

CODE VERSUS THE COMMON LAW

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INTRODUCTION

Lawrence Lessig called the most recent battle “Hollywood v. Silicon Valley,”¹ but one could just as well dub it “Code v. The Common Law.” The content industries’ latest efforts to re-calibrate the balance of copyright² imply that the United States copyright system has reached a crisis that cannot be resolved under existing law. In particular, bills such as the Consumer Broadband & Digital Television Promotion Act³ would

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1. Lawrence Lessig, *Hollywood v. Silicon Valley: Make New Code, Not War*, CIO INSIGHT, June 17, 2002, available at http://www.cioinsight.com/print_article/0,3668,a=28373,00.asp (last visited Nov. 12, 2002); see also Drew Clark & Bara Vaida, *Digital Divide*, NATIONAL JOURNAL, Sept. 6, 2002, available at <http://nationaljournal.com/about/njweekly/stories/2002/0906nj1.htm> (detailing the history of the growing tension between content industries and technology providers); Steven Levy, *Glitterati vs. Geeks*, NEWSWEEK, Oct. 14, 2002, available at http://msl1.mit.edu/ESD10/docs/glit_and_geeks.pdf (same).

2. See Consumer Broadband and Digital Television Promotion Act, S. 2048, 107th Cong. (introduced Mar. 21, 2002); see also 17 U.S.C. §§ 1201–1202 (2000) (statute making it a violation of civil and criminal law to tamper with “rights-management” information, or to circumvent technology that controls access to copyrighted works or protects rights of copyright owners); Sonny Bono Copyright Term Extension Act, S. 505, P.L. 105-298, 11 Stat. 2827 (1998) (extending copyright term). See generally JESSICA LITMAN, DIGITAL COPYRIGHT 35-69 (2001) (describing history of expansionist copyright legislation and interest group influence).

3. Consumer Broadband and Digital Television Promotion Act, S. 2048, 107th Cong. (introduced Mar. 21, 2002). This bill was proposed in the 2001-02 legislative session but never passed out of committee, and has not been reintroduced in the current session. While this particular legislation appears to have fallen from the table for the time being, the federal government continues to consider other initiatives to mandate and standardize copy-protection technologies. See, e.g., Digital Broadcast Copy Production, *Notice of Proposed Rulemaking*, 17 F.C.C.R. 16,027 (2002) (initiating rulemaking proceeding to decide whether FCC should mandate standardized copy protection technology for digital television); cf. Declan

usurp current standards of secondary copyright infringement in favor of a more aggressive approach against those whose technologies facilitate the copying of digital works. The proposal—a mandate that technology developers embed specific copy-protection technology into hardware and software products—would involve unprecedented levels of intrusion into the technology design process. A victory for Hollywood would thus represent a triumph not only of code law over common law, but also of legislated computer code over market-driven technologies.⁴

Critics have catalogued the shortcomings of the Hollings bill: it tampers with the historically frantic pace of innovation in technology; it represents yet another capitulation to Hollywood; it threatens to deprive users of the right to make “fair use” of digital works.⁵ But few have focused on a fundamental question posed by the legislation: Do the disruptions caused by digital technology justify a rethinking of the core model for copyright in the United States? More specifically, should Congress convert copyright from a system focused primarily on enforcement of exclusive rights against individuals into one that spreads more broadly the responsibility for either preventing, or compensating for, the unauthorized use of copyrighted works?⁶

McCullagh, *Congressional Caucus Targets Piracy*, CNET NEWS.COM, May 19, 2003, available at http://news.com.com/2100-1028_3-1007908.html (last visited May 21, 2003) (describing new Congressional caucus “devoted to combating piracy and promoting strong intellectual property laws”). See generally Randall C. Picker, *From Edison to the Broadcast Flag: Mechanisms of Consent and Refusal and the Propertization of Copyright*, 70 U. CHI. L. REV. 281 (2003).

4. By describing existing technologies as “market-driven,” I do not mean to suggest that they have all evolved in an efficiently functioning market lacking in externalities; to be sure, many of the technologies discussed in this paper have been driven exclusively by a demand for their infringing applications. But at least some—and maybe most—of the broad array of products covered in the Hollings proposal were designed primarily for neutral, non-infringing purposes, and the bill’s interference with these products strikes me as anti-market and unprecedented.

5. See, e.g., Lessig, *supra* note 1 (“While Hollywood cries ‘theft,’ it uses Washington to ensure that a vibrant competitive market for producing and distributing content on the Internet is never realized.”); Alex Salkever, *Guard Copyrights, Don’t Jail Innovation*, BUSINESSWEEK ONLINE, Mar. 27, 2002, available at http://www.businessweek.com/daily/dnflash/mar2002/nf20020327_2364.htm (last visited Nov. 12, 2002) (contending that the Hollings bill “clearly flouts the interests of consumers” and is “more evidence that, when it comes to delivering content in the 21st century, the entertainment industry is hell-bent on stifling technology, rather than using it in ways that eventually could become highly profitable”).

6. Congress already expanded the scope of responsibility for infringement when it passed the Digital Millennium Copyright Act, which proscribes, among other things, the use or distribution of technologies that circumvent access and copy controls embedded in copyrighted works. See 17 U.S.C. § 1201. For an insightful critique of the economics of secondary liability and cost spreading in copyright law, see Douglas Lichtman & William Landes, *Indirect Liability in Copyright Infringement: An Economic Perspective*, 17 HARV. J. LAW & TECH. 395 (2003).

The answers to these questions are less obvious than either side in the current debate would admit. Opponents of legislative action have both history and the Supreme Court on their side when they argue that only active infringers, and those closely related to them, should bear the costs of unauthorized copying.⁷ As these opponents point out, Congress has rarely used its copyright powers⁸ to tamper with new technologies, even those specifically designed to duplicate creative content.⁹ And the Supreme Court, in *Sony v. Universal City Studios*,¹⁰ declared that copyright holders should almost never have veto power over new technologies. The inducement objectives of copyright, the Court held, cannot justify liability against all parties whose products may be used to infringe, because such liability would expand the economic dominion of the copyright holder into markets that have nothing to do with their expression. Instead, the Court found copyright liability appropriate only against manufacturers of technologies with no “substantial non-infringing use.”¹¹ *Sony* thus established that, under the common law of copyright, makers of neutral technologies need not pay taxes or redesign

7. Existing law limits liability for copyright infringement to three categories of defendants: (1) those who themselves commit an act of infringement, see *Religious Tech. Ctr. v. Netcom On-Line Communication Servs., Inc.*, 907 F. Supp. 1361, 1370 (N.D. Cal. 1995) (direct infringement “requires some element of volition or causation which is lacking where a defendant’s system is merely used to create a copy by a third party”); (2) those who provide substantial assistance to others’ acts of infringement, see *Gershwin Publ’g Corp. v. Columbia Artists Mgmt.*, 443 F.2d 1159, 1162 (2d Cir. 1971) (defining a contributory infringer as “one who, with knowledge of the infringing activity, induces, causes or materially contributes to the infringing conduct of another”) (internal citations omitted); and (3) those who have a right and ability to supervise a direct infringer, and who obtain a direct financial benefit from her acts of infringement, see *Shapiro, Bernstein & Co. v. H.L. Green Co.*, 316 F.2d 304, 307 (2d Cir. 1963) (“When the right and ability to supervise coalesce with an obvious and direct financial interest in the exploitation of copyrighted materials . . . the purposes of copyright law may be best effectuated by the imposition of liability upon the beneficiary of that exploitation.”) (internal citations omitted).

8. See U.S. CONST. art. I, § 8, cl. 8 (“The Congress shall have Power . . . to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”).

9. See, e.g., *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984) (*Sony*) (holding that copyright liability cannot extend to copying devices that have “substantial non-infringing uses”). Congress has occasionally changed the copyright law to account for new technologies, but has rarely done so by giving copyright holders injunctive power over the new technology. See, e.g., 17 U.S.C. § 115 (compulsory license requirement added after the introduction of piano rolls); 17 U.S.C. §§ 1002-1007 (setting forth levy scheme for digital audio recording devices); see generally Jane C. Ginsburg, *Copyright and Control over New Technologies of Dissemination*, 101 COLUM. L. REV. 1613 (2001) (reviewing history of courts’ and Congress’ treatment of new technologies).

10. *Sony*, 464 U.S. at 442.

