice-and-takedown scheme governing copyright liability of Internet service providers established in Online Copyright Infringement Liability Limitation Act, Title II of the Digital Millennium Copyright Act, Pub. L. No. 105-304, 505, 112 Stat. 2860, 2877-86 (1998) (codified as amended at 17 U.S.C. § 512)).

428. *See* Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 125 S. Ct 2764, 2785 (2005) (Ginsburg, J., concurring) ("[F]ile sharing seems to have a net positive impact on music sales.") (quoting Decl. of Aram Sinnreich); *id.* at 2789 (Breyer, J., concurring) ("thousands of independent artists" have authorized sharing of their music over Grokster) (quoting Decl. of Daniel B. Rung); *Grokster*, 380 F.3d at 1161 (discussing "widespread interest" and resulting recording contract enjoyed by "popular band Wilco" after it made an "album available for free downloading, both from its own website and through the software user networks"); UMG Recordings, Inc. v. MP3.com, Inc., 92 F. Supp. 2d 349, 352 (S.D.N.Y.) (citing expert opinion that Internet-based service for distributing copies in MP3 format of consumers' CDs may have increased sales); A&M Records, Inc. v. Napster, Inc., 114 F. Supp. 2d 896, 909, 914 (N.D. Cal. 2000) (discussing conflicting evidence as to the effect of Napster service on record sales, including an admission by recording industry expert that Napster helped some consumers "make a better selection or decide what to buy"); LESSIG, *supra* note 57, at 200 ("Napster may indeed have helped sales rather than hurt them."); Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 886 n.226 (2001) (recording industry expert in *Napster* indicated that national music sales grew by 18% after debut of p2p software).

429. *See Grokster*, 125 S. Ct. at 2796 (Breyer, J., concurring) (suggesting that Congress consider legislation to grapple with implications of new technology such as p2p software).

430. Several prominent law professors have proposed such systems. *See* Litman, *supra* note 307, at 32-33 (citing WILLIAM W. FISHER III, PROMISES TO KEEP: TECHNOLOGY, LAW AND THE FUTURE OF ENTERTAINMENT 199-258 (2004); Lunney, *supra* note 428, at 852-69, 886-920); Neil W. Netanel, *Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing*, 17 HARV. J.L. & TECH. 1 (2003). Goods and services that arguably enable or contribute to p2p file-sharing of copyrighted works include personal and office computers, CD burners, DVD- and CD-copying

outlay from the consumer's perspective" might well be the same with or without the levy, because any tax increase necessary to finance it would be offset by savings on information and entertainment products.[431]

Any legislatively-imposed levy on file sharing should be set at a level that makes creative people and industries whole for their losses, without overcompensating them based on exaggerated claims. The recording industry asserted before the Supreme Court that it has lost twenty-five percent of its revenues due to file sharing, a result which, if proven, should prompt creative thinking about how to prevent layoffs in the industry and a decline in its output.[432] There is not much proof that file sharing actually *causes* CD sales to fall, however, let alone by one-quarter.[433] Any drop in sales in recent years could be due to any of a half-dozen factors, including poor economic conditions and massive job losses after September 11; competition from DVDs, video games, and Internet use; changes in music tastes, the quantity and quality of CDs released and the level of talent prevailing in the industry; and the tailing off of a temporary sales bubble in the 1990s as consumers transitioned from vinyl and tapes to CDs.[434] The effect of each of these factors must be accounted for in setting a noncommercial use levy on p2p-related technology.

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software, MP3 players, DVRs, blank CD-R and CD-RW disks, and broadband and dial-up Internet service. *See, e.g.*, Netanel, *supra* at 4, 32, 43-44, 62-63.

431. *See* Steve P. Calandrillo, Letter to the Editor, *A New Copyright System is Needed*, WASH. ST. B. NEWS, Aug. 2003, at 7, *available at* http://www.law.washington.edu/Faculty/Calandrillo/Publications/CopyrightSystem.pdf.

432. *See* David G. Savage, *Divisive File-Sharing Issue Tackled by Supreme Court*, L.A. TIMES, Mar. 30, 2005, at C1.