11. *Id.*

their products to satisfy the self-protective instincts of copyright holders.¹²

Yet history and common law tell only part of the story. The world has changed, even since *Sony*.¹³ The combination of digital formats and the Internet has made it possible for individuals to make perfect copies of digital works and to distribute them around the world. The advent of file-sharing technologies has decentralized the distribution process, making it daunting to identify and take action against individual infringers. Given the collective creativity and tenacity of those with an interest in such technologies, the legal arms of the content industries will arguably never keep pace with their development. Just as Grokster and KaZaA cropped up in the immediate wake of Napster,¹⁴ so will existing sharing and distribution tools give way to new generations of technologies that copyright holders will likely stand powerless to avert.¹⁵

12. Because *Sony* involved an off-the-shelf technology product, rather than a service, the case left open the possibility that parties with an ongoing relationship with their customers might have a greater responsibility for preventing infringement. See Stacey L. Dogan, *Is Napster a VCR? The Implications of Sony v. Universal City Studios for Napster and Other Internet-Related Actors*, 52 HASTINGS L.J. 939 (2001) (considering *Sony*'s implications for Internet services). Both the Ninth Circuit and the Seventh Circuit have interpreted *Sony* to require some preventive actions by Internet actors, at least in certain circumstances. See *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1021-24 (9th Cir. 2001) (finding that Napster had an affirmative obligation to remove infringing files from its system); *In re Aimster Copyright Litig.*, 334 F.3d 643, 653 (7th Cir. 2003) (Posner, J.) (indicating that even when an Internet service has significant noninfringing uses, "if the infringing uses are substantial then to avoid liability as a contributory infringer the provider of the service must show that it would have been disproportionately costly for him to eliminate or at least reduce substantially the infringing uses").

13. The Supreme Court in *Sony* made clear that "it is Congress that has been assigned the task of defining the scope of the limited monopoly" of copyright, 464 U.S. at 429, and that Congress, rather than the courts, should make any necessary adjustments to the copyright balance in response to technological change. *Id.* at 431 ("Sound policy, as well as history, supports our consistent deference to Congress when major technological innovations alter the market for copyrighted materials. Congress has the constitutional authority and the institutional ability to accommodate fully the varied permutations of competing interests that are inevitably implicated by such new technology.").

14. See, e.g., John Borland and Gwendolyn Mariano, *Looking for the Next Napster*, CNET NEWS.COM, July 5, 2001, available at <http://news.com.com/2009-1023-269454.html> (last visited Jan. 27, 2003) (describing some of the emerging post-Napster file-trading networks).

15. See Neil Weinstock Netanel, *Impose a Noncommercial Use Levy to Allow Free P2P File Sharing*, 17 HARV. J.L. & TECH. (forthcoming 2003) (draft at 5 & n. 12), available at http://www.utexas.edu/law/faculty/nnetanel/Levies_chapter.pdf (last visited Sept. 29, 2003) ("computer security experts maintain that no technological barrier can ultimately prevail over determined hackers who have physical access to the encrypted items, including, in this instance mass-marketed CDs and DVDs, personal computers, consumer electronic devices, and software embedded in those items"); John Borland, *Freenet Keeps File-Trading Flame Burning*, CNET NEWS.COM, Oct. 28, 2002, available at <http://new.com.com/2100-1023-963459.html> (last visited Jan. 27, 2003) (describing Freenet anonymous file-sharing technology).

This confluence of technological developments clearly threatens the traditional distribution model for movies, music, and other forms of creative expression. It also may threaten the economic model upon which our copyright laws are based. Under the United States Constitution, Congress has the power to grant authors exclusive rights in order to induce creative expression. If authors or their assigns can capture the core market for reproduction and distribution of their expression, they will arguably have an incentive to create and distribute. But in a digital, interconnected world, the dispersion of copying and distribution activities makes it more difficult for copyright holders to identify users who derive value from their works. At least theoretically, the inability to capture such value could ultimately jeopardize the incentive to produce and distribute creative expression.

There is widespread disagreement over what, if anything, should be done about these threats. Some think that artists and publishers should accept that the world has changed and that they can no longer profit from exclusive copying and distribution rights.¹⁶ Others argue that the existing model of exclusive rights could serve the ends of copyright, if only publishers contained their greed; in this view, the public would willingly pay for copies of works if the content providers distributed them in a format and cost structure that appealed to consumers.¹⁷ A third

16. *E.g.*, Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263, 268 (2002) (“[I]n light of alternative methods for funding musicians, including statutory levies, denying the public access to music can no longer be justified as a necessary or desirable means for encouraging the creation of music.”).

17. *See, e.g.*, Ann Bartow, *Arresting Technology: An Essay*, 1 BUFF. INTELL. PROP. L.J. 95, 118-19 (2001) (“In cyberspace as in real space, most U.S. citizens (or ‘netizens’) are law abiding most of the time. As long as it is reasonably convenient, efficient, and economical to gain access to a movie by renting a videocassette or DVD, ordering it through ‘pay-per-view,’ or watching it on cable television (all of which garner royalties for content owners), then few people are likely to invest a lot of time and energy in obtaining counterfeit copies of the movie or gaining unauthorized access to any copies.”); Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 858-68 (2001) (advocating an “honor system” in which consumers regulate themselves: “All the public needs is some general statement, such as that found in copyright law, reflecting and reinforcing the principle that excessive unauthorized copying is improper.”).

The early success of Apple’s iTunes, and of other recently-introduced technologies for authorized distribution of music files, support the view that at least some consumers will make use of legal alternatives to file-sharing. *See, e.g.*, John Borland, *Music Services Jump on iTunes Bandwagon*, CNET NEWS.COM, July 28, 2003, available at <http://news.com.com/2100-1027-5056162.html?tag=n1> (last visited Aug. 14, 2003) (reporting that, since the popular pay-per-song iTunes service was launched in April 2003, “a stampede of companies is following Apple Computer pell-mell into the online music sales business”); John Borland, *Europeans to Get Windows Music Store*, CNET NEWS.COM, Aug. 13, 2003, available at <http://news.com.com/2100-1027-5063595.html> (last visited Aug. 14, 2003) (noting new pay-per-song service that Microsoft is launching in Europe); John Borland, *Sony to Launch Net Music Service*, CNET NEWS.COM, Sept. 4, 2003, at <http://news.com.com/2100-1027->

group supports use licenses and technology levies as a means to compensate artists while threatening the hegemony of traditional publishers.¹⁸ And finally, a vocal group of content providers contends that our incentive-based copyright system can function in a digital environment if—and only if—Congress mandates the inclusion of standardized, digitized enforcement tools in every technology that plays a role in making and sending copies.¹⁹

All but one of these views reflects a fundamental rethinking of the role of copyright in our society. The first view effectively dismisses—as outdated or, perhaps, ill-conceived—the Constitutional aspiration of using exclusive rights to spur creative endeavor.²⁰ The last two proposals, though radically different from one another, share an important common feature: each would replace our current law, which centers on copyright owners and those who actually use their works, with one that sweeps a much broader array of characters into the legal arena. The levy model would replace the current market-based approach to intellectual property licensing with a government-imposed royalty system and, under some proposals, would tax a wide range of products and services to support creative artists.²¹ And the Hollings scheme would burden an assortment of related industries with responsibility for policing publishers' copyrights.²²

This Article critically evaluates a core assumption that underlies these latter two schemes: that the challenges posed by file-sharing either cannot, or should not,²³ be addressed through application or moderate

5071475.html (reporting Sony announcement of its impending launch of an “in-house digital music service” that “will see its music, move and electronics divisions work closely together”).

18. *E.g.*, Netanel, *supra* note 15; Lessig, *supra* note 1 (advocating compulsory license for distribution of works online, in which “businesses that make or facilitate the distribution of unprotected copyright content should have the right to use that content so long as they pay a relatively low, fixed rate”).

19. *E.g.*, *Hearing on Protecting Content in a Digital Age—Promoting Broadband and the Digital Television Transition: Full Committee Hearing Before the Senate Comm. on Commerce, Science & Transportation*, 107th Cong. 2-3 (2002) [hereinafter *Hearing on Protecting Content in a Digital Age*] (testimony of Michael D. Eisner, Chairman & CEO, The Walt Disney Company) (proposing legal requirement that common technological standards “be mandated for inclusion in all digital media devices that handle creative content”); *Hearing on Protecting Content in a Digital Age* (testimony of Jack Valenti, President & CEO, The Motion Picture Association of America).

20. U.S. CONST. art. I, § 8, cl. 8.

21. *E.g.*, Netanel, *supra* note 15.

22. Consumer Broadband and Digital Television Promotion Act, S. 2048, 107th Cong. (introduced Mar. 21, 2002).

23. The Hollings scheme reflects a sense that current copyright laws cannot contain infringement on file-sharing networks, and that Congress should revamp the laws in order to bring the situation back into control. Neil Netanel and other advocates of a copyright levy, in contrast, believe that the file-sharing revolution presents important opportunities to revolutionize the production and distribution of copyrighted works; they view their proposed reallocation, not as an attempt to restore the prior order, but to impose a new order that

adjustment of the common law of copyright.²⁴ Under existing law, only those who actually engage in acts of reproduction or distribution—and those controlling or working closely with them—are accountable to the copyright holder. While doctrines of contributory and vicarious liability have long existed, courts have hesitated to invoke them against parties or technologies whose primary activities are non-infringing. And they have hesitated for good reasons, some principled and others practical. Before shifting from this acts-based, individualized scheme to one that falls back on neutral technology as either a tax base or an enforcer, we should have confidence that the current system does not work and cannot be fixed.

Part I describes, in historical context, the common law approach to copyright infringement and secondary liability. It explains the careful balance between inducement and restraint reflected in pre-digital copyright law, and explores the features of pre-digital information markets that made it possible to preserve economic incentives in such markets despite fairly circumscribed standards of vicarious and contributory infringement. It continues by identifying the challenges of first-generation consumer copying technologies and explaining why the Supreme Court refused to give copyright holders leverage over these products. This Part concludes that, despite some shifts in the economics of information markets in the early twentieth century, the nature of pre-digital copying and distribution technologies made it possible to achieve the inducement objectives of copyright law while limiting liability to a tight circle of direct infringers and their associates.

Part II considers the claim that the changes introduced by digital technology justify abandonment of this historical model. It first divides the digital revolution into three stages: digital storage, early generation Internet distribution, and peer-to-peer file-sharing. While the first two stages presented some initial challenges, I suggest that the continued existence of some level of centralization in the distribution process made it possible for copyright holders to use existing legal tools to preserve their essential markets. The real challenge, this Part contends, lies in the most recent phase, peer-to-peer file-sharing, which, with its

preserves incentives while freeing all kinds of new uses of copyrighted works. See Netanel, *supra* note 15, at 16 (suggesting that levy scheme might be preferable to enforcement of exclusive rights in the file swapping context, given the “wide ranging and partly overlapping costs” of exclusive rights, including costs due to “deadweight loss, . . . licensing and enforcement, . . . DRM development and implementation, . . . impeded consumer economics and P2P network innovation and capacity, . . . ISP and other third party overdeterrence, . . . impairment of personal privacy, suppression of P2P users’ speech and creativity, and the conflict between law and social norm”).

24. By “common law of copyright,” I refer to the iterative, incremental process through which United States copyright has historically evolved. I use common law loosely to include statutory amendments that either codify existing case law, *e.g.*, 17 U.S.C. § 107 (2002) (fair use), or otherwise fit this traditional mold.

decentralized distribution, makes it more difficult to stem infringement by focusing on a central set of actors. A number of commentators have argued that this change justifies a fundamental restructuring of copyright, and this Part examines some of these proposals. Given the flaws in these proposals, this Part concludes that we should not turn to them without full confidence that copyright holders cannot preserve meaningful economic markets using existing legal tools.

Part III considers whether the copyright system is indeed broken—whether existing tools of copyright law are incapable of serving the law’s essential utilitarian goals.²⁵ My goal is not so much to answer this question as to open it for critical debate. It strikes me that neither copyright holders nor the advocates of a levy have yet made the case for a wholesale restructuring of copyright law, because copyright holders have only recently begun using the tool that has served them well historically: the direct infringement suit. In the summer of 2003, the Recording Industry Association of America began a new strategy of identifying and suing individuals engaged in unauthorized file-sharing. While the long-term effect of this strategy has yet to be seen, logic suggests that this renewed focus on primary infringers—i.e., those who actually copy and benefit from copyrighted works—may well deter enough unauthorized file-sharing to stanch the current flood of infringement, without turning copyright into a tax or its enforcement into a civic duty.

I. ALLOCATING BURDENS: THE COMMON LAW

For most of its history, copyright law in the United States centered on the enforcement of exclusive rights against direct infringers.²⁶ None

25. Existing tools include not only traditional contributory and vicarious liability claims, but also the anti-circumvention provisions of the Digital Millennium Copyright Act. See 17 U.S.C. § 1201. That said, most scholars accept that most locks can be cracked, so that even encrypted content will inevitably be available for distribution through file-sharing networks absent ubiquitous technology such as watermark identifying technology. See, e.g., Note, *Exploitative Publishers, Untrustworthy Systems, and the Dream of a Digital Revolution for Artists*, 114 HARV. L. REV. 2438, 2456 (2001) (“Recent history suggests . . . that [self-help] copy protections will be routinely cracked, and the countertechnologies that defeat encryption may well proliferate as easily as computer users exchange copyrighted works on the Internet—and through the same channels.”) (footnotes omitted); Timothy L. Skelton, *Internet Copyright Infringement and Service Providers: The Case for a Negotiated Rulemaking Alternative*, 35 SAN DIEGO L. REV. 219, 219 (1998) (“Pirated copies of computer software and ‘cracker’ utilities used to defeat copy-protection schemes are widely available.”).

26. The focus on exclusive rights follows from the Constitution, which empowers Congress “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors . . . the exclusive Right to their . . . Writings. . . .” U.S. CONST. art. I, § 8, cl. 8. Because the Copyright Act defines direct infringement to include a wide range of activities, including not only reproduction but also distribution, public performance and display, and creation of derivative works, a potentially broad cast of characters can qualify as direct

of the copyright statutes clearly defined liability against those who merely facilitated—rather than committing—an act reserved to the copyright holder.²⁷ And while doctrines of vicarious²⁸ and contributory²⁹ liability emerged in the common law, courts invoked them primarily in cases involving agency relationships or commercial enterprises whose business included promoting infringement.³⁰

This historical focus on direct infringement follows from the Constitutional objective of copyright and the nature of traditional markets for creative expression. The Constitution contemplates a copyright system in which the promise of exclusive economic rights drives creative authorship.³¹ Absent such rights, the argument goes, market failure would occur because authors, unable to recapture their investments in creative works, would turn to other endeavors. By granting authors legal control over uses of their expression, copyright law enables licensing, which ensures the distribution of works to audiences that value them, while at the same time conferring at least some of the

infringers. Nonetheless, each of these characters is defined by some use that they have personally made of the copyrighted work.

27. The Copyright Act of 1976 contains only a vague reference to indirect infringement. See 17 U.S.C. § 106 (2002) (granting copyright owners “the exclusive rights to do *and to authorize*” a series of acts with the copyrighted work) (emphasis added); see also *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 435 & n.17 (1985) (noting lack of clarity in standards of secondary copyright liability, and speculating that such muddiness “may, in part, be attributable to the fact that an infringer is not merely one who uses a work without authorization by the copyright owner, but also one who authorizes the use of a copyrighted work without actual authority from the copyright owner”). The 1909 Act limited civil liability to those who “infringe[d] the copyright” of a protected work, but provided criminal remedies against anyone who “knowingly and willfully” aided or abetted infringement committed for profit. Copyright Act of 1909, 17 U.S.C. §§ 101, 104, *repealed by* Copyright Act of 1976, 17 U.S.C. § 101 *et seq.*

28. Vicarious liability requires a right and ability to supervise infringing activity coupled with a direct financial benefit deriving from the infringement. See *Gershwin Publ’g Corp. v. Columbia Artists Mgmt., Inc.*, 443 F.2d 1159, 1162 (2d Cir. 1971).

29. See *Gershwin*, 443 F.2d at 1162 (holding that “one who, with knowledge of the infringing activity, induces, causes or materially contributes to the infringing conduct of another, may be held liable as a ‘contributory’ infringer”) (footnotes omitted).

30. In *Kalem Co. v. Harper Bros.*, 222 U.S. 55 (1911), for example, a film producer distributed an unauthorized dramatization of *Ben Hur* to exhibitors who committed infringing public performances. The Supreme Court upheld liability against the producer when such infringement “was the most conspicuous purpose for which they could be used, and the one for which especially they were made.” *Id.* at 63. See also *Shapiro, Bernstein & Co. v. H.L. Green Co.*, 316 F.2d 304, 308-09 (2d Cir. 1963) (finding department store liable for infringing sales by concessionaire based partly on agency theory); *Gershwin*, 443 F.2d at 1162-63 (imposing liability against organization that knowingly created audience for infringing performances). See generally Stacey L. Dogan, *Infringement Once Removed: The Perils of Hyperlinking to Infringing Content*, 87 IOWA L. REV. 829, 897 (2002) (suggesting that, “as originally conceived, vicarious infringement represented an extension of principal/agent liability, in which a party faced legal responsibility for acts that occurred under her supervision and were carried out on her behalf”).

31. See U.S. CONST., *supra* note 26.

proceeds to authors.³² This utilitarian scheme has shaped both legislative and judicial developments in copyright law, generally with expansionist effect. As new markets for creative expression have emerged, Congress and the courts have reserved them to copyright holders, reasoning that authors will thus have an incentive to realize the full economic value of their works.³³

Against this background, the law's historical focus on direct infringement made sense because the primary economic markets for creative expression involved public, identifiable transactions between providers and consumers of copyrighted works. Providers made works available to the public in copies or through some performance or display, and because none of these tasks was costless, few engaged in them in any scale without either a commercial or an altruistic motive. To publish books, one needed a printing press, and the mass production and distribution of other creative works similarly required physical infrastructure of some meaningful size.³⁴ As a result, the task of identifying those who actually created and distributed copies presented a

32. Wendy J. Gordon, *Asymmetric Market Failure and Prisoner's Dilemma in Intellectual Property*, 17 U. DAYTON L. REV. 853, 854 (1992) (explaining market failure theory of copyright law). *But see* Stephen Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 HARV. L. REV. 281 (1970) (contending that the first-to-market advantage provides sufficient economic incentive for publishers to fund and publish literary works).