433. A study by a Harvard Business School professor and another researcher based at the University of North Carolina found no statistically significant negative effect of p2p file-sharing software on CD sales. *See Grokster*, 125 S. Ct. at 2794 (Breyer, J. concurring) (citing FELIX OBERHOLZER & KOLEMAN STRUMPF, THE EFFECT OF FILESHARING ON RECORD SALES: AN EMPIRICAL ANALYSIS 24 (2004), http://www.unc.edu/~cigar/papers/FileSharing_March2004.pdf). Almost "70% of musicians believe that file sharing is a minor threat or no threat at all to creative industries." *Id.* (citing MARY MADDEN, PEW INTERNET & AMERICAN LIFE PROJECT, ARTISTS, MUSICIANS, AND THE INTERNET 21 (2004), http://www.pewinternet.org/pdfs/PIP_Artists.Musicians_Report.pdf).

434. *See id.* at 2795-96; Brief of Respondents at 44, *Grokster*, 125 S. Ct. 2746 (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/20050301_respondents_brief.pdf; JOSH BERNOFF ET AL., DOWNLOADS SAVE THE MUSIC BUSINESS (2002); VAIDHYANATHAN, *supra* note 3, at 49.

IV. CONCLUSION

The potential of the universal digital libraries of the future may be almost limitless. Mass digitization projects like Project Gutenberg and Google Print may fulfill the longstanding ideal of universal access to the truth by ensuring widespread dissemination of high-quality e-books. By informing people about the broader world and their own history, they may guarantee the human right to seek and receive information and culture.[435] By unleashing millions of printed or recorded works that would otherwise be locked behind library doors or totally out-of-print, they may create the cultural common ground that is the basis for a vibrant civil society, and the informed exercise of popular sovereignty.[436] And by making and sending lots of copies around the globe, they may preserve the world's art and literature from wars, fires, accidents, carelessness, and the ravages of time.[437]

Forging a universal digital library out of billions of pages of paper, millions of paintings and sculptures, thousands of archived radio and television broadcasts, and trillions of megabytes of electronic information is an undertaking that will rival the exploration of the moon, in both its ambition and scope.[438] To make this vision a reality, copyright law must be reformed to simplify and reduce the overlapping and overbroad copyrights created by the existing system of chaotically-ordered near-perpetual rights. Otherwise, like radio, cable television, or webcasts, digital libraries will be made available much more slowly, restrictively, and disappointingly than they might have been, owing to the holdout power of copyright holders in particular.

Without reform, Congress and the courts may continue to expand the length and scope of copyright far beyond historical limits, and prevent truly universal digital libraries from coming into being. Under the new regime of near-unlimited copyrights, the public domain is receding into distant memory, digitization of most copyrighted material is becoming unrealistically complicated and expensive, and millions of books and artworks that should be freely reproducible are being hoarded by entities claiming exclusive rights in digital copies. Courts wrongly confine the fair use doctrine to ever more narrow grounds whenever potential harm to licensing arrangements could be imagined. Finally, a multi-faceted

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435. Universal Declaration of Human Rights, G.A. Res. 217A, at 71, U.N. GAOR, 3d Sess., 1st plen. mtg., U.N. Doc. A/810 (Dec. 12, 1948).

436. *See* Nancy Kranich, *Libraries Create Social Capital*, LIBR. J., Nov. 15, 2001, at 40, *available at* http://www.libraryjournal.com/article/CA180511.html.

437. As one preservationist puts it, lots of digital copies "keep stuff safe." DAVID S.H. ROSENTHAL, LOTS OF COPIES KEEP STUFF SAFE: PEER-TO-PEER DIGITAL PRESERVATION (2004), http://www.archives.gov/era/pdf/it-conference-rosenthal.pdf.

438. *See* Stu Feldman, *A Conversation with Brewster Kahle*, ACM QUEUE, June 2004, at 24, *available at* http://www.acmqueue.org/modules.php?name=Content&pa=showpage&pid=163.

campaign against hardware and software capable of making digital copies is undermining the growth of technologies adaptable to digital libraries.

This article has outlined an agenda for copyright reform that would promote the progress of universal digital libraries, vindicate the constitutional rights of Internet users, and safeguard the legitimate interests of copyright owners. This agenda involves a revival of the more limited copyright that prevailed for most of American history, with a term that does not extend into centuries, a scope that does not protect unoriginal reproductions of the works of others or forbid noncommercial uses or entire technologies, a system of registration and recording that ensures that licensing does not become a confused tangle, and a compromise between unlimited free downloading and a "zero tolerance" policy for p2p file sharing software that would validate the legitimate interests of copyright owners while preserving p2p's utility to digital libraries. The implementation of these reforms will offer the builders of digital libraries a degree of certainty that existing law does not provide, and thus ensure that digital libraries will be as abundant and widely accessible as possible.