33. *See* Eldred v. Ashcroft, 123 S. Ct. 769, 786 (2003) (upholding copyright term extension, to life plus seventy years, as rational Congressional decision to "promote . . . Progress"); PAUL GOLDSTEIN, *COPYRIGHT'S HIGHWAY: FROM GUTENBERG TO THE CELESTIAL JUKEBOX* 236 (1994) (advocating allegiance to "copyright's historic logic that the best prescription for connecting authors to their audiences is to extend rights into every corner where consumers derive value from literary and artistic works"); *cf.* Jane C. Ginsburg, *Copyright and Control over New Technologies of Dissemination*, 101 COLUM. L. REV. 1613, 1617 (2001) (contending that decisionmakers tend to rebuff copyright holders' attempts to block new formats for content delivery, but "when copyright holders seek to participate in and be paid for the new modes of exploitation, the courts, and Congress, appear more favorable, not only to the proposition that copyright owners should get something for the new exploitation, but more importantly, to the proposition that when the new market not merely supplements but also rivals prior markets, copyright owners should control that new market"); Joseph P. Liu, *Owning Digital Copies: Copyright Law and the Incidents of Copy Ownership*, 42 WM. & MARY L. REV. 1245, 1285 (2001) ("As new ways of consuming copyrighted works, and correspondingly new market structures, arose, copyright law expanded to include these new models of consumption."). *But see* Jessica Litman, *War Stories*, 20 CARDOZO ARTS & ENT. L.J. 337, 342 & n.30 (2002) (enumerating exceptions to copyright holders' exclusive rights to control uses of copyrighted works).

34. *See* Lunney, *supra* note 17, at 823-24 (describing scale and centralization of pre-digital copying and distribution activities); *Panel III: Implications of Enforcing the Digital Millennium Copyright Act: A Case Study, Focusing on United States v. Sklyarov*, 12 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 805, 824 (2002) (comments of Bruce Lehman, former Assistant Secretary of Commerce and Commissioner of Patents and Trademarks) (noting that before the digital revolution, "if you wanted to infringe on somebody's copyright, you had to have some kind of a factory to do so").

manageable challenge to copyright holders.³⁵ And while the more episodic nature of public performances sometimes made detection more difficult, the doctrines of vicarious and contributory infringement allowed recourse against dance halls, agents, and other commercial actors that profited from cumulative acts of infringement.³⁶ To the extent that economic markets existed for creative works, then, copyright holders could exploit them by pursuing the parties that profited from use of their expression and demanding a license or cessation of the activity.³⁷ And at least theoretically, the promise of such markets encouraged the creation and dissemination of works of authorship.

This rough sketch of the incentive side of the copyright equation, of course, tells only part of the story. Under the Constitution, the copyright incentive exists for a purpose—to promote knowledge—and before the digital revolution, this public-oriented objective had its own significant impact on the evolution of copyright law. Fair use,³⁸ first sale,³⁹ originality,⁴⁰ and other limiting doctrines helped to ensure that the public got the benefit of its bargain with content creators, and that future authors had tools with which to create. And because transaction costs made it infeasible for all users of copyrighted expression to obtain

35. See Lunney, *supra* note 17, at 823 (in the age of the printing press, “the principle of controlling unauthorized reproduction by direct action against individual infringers was both practical and sensible”); *Panel III, supra* note 34, at 824 (in the early twentieth century, “a copyright system that enabled you to sue somebody in a civil lawsuit for copyright infringement generally meant that you were going to sue someone who was in the large-scale, commercial business of copyright infringement”).

36. See, e.g., *Gershwin Publ'g Co. v. Columbia Artists Mgmt., Inc.*, 443 F.2d 1159, 1162 (2d Cir. 1971) (finding both contributory and vicarious liability against party that acted as agent for infringing performers); *Irving Berlin, Inc. v. Daigle*, 26 F.2d 149, 150 (E.D. La. 1928) (“[T]he mere fact that he operated and controlled the place of public entertainment, charging admission and so operating for a profit, establishes his liability for permitting and authorizing the unlicensed use of plaintiff’s musical compositions in and on the premises.”), *aff’d on relevant grounds, rev’d on other grounds*, 31 F.2d 832 (5th Cir. 1929); see also *Hearing before the Joint Committees on Patents*, 60th Cong. 239-41 (1908) 239-41 (representative of theatrical organization advocating criminal liability against parties that advertise and provide material for infringing public performances, and contending that “no matter what the penalty is, if it merely attaches itself to the person who is producing or playing this act, it has been very difficult for us to get them” because the performers “are moving continually all over the country”).

37. Tim Wu describes this as the “gatekeeper” feature of copyright law. See Tim Wu, *When Code Isn’t Law*, 89 VA. L. REV. 679, 685 (2003) (“the copyright regime has achieved its goals through enforcement against specialized intermediaries—those capable of distributing creative works on a massive scale”).

38. 17 U.S.C. § 107.

39. 17 U.S.C. § 109(a); see also R. Anthony Reese, *The First-Sale Doctrine in the Era of Digital Networks*, 44 B.C. L. REV. 577 (2003) (noting the risks to the first sale doctrine that may result from the increasingly intangible and ephemeral means of disseminating copyrighted works).

40. See *Feist Publ’ns., Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349 (1991) (requiring some minimal degree of creativity as a prerequisite for copyright protection).

licenses for their use, a certain amount of unauthorized copying continued unchecked.⁴¹ Copyright, then, offered financial incentives, but did not guarantee perfect recovery of the full value of creative works.⁴² The existence of centralized publishing and distribution entities made it possible to protect the broad contours of copyright holders' economic markets without pursuing every individual that made use of their expression. The common law of copyright, in other words, consciously accepted some leakage in markets for copyrighted works, but stepped in to prevent market-destroying floods.

The centralized nature of copying and distribution began to erode somewhat in the late 1950s and early 1960s, with the introduction of technologies that enabled individuals to reproduce expressive content without major capital expenditures. The photocopy machine empowered people to duplicate books or articles in a matter of minutes;⁴³ cassette recorders facilitated copying of music off the air or from recorded

41. In an influential article, Wendy Gordon contended that many of these incidental unauthorized uses should fall within the fair use doctrine. See Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors*, 82 COLUM. L. REV. 1600, 1614 (1982) (contending that copyright's fair use doctrine should allow unauthorized uses of copyrighted material when (1) defendant cannot purchase use through the market, (2) defendant's use will serve the public interest, and (3) the use would not "substantially impair[]" the copyright owner's incentives); see also Gordon, *supra* note 32, at 855 ("if a defendant faces market failure in the face of copyright, that is a good argument (if not a complete one) for not enforcing the copyright against him, for in his case, the economic foundation for copyright has crumbled"). Courts have applied Gordon's market failure analysis to conclude that, as transaction costs decrease and metering of incidental uses becomes feasible, some incidental uses should come within the copyright holder's economic domain. *E.g.*, *Am. Geophysical Union v. Texaco Inc.*, 60 F.3d 913, 930-31 (2d Cir. 1994) ("it is not unsound to conclude that the right to seek payment for a particular use tends to become legally cognizable under the fourth fair use factor when the means for paying for such a use is made easier"). But see Wendy Gordon, *Market Failure and Intellectual Property: A Response to Professor Lunney*, 82 B.U. L. REV. 1031, 1032-33 (2002) (pointing out that other forms of market failure commonly occur and justify a finding of fair use under the economic model); cf. Glynn S. Lunney, Jr., *Fair Use and Market Failure: Sony Revisited*, 82 B.U. L. REV. 975, 977 (2002) ("Properly understood, *Sony* stands not for the proposition that fair use is justified only in those exceptional cases where a licensing scheme or some other market mechanism is impractical. Rather, *Sony* stands for the recognition of fair use as a central and vital arbiter between two competing public interests—the incentive goals of copyright and the public's interest in access to copyrighted works).

42. See *Sony*, 464 U.S. 417, 432 (1985) (noting that copyright "protection has never accorded the copyright owner complete control over all possible uses of his work"); Dogan, *supra* note 30, at 883-84 (discussing deliberate "leakage" of United States copyright law, and collecting authorities).

43. See Harvey S. Perlman & Laurens H. Rhinelander, *Williams & Wilkins Co. v. United States: Photocopying, Copyright, and the Judicial Process*, 1975 SUP. CT. REV. 355, 360-61 (contrasting early copying techniques with new, inexpensive photoduplication technologies); GOLDSTEIN, *supra* note 33, at 79 (discussing introduction of photocopying technology).

sources;⁴⁴ and the Betamax video recorder made it possible to tape television programs in the privacy of individual homes.⁴⁵ For the first time, a significant amount of unauthorized copying was taking place outside of any commercial publishing and distribution network.

The introduction of these new copying technologies raised important questions under copyright law. First, to the extent the new machines shifted some copying activities from centralized, commercial enterprises to individual end users, the law had to resolve whether such activities constituted infringement or fair use.⁴⁶ Second, assuming that at least some parties used the equipment to infringe, it was unclear whether the equipment manufacturers should share legal responsibility for that behavior. Then, as now, the content industries claimed that if they could not capture the value of this atomized, unauthorized copying, they would lose the financial incentive to create and publish books, music, and audiovisual works. And because the dispersion of copying activities made it a daunting task to identify people who reproduced copyrighted works, copyright holders sought to capture at least some of this value from the equipment manufacturers themselves.⁴⁷ To do so, they turned to theories of contributory and vicarious liability that thus far had served as narrow complements to direct infringement claims.⁴⁸

Despite years of lobbying⁴⁹ and litigation⁵⁰ over these issues, the legal status of end-user copying technologies was not resolved until the

44. Consumer devices became viable in the mid-1960s. See David Balaban, Note, *The Battle of the Music Industry: The Distribution of Audio and Video Works Via the Internet, Music and More*, 12 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 235, 245-46 (2001) (describing history of consumer recording devices).

45. See *Sony*, 464 U.S. at 417; see also Picker, *supra* note 3, at 288-91.

46. Alternatively, some argued that personal copying should enjoy a separate exemption from copyright that did not rely on the complex balancing that takes place in fair use analysis. For a narrative history of the debate over personal copying, see GOLDSTEIN, *supra* note 33, at 129-64.

47. See, e.g., Note, *Exploitative Publishers, Untrustworthy Systems, and the Dream of a Digital Revolution for Artists*, 114 HARV. L. REV. 2438, 2445 (2001) (noting recording industry's panic-stricken reaction to audio cassette technology); Joel L. McQuin, *Home Audio Taping of Copyrighted Works and the Home Recording Act of 1992: A Critical Analysis*, 16 HASTINGS COMM. & ENT. L.J. 311, 320 (1994) ("While scholars, the recording industry and electronics manufacturers bickered over whether home copying was fair use, repeated bills were introduced in Congress to institute royalties on blank tapes and/or to require equipment manufacturers to adopt electronic copy management systems.").

48. As discussed above, before this wave of equipment cases, contributory and vicarious liability was generally imposed only against parties who knowingly committed acts that promoted infringement or whose own commercial enterprise served as an umbrella for infringing behavior. See cases cited *supra* note 36.

49. See Perlman & Rhinelander, *supra* note 43, at 364-66 (outlining legislative efforts to resolve legality of unauthorized photocopying); Joseph E. Young, *Copyright and the New Technologies—the Case of Library Photocopying*, 28 COPYRIGHT L. SYMP. 51, 68-69 & n.56 (1982) (describing publishers' efforts to obtain Congressional endorsement of tiered pricing and use licenses for libraries that engaged in widespread photocopying).

Supreme Court decided *Sony v. Universal City Studios* in 1984.⁵¹ In *Sony*, a group of motion picture copyright owners alleged that Sony had committed contributory infringement by selling Betamax video recorders with knowledge that consumers would use them to infringe.⁵² The district court, after a lengthy trial, rejected their claim. The Ninth Circuit, however, reinstated it, finding that those who recorded television programs without authorization were infringing and that Sony had knowingly facilitated that infringement.⁵³ The Supreme Court, by a bare majority, reversed.⁵⁴ The Court reasoned, first, that the primary use of the Betamax—so-called time shifting—constituted fair use.⁵⁵ The Court then borrowed the “staple article of commerce” doctrine of patent law and held that, because the Betamax had a “substantial non-infringing use,” its manufacture and sale could not be the basis for a suit in copyright.⁵⁶ To hold otherwise, said the Court, would inappropriately elevate the copyright holder’s stake in its limited statutory monopoly over the public’s interest in free access to “substantially unrelated” goods.⁵⁷

I have argued elsewhere that *Sony*’s staple article of commerce doctrine, properly interpreted, confines the copyright holder’s economic leverage to markets or transactions that owe their existence to infringement.⁵⁸ Contributory infringement claims, in other words, should not lie against parties whose products or services would have evolved even in the absence of their infringing applications.⁵⁹

50. See, e.g., *Williams & Wilkins Co. v. United States*, 172 U.S.P.Q. 670 (Ct. Cl. 1972) (holding most library photocopying to be fair use).

51. *Sony*, 464 U.S. 417 (1984).

52. *Universal City Studios, Inc. v. Sony Corp. of Am.*, 480 F. Supp. 429, 432 (C.D. Cal. 1979). Plaintiffs also made claims for vicarious liability, which the trial rejected and the Ninth Circuit did not reinstate. *Id.* at 461; *Universal City Studios, Inc. v. Sony Corp. of Am.*, 659 F.2d 963, 974-76 (9th Cir. 1982) (reversing on contributory infringement claim only).

53. 659 F.2d at 974-76.

54. The questions raised by *Sony* so perplexed the Court that the majority of justices had initially lined up in support of the movie industry. For an entertaining account, see GOLDSTEIN, *supra* note 33, at 149-57.

55. “Time-shifting” is the act of “recording a program [the consumer] cannot view as it is being televised and then watching it once at a later time.” *Sony*, 464 U.S. at 421. The Supreme Court found unauthorized time-shifting to be a noninfringing fair use because of its noncommercial nature and because the plaintiffs had not shown harm to their economic market as a result of such use. *Id.* at 447-56.

56. *Id.* at 442.

57. *Id.*

58. Dogan, *supra* note 12, at 945-46 (interpreting *Sony*’s primary objective as preventing interference by copyright holders in unrelated markets).

59. Of course, this is not the only plausible reading of *Sony*, and others have argued that *Sony* proscribes interference with technologies that may have been designed for infringing purposes, but whose other, potentially non-infringing purposes have yet to be fully realized. In an insightful article, Mark Lemley and R. Anthony Reese advocate such an approach and contend that the recent trend toward broader liability against technology providers will stifle innovation. Mark A. Lemley & R. Anthony Reese, *Stopping Digital Copyright Infringement*

Photocopying machines, general purpose computers, and operating systems typify technologies that were developed for primarily non-infringing objectives. To subject their developers to copyright liability merely because they play a facilitating role in infringement would give copyright holders control over the design, pricing, and ultimately the availability of products that have little to do with their limited legal entitlement.⁶⁰ Such a result would stretch copyright well beyond its inducement objectives, would deprive individuals of fair use rights, and might even be unconstitutional.⁶¹

Without Stopping Innovation (working paper on file with author). See also Brief Amici of 40 Intellectual Property and Technology Law Professors Supporting Affirmance, *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, Nos. 03-55894 & 03-55901, at 6-8 (filed Sept. 26, 2003) (offering policy rationales for a standard focused on potential, rather than existing, uses); Amended Brief of Amicus Curiae Copyright Law Professors in Support of Reversal, *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001) (“The balance rests on the side of permitting new technology, not stifling it.”). Compare Ariel B. Taitz, Note, *Removing Road Blocks Along the Information Superhighway: Facilitating the Dissemination of New Technology by Changing the Law of Contributory Copyright Infringement*, 64 GEO. WASH. L. REV. 133 (1996) (proposing the imposition of liability on makers of technology with “non-trivial infringing uses”); cf. *In re Aimster Copyright Litig.*, 334 F.3d 643, 652-53 (7th Cir. 2003) (rejecting interpretation of *Sony* that focuses on potential, rather than actual, use of peer-to-peer technology). While some language in *Sony* supports this interpretation, e.g., *Sony*, 464 U.S. at 442 (stating that the product “need merely be capable of substantial non-infringing uses”), the Supreme Court’s focus on *non-interference* with non-infringing markets suggests that liability may be appropriate against makers of technologies whose non-infringing applications are insufficient to support their development. Because the Court found that the Betamax VCR’s primary use was non-infringing, moreover, its discussion of the requisite level of non-infringing use was dictum. See *id.* at 423 (concluding that the combination of authorized and unauthorized time-shifting constituted the “primary use [of the Betamax] for most owners”).

60. Copyright law offers the possibility of both monetary and injunctive relief, so that if copyright holders could prevail on contributory infringement claims against technology developers, they could generally shut down the technology. See *Sony*, 464 U.S. at 440-42 (noting importance of staple article of commerce doctrine in both patent and copyright law, because while a “finding of contributory infringement does not, of course, remove the article from the market altogether[,] it does . . . give the [intellectual property holder] effective control over the sale of that item”); see generally *A&M Records, Inc. v. Napster, Inc.*, 284 F.3d 1091 (9th Cir. 2002) (affirming injunction against file-sharing provider that required it to screen music files after receiving notice from copyright holders).

The *Sony* dissenters, as well as the Ninth Circuit, had acknowledged this problem, but believed that its solution lay in narrowly tailored relief, rather than denying a cause of action against those whose products facilitate infringement. See 464 U.S. at 499 (Blackmun, J., dissenting) (“I concur . . . in the Court of Appeals’ suggestion that an award of damages, or continuing royalties, or even some form of limited injunction, may well be an appropriate means of balancing the equities in this case.”).

61. See *Eldred v. Ashcroft*, 123 S. Ct. 769, 790 (2003) (finding First Amendment scrutiny unnecessary when “Congress has not altered the traditional contours of copyright protection,” but suggesting that First Amendment concerns may arise when “copyright’s built-in speech safeguards” are disturbed).

Despite the dire predictions of the movie industry, moreover, the Betamax did not evolve into its “Boston strangler;”⁶² to the contrary, the videocassette market became a tremendous revenue generator for the movie industry.⁶³ Nor did photocopying machines or cassette recorders destroy the book or music publishing industries.⁶⁴ Each of these content sectors managed to survive, despite the increased decentralization of copying activities and the narrow standards of liability against those who facilitated such copying. Their survival may well have resulted from the good will of consumers, who would just as soon buy an original as make or obtain a copy from an unauthorized source.⁶⁵ More likely, however, the consumer copying technologies did not displace traditional publishers because originals remained superior in quality and easier to obtain, and because the new technologies did not alter the fundamentally tangible, costly, and public nature of the distribution process. Certainly, some copying and sharing went undetected, but such acts required access to an existing physical copy of the work. And public distribution of these copies, at any meaningful scale, required investment and visibility.⁶⁶ Just as before, copyright holders could avoid infringement floods by focusing on tangible, public transactions involving their intellectual property; at the same time, individuals could engage in personal, non-commercial use of copyrighted works without eliminating core markets for content.⁶⁷

62. See *Hearings Before the Subcomm. on Courts, Civil Liberties, and the Administration of Justice of the House Comm. on the Judiciary*, 97th Cong. 15-168 (1982) (testimony of Jack Valenti, President of the Motion Picture Association of America, Inc., contending that “the VCR is to the American film producer and the American public as the Boston strangler is to the woman home alone”).

63. See Adam Liptak, *Is Litigation the Best Way to Tame New Technology?*, N. Y. TIMES, Sept. 2, 2000, available at <http://www.nytimes.com/library/tech/00/09/biztech/articles/02napster.html> (last visited Feb. 10, 2003) (noting that “video rental income now rivals box-office receipts” for the movie industry).

64. To some extent, these technologies, like the VCR, have opened up new markets for copyrighted works. In the book publishing context, the Copyright Clearance Center (CCC) facilitates permissions for copying of published works, collects fees, and distributes royalties to publishers. See <http://www.copyright.com> (last visited Apr. 2, 2003); see generally *Princeton Univ. Press v. Mich. Document Servs., Inc.*, 99 F.3d 1381, 1388 (6th Cir. 1996) (noting existence of licensing market in evaluating fair use defense).

65. See Bartow, *supra* note 17 (suggesting that consumers generally prefer to purchase legal copies, if available on reasonable terms).

66. See, e.g., *RSO Records, Inc. v. Peri*, 596 F. Supp. 849 (S.D.N.Y. 1984) (action against counterfeiters of copyrighted records and tapes).

67. Copyright holders attempted, but failed, to pass legislation that would reverse the result in *Sony*, either through some levy on copying technologies or through adoption of a mandatory copy-protection standard. Congress thus deliberately rejected, at least at the time, a more expansive approach to cost-spreading in copyright law. The one narrow exception consisted of a tax on digital audio recording devices, which have largely been superseded by more general-use digital copying technologies. See generally GOLDSTEIN, *supra* note 33, at 157-64 (describing legislative efforts).

The common law model of copyright infringement, post-*Sony*, thus had three key features. First, it preserved the principal economic markets for copyrighted works by protecting against market-destroying uses of the copyrighted content—i.e., against infringement floods.⁶⁸ Second, it specifically contemplated some “leakage” into the public of the content protected by copyright, allowing individuals to use copyrighted works without permission when such use did not substantially displace demand for the content.⁶⁹ And third, the law allowed neutral technology markets to mature without interference by content owners. Under the Supreme Court’s approach, neither technology developers nor their customers should have to endure higher costs or suboptimal products to protect third party copyrights. *Sony* thus preserved the status of contributory and vicarious liability as surgical tools for use against parties closely involved in another’s infringement, rather than mechanisms for wholesale redistribution of the costs of copyright enforcement.

II. BURDEN ALLOCATION IN A DIGITAL AGE

The combination of digital technology and the Internet fundamentally changed the economic model of content dissemination. For the first time, individuals could make perfect copies of copyrighted content and distribute them globally at almost no cost. Because of the intimate relationship between digitization and the Internet, advocates, policymakers and scholars tend to treat them interchangeably and to assume that copyright law must address them together, if at all.⁷⁰ From a copyright perspective, however, the digital revolution divides into three distinct phases that challenge the existing copyright model in unique ways. The first two phases—digital content storage and the early Internet—altered the technology of reproduction and distribution, but arguably preserved enough of the attributes of copyright markets to make the copyright balance attainable through application of existing doctrine.

68. See *Sony*, 464 U.S. 417, 451 (1984) (“A challenge to a noncommercial use of a copyrighted work requires proof either that the particular use is harmful, or that if it should become widespread, it would adversely affect the potential market for the copyrighted work.”).

69. See *Sony*, 464 U.S. at 451 (finding fair use when plaintiffs failed to show that noncommercial use of their television programs “would cause any likelihood of nonminimal harm to the potential market for, or the value of, their copyrighted works”).

70. The Hollings bill, for example, applies not only to technologies used to distribute content, but to “any hardware or software that (A) reproduces copyrighted works in digital form; (B) converts copyrighted works in digital form into a form whereby the images and sounds are visible and audible; or (C) retrieves or accesses copyrighted works in digital form and transfers or makes available for transfer such works to hardware or software described in subparagraph (B).” S. 2048, 107th Cong. Rec. S2272 (2002).

It is only the most recent development—file-sharing⁷¹—that directly challenges one of the key assumptions of pre-digital copyright: that by focusing on a narrow, visible core of content distributors, copyright holders could keep unauthorized use of their expression to a trickle, rather than a flood.⁷² This Part examines these three phases of the digital revolution and considers their impact on copyright's balance.

Digital technology—including software, replication and storage media, and various hardware formats—enables individuals to make perfect copies of digital files in their possession.⁷³ The high quality of these copies could arguably displace some of the demand for publisher-authorized versions of creative works.⁷⁴ Like the consumer copying technologies before it, however, digital technology alone did not alter the essentially centralized and public nature of large-scale content distribution. Digital copying, in other words, requires access to a copy, and before the Internet, copies were obtained either through friends and associates, from libraries, or through commercial actors who made them available for a fee. The personal-type copying might affect content markets, but arguably in the form of leaks, rather than floods.⁷⁵ And because the more commercial, depersonalized copying required scale and some level of public exposure, copyright holders could identify and

71. For an explanation of the first well-known file-sharing technology, Napster, see *A & M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 905-08 (N.D. Cal. 2000), *aff'd in part, rev'd in part*, 239 F.3d 1004 (9th Cir. 2001).

72. The music industry projected a six percent decline in sales in 2003, following similar declines for the three previous years. See Reuters, *RIAA: ISPs Should Pay for Music File Swapping*, CNET NEWS.COM, Jan. 18, 2003, available at <http://news.com.com/2100-1023-981281.html> (last visited Feb. 11, 2003). While the drop likely has not result entirely from file-sharing, there is evidence that at least some of the decline has resulted from the file-sharing services and other Internet downloads. See *Study: CDs May Soon Be as Final as Vinyl*, CNET NEWS.COM, Sept. 2, 2003, at <http://news.com.com/2100-1027-5070177.html> (noting Forrester Research study indicating that “20 percent of Americans engage in music downloading, and half of the downloaders say they are buying fewer CDs”); cf. John Borland, *Music Industry: Piracy is Choking Sales*, CNET NEWS.COM, Apr. 9, 2003, at <http://news.com.com/2100-1027-996205.html> (last visited Sept. 4, 2003) (“If the drop in music sales is undeniable, the industry’s unwavering attribution of it to the effects of Internet piracy remains controversial.”).

73. See CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY* 3 (1999) (noting low cost of production of digital copies of information goods).

74. Cf. *id.* at 55 (contending that displacement does not depend on perfect copies).

75. Several factors support this view. First, because the acts of locating, obtaining, and copying physical versions of digital files require considerable effort and time, individuals might find it more attractive to purchase content through authorized channels. Second, people may willingly pay more for content if they know that they can make perfect copies and share them with family and friends. The resulting outward shift in the demand curve may make it possible for content providers to recover equal or greater profits from the distribution of digital works. (Thanks to Judge Williams for making this point at the Silicon Flatirons Symposium.) Third, many of those who make private copies do not value the work enough to purchase a copy at market prices, so the copyright owner has not lost a sale as a result of such copying.

pursue those who attempted it.⁷⁶ Digital *copying* therefore did not necessarily threaten the core balance struck by the Supreme Court in *Sony*.

Digital copying raised sufficient concern, however, to prompt Congress to pass the 1992 Audio Home Recording Act (“AHRA”). The AHRA required all digital audio recording devices to include a standard copy-protection technology that allowed only first-generation copies.⁷⁷ It also imposed a statutory royalty on such devices and on blank recording media used in such devices, with the proceeds to be distributed to copyright holders.⁷⁸ Congress thus showed itself willing to accept a compromise—allowing copyright holders some economic rights over technology markets—but only over a limited market with a clear relationship to copyrighted content.⁷⁹ Digital audio recording equipment, moreover, affected only the mechanism for copying, and left the dissemination variable unchanged. In any event, because computers have largely supplanted digital audio recording devices as the preferred

76. *E.g.*, *Capitol Records, Inc. v. Wings Digital Corp.*, 218 F. Supp. 2d 280, 282 (E.D.N.Y. 2002) (suit involving claims of direct, contributory and vicarious infringement against parties “in the business of mastering and manufacturing audio compact discs, replicating compact discs and performing other services related to replication”). The lower costs associated with digital copying lowered the barriers to these commercial actors’ entry into the music sales market, but did not alter the essentially public nature of their sales activities. *See* John Borland, *RIAA Targets Small Stores’ CD Copying*, CNET NEWS.COM, Dec. 16, 2002, available at <http://news.com.com/2100-1023-978096.html> (last visited Feb. 11, 2003) (describing music industry anti-piracy initiative against small retailers, including convenience stores and gas stations, that were allegedly selling counterfeit music CDs). The software industry has had notable success in rooting out this type of market-threatening copying and distribution behavior. *See, e.g.*, Dan Goodin, *Microsoft Sues Resellers*, CNET NEWS.COM, Jan. 28, 1998, available at <http://news.com.com/2100-1001-207573.html?tag=rn> (last visited Feb. 11, 2003) (describing action against resellers who were selling unlicensed versions of Microsoft software).

77. 17 U.S.C. § 1002(a). The AHRA limits itself to digital audio tapes and digital audio recorders. *See id.* § 1001(a) (defining “digital audio recording device” as a device “the digital recording function of which is designed or marketed for the primary purpose of, and that is capable of, making a digital audio copied recording for private use”); *Recording Indus. Ass’n of Am., Inc. v. Diamond Multimedia Sys.*, 180 F.3d 1072, 1078 (9th Cir. 1999) (holding that definition of digital audio recording device does not include computers, whose “primary purpose” is not to make digital audio copies).

78. 17 U.S.C. §§ 1003-007. The statute sets forth a procedure for distribution of royalties to individuals and collective organizations, which the Librarian of Congress administers. *See* 17 U.S.C. §§ 1106-07; *see also* John R. Kettle III, *Dancing to the Beat of a Different Drummer: Global Harmonization—and the Need for Congress to Get in Step with a Full Public Performance Right for Sound Recordings*, 12 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1041, 1068-69 (describing royalty administration system).

79. Indeed, the restrictive scope of the AHRA has made it virtually irrelevant to the current environment, in which computers have replaced digital audiotapes as the recording medium of choice. *See* Brian Leubitz, *Note: Digital Millennium? Technological Protections for Copyright on the Internet*, 11 TEX. INTEL. PROP. L.J. 417, 432 (2003) (describing AHRA as “relatively unimportant and unsuccessful”).

medium for recording music, the AHRA has little economic significance.⁸⁰

The most significant challenge to the copyright balance came with the advent of Internet-based content distribution. On the Internet, individuals could, for the first time, make digital works available cheaply and anonymously to millions of strangers around the world. No longer did distribution rely on infrastructure or on access to a physical copy of a work. The transaction costs associated with disseminating digital copies largely disappeared: to obtain a copy of a work, individuals needed only to find someone, somewhere in the world, who had made the material available on the Internet.⁸¹

From a copyright enforcement perspective, this change in distribution had three primary effects: first, it made it harder to identify individuals who disseminated copyrighted expression; second, it dramatically increased the number of such people; and third, it exploded the number of their recipients. Copyright holders could no longer capture their core markets by focusing on a tight circle of publishers who disseminated their works, nor could they take comfort in the knowledge that individual acts of sharing would have little market-destroying effect. The ease and potential reach of Internet-based distribution meant that end users with little resources or infrastructure could, for the first time, threaten market-destroying floods.

Notwithstanding their scale and relative decentralization, however, the first generation of Internet distribution models left copyright holders an alternative core on which to focus: the bulletin board service (BBS), Internet service provider (ISP), or host computers through which end users posted and located infringing content. Copyright holders turned their attention, in other words, toward the entities that facilitated the *distribution* of infringing content on the Internet, leaving alone (for the time being) the neutral copying technologies at the Internet's extremities. And they did so, at least at first, using the same contributory and vicarious liability theories that had failed them in *Sony*.

In contrast to their failures in cases like *Sony* in the 1980s, the content owners' legal strategies against Internet intermediaries largely succeeded. Despite some initial uncertainty, the case law in the mid-

80. See, e.g., Copyright Office, *2002 Annual Report of the Register of Copyrights* 56 (reporting only \$1.3 million in AHRA royalty fees for calendar year 2001, for distribution among all copyright holders).

81. See Joseph P. Liu, *Owning Digital Copies: Copyright Law and the Incidents of Copy Ownership*, 42 WM. & MARY L. REV. 1245, 1255 (2001) ("Copies of copyrighted works can now be distributed in digital form, without the exchange of any physical object, without any title in physical property changing hands, and all indications suggest that this will only increase over time, as computer network capacities increase and compression technologies improve.").

1990s showed a growing trend toward imposing liability when Internet intermediaries became aware of a specific act of infringement and did nothing to stop it.⁸² In 1998, moreover, Congress passed the Digital Millennium Copyright Act, which provided immunity, under copyright, to online service providers that acted promptly to remove infringing content posted by their users⁸³ and that adopted policies to terminate repeat infringers.⁸⁴ While these tools certainly did not guarantee leak-proof markets, they went a long way toward preventing a flood of infringement in the early years of the Internet.

The combination of judicial action and the DMCA safe harbors arguably preserved the three core objectives of infringement doctrine after *Sony*. First, the law empowered copyright holders to protect the broad contours of markets for their works by targeting and blocking public transactions in their copyrighted expression. Second, the law ensured at least the possibility that end users could continue to engage in fair uses of copyrighted works.⁸⁵ And finally, both the case law and the

82. See, e.g., *Religious Tech. Ctr. v. Netcom On-Line Communication Servs., Inc.*, 907 F. Supp. 1361 (N.D. Cal. 1995) (holding that Internet service provider that refuses to remove infringing content after receiving adequate notice of its infringing nature may be liable for contributory infringement); *Sega Enters., Ltd. v. MAPHIA*, 857 F. Supp. 679, 687 (N.D. Cal. 1994) (finding bulletin board service liable for contributory and vicarious copyright infringement, when its operators encouraged posting and download of infringing files); *Sega Enters. v. Sabella*, No. 93 Civ. 4260, 1996 WL 780560 (N.D. Cal. 1996) (same); see also *Perfect 10, Inc. v. Cybernet Ventures, Inc.*, 213 F. Supp. 2d 1146, 1169-70 (C.D. Cal. 2002) (finding likelihood of success in contributory infringement claim against business that “markets the [infringing site’s] brand through advertising, . . . pays webmasters commissions directly based upon the number of [infringing site’s] users that register through the site, . . . provides technical and content advice, . . . reviews sites, and . . . attempts to control the quality of the ‘product’ it presents to consumers as a unified brand”).

While some early cases found ISPs liable for direct infringement, e.g., *Playboy Enters., Inc. v. Frena*, 839 F. Supp. 1552 (M.D. Fla. 1993); *Sega Enters., Ltd. v. MAPHIA*, 857 F. Supp. 679, all of the decisions after *Netcom* focused on contributory and vicarious liability, agreeing with the *Netcom* court that direct liability should require some volitional act by the alleged infringer that is absent when copies are made automatically by an ISP’s server. See *Netcom*, 907 F. Supp. 2d at 1369 (direct infringement is inappropriate because “designing or implementing a system that automatically and uniformly creates temporary copies of all data sent through it is not unlike that of the owner of a copying machine who lets the public make copies with it”). Indeed, even the *MAPHIA* court subsequently “clarified” its holding to conform to *Netcom*, agreeing that direct infringement required some element of volition. See *Sega Enters., Ltd. v. MAPHIA*, 948 F. Supp. 923, 932 (N.D. Cal. 1996).

83. See 17 U.S.C. § 512(c) (providing limited immunity to service providers “for infringement of copyright by reason of the storage at the direction of a user of material that resides on a system or network controlled or operated by or for the service provider”).

84. See 17 U.S.C. § 512(i). Qualifying ISPs must also “accommodate[]” and not “interfere with standard technical measures” used by copyright holders to identify or protect copyrighted works. *Id.*

85. The *Netcom* court held that an ISP could avoid liability if it could show a good faith belief that a user’s allegedly infringing behavior was protected under the fair use doctrine. *Netcom*, 907 F. Supp. at 1374 (“Where a BBS operator cannot reasonably verify a claim of infringement, either because of a possible fair use defense, the lack of copyright notices on the

statute protected the basic, neutral end-to-end technology of the Internet against interference by copyright holders. The law's surgical focus on specific instances of infringing postings protected "the rights of others"—*i.e.*, the non-infringing public—"freely to engage in substantially unrelated areas of commerce."⁸⁶

No sooner did the dust settle on the first round of legal battles, however, than the next generation of Internet distribution models arose: end-to-end file-sharing.⁸⁷ File-sharing technologies such as Napster, Gnutella, and KaZaA further decentralized and revolutionized Internet distribution. Whereas previous Internet distribution occurred either through directed communications to known recipients (such as email) or through some centralized mechanism for posting and downloading information (such as bulletin board services or websites stored on central servers), file-sharing services enabled users to identify and acquire files held by strangers, without relying on static Internet postings or processing by central servers.⁸⁸ As Judge Posner described it, "In principle, therefore, the purchase of a single CD could be levered into the distribution within days or even hours of millions of identical, near-perfect . . . copies of the music recorded on the CD—hence the recording industry's anxiety about file-sharing services oriented toward consumers of popular music."⁸⁹ And while the first wave of file-sharing services relied on centralized servers to provide directories of currently

copies, or the copyright holder's failure to provide the necessary documentation to show that there is a likely infringement, the operator's lack of knowledge will be found reasonable and there will be no liability for contributory infringement for allowing the continued distribution of the works on its system."). Under the DMCA, after an online service provider receives notice of alleged infringement by one of its subscribers, the subscriber has the opportunity to respond by filing a counternotification and "put back" demand. 17 U.S.C. § 512(g). Following such a counternotification, the service provider must reinstate the material unless the copyright holder files a court action against the subscriber. *Id.*

86. *Sony*, 464 U.S. 417, 441-42 (1984); see generally *Netcom*, 907 F. Supp. at 1377-78 (noting that First Amendment concerns would arise "[i]f Usenet servers were responsible for screening all messages coming through their systems," but finding such concerns alleviated when "absent evidence of knowledge and participation or control and direct profit, [ISPs] will not be contributorily or vicariously liable").

87. The popular and academic interest in file-sharing services has spawned a wealth of literature on the subject. For a particularly helpful introduction, see Tim Wu, *When Code Isn't Law*, 89 VA. L. REV. 679 (2003); see also Michael Slusarz, *Designing Networks to Avoid Liability: Copyright Infringement for the Second Generation of Peer-to-Peer Software* (draft on file with author).

88. The distinguishing feature of file-sharing services is that they enable users to exchange files directly, without passing through some centralized server. Judge Posner describes their function as "similar to that of a stock exchange, which is a facility for matching offers rather than a repository of the things being exchanged (shares of stock). But unlike transactions on a stock exchange, the consummated 'transaction' in music files does not take place in [a] facility" maintained by the file-sharing service. In re Aimster Copyright Litig., 334 F.3d 643, 647 (7th Cir. 2003).

89. *Id.* at 646.

available files,⁹⁰ later generations are maintained and circulated by a network of anonymous individuals around the world.⁹¹

The increasing decentralization of file-sharing services has both legal and practical implications for copyright holders. Legally, the decentralization arguably weakens copyright claims against the “intermediaries” that facilitate peer-to-peer infringement—in this case, the distributors of file-sharing software. Napster, the first widely used file-sharing program, found itself vulnerable to contributory and vicarious liability claims largely because it kept a centralized index that, among other things, enabled it to identify and remove infringing music files.⁹² Much of the post-Napster file-sharing software deliberately eschews such indices, and its providers play little ongoing role in facilitating transactions between users.⁹³ At least one district court has found that, in the absence of such ongoing, interactive relationships with their users, providers of the Grokster and KaZaA file-sharing software are immune from copyright suits under *Sony*.⁹⁴ And while the Seventh Circuit upheld an injunction against a file-sharing service in the *Aimster* case, the defendants there, as in *Napster*, offered more than a standalone

90. See *A & M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1022 (9th Cir. 2001) (holding that centralized directory made it possible for Napster to block trading of infringing files identified by music copyright owners).

91. See Joseph A. Sifferd, Note, *The Peer-to-Peer Revolution: A Post-Napster Analysis of the Rapidly Developing File-Sharing Technology*, 4 VAND. J. ENT. L. & PRAC. 92, 107 (2002) (noting that judicial decisions against developers of file-sharing software “will not stop the pure peer-to-peer networks already in existence”).

92. The index, and the resulting ability of Napster to purge infringing files identified by the music industry, were critical to the court’s resolution of both the contributory and vicarious liability claims. See *Napster*, 239 F.3d at 1022 (upholding finding of contributory infringement, when “[t]he record supports the district court’s finding that Napster has actual knowledge that specific infringing material is available using its system, that it could block access to the system by suppliers of the infringing material, and that it failed to remove the material”); *id.* at 1024 (finding that Napster had the right and ability to police its users’ infringement, as required for vicarious liability, because of its “ability to locate infringing material listed on its search indices, and the right to terminate users’ access to the system”).

93. See *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 259 F. Supp.2d 1029, 1036-46 (C.D. Cal. 2003); see also Tim Wu, *When Code Isn’t Law*, 89 VA. L. REV. 103, 108 (2003) (“While eliminating intermediaries presents a serious technical challenge, the goal is clear—to remove the enforcement efficiency of a gatekeeper system, leaving primary enforcement against end-users as the only option.”).

94. *Grokster*, 259 F. Supp.2d at 1041 (finding no contributory infringement by providers of file-sharing software that played no continuing role in facilitating exchange of files between users: “In contrast, Napster indexed the files contained on each user’s computer, and each and every search request passed through Napster’s servers.”); *id.* at 1045 (rejecting vicarious liability claim because “unlike in *Napster*, there is no admissible evidence before the Court indicating that Defendants have the ability to supervise and control the infringing conduct (all of which occurs after the product has passed to end-users)”).

software project: their servers continually facilitated searches and file-swapping transactions by their users.⁹⁵

Even if the law could technically reach distributors of decentralized peer-to-peer software, however, a litigation strategy focused solely on the software would arguably have little effect on its availability.⁹⁶ Because truly decentralized peer-to-peer software does not rely on the continued operation of any centralized server, it is difficult to recapture after being released to the public. Each generation of file-sharing software, moreover, poses unique legal challenges that take time to resolve. Given the mismatch between the speed of technology and the pace of litigation, it seems unlikely that copyright holders will rein in the file-sharing phenomenon through legal efforts aimed at the software.⁹⁷

The law could respond in a number of ways. For one thing, policymakers could opt for copyright abandonment, concluding that

95. In *re Aimster Copyright Litig.*, 334 F.3d 643, 651-52 (7th Cir. 2003). Judge Posner's opinion took issue with the Ninth Circuit's interpretation of *Sony*, finding that the *Napster* court improperly "suggest[ed] that actual knowledge of specific infringing uses is a sufficient condition for deeming a facilitator a contributory infringer." *Id.* at 649 (quoting 2 PAUL GOLDSTEIN, COPYRIGHT § 6.1.2, p. 6:12-1 (2d ed. 2003)). Despite this apparent rekindling of *Sony*, however, the Seventh Circuit went on to suggest that even technologies with substantial non-infringing applications might require redesign, if their infringing applications are substantial. *See id.* at 653 ("Even when there are noninfringing uses of an Internet file-sharing service, . . . if the infringing uses are substantial then to avoid liability as a contributory infringer the provider of the service must show that it would have been disproportionately costly for him to eliminate or at least reduce substantially the infringing uses."); *see also id.* at 651-52 (rejecting interpretation of *Sony* focused on potential, rather than actual, non-infringing applications).

96. *Compare Napster*, 239 F.3d at 1022 (affirming contributory infringement ruling against Napster based on finding that "Napster has actual knowledge that specific infringing material is available using its system, that it could block access to the system by suppliers of the infringing material, and that it failed to remove the material"), and *id.* at 1024 (finding vicarious liability appropriate when Napster had "the ability to locate infringing material listed on its search indices, and the right to terminate users' access to the system"), with *Grokster*, 259 F. Supp.2d at 1037 (refusing to impose contributory liability against provider of software that enabled, but did not centrally control, file-sharing network, because "in order to be liable under a theory of contributory infringement, [defendants] must have actual knowledge of infringement at a time when they can use that knowledge to stop the particular infringement"); *id.* at 1045 (finding no vicarious liability when defendants "provide software that communicates across networks that are entirely outside Defendants' control").

97. *See id.*; *see also* Anna Wilde Mathews & Charles Goldsmith, *A Global Journal Report: Music Industry Faces New Threats on the Web*, WALL ST. J., Feb. 21, 2003, at B1 (noting that peer-to-peer networks are increasingly locating in jurisdictions where their behavior will escape copyright scrutiny). As Glynn Lunney points out, the steady growth of bandwidth will only exacerbate the increasing rift between file-sharing technology and legal efforts to stop it. *See Lunney, supra* note 17, at 825-26 (contending that, with the increased dispersion of copying technology, together with bandwidth expansion and lower costs associated with copying and distribution, "unauthorized sharing between private individuals through the Internet, which today is a relatively minor problem reaching only musical works, sound recordings, and certain computer programs, threatens to become a serious problem for digital works of authorship more generally").

copyright serves little function in a digital environment.⁹⁸ A number of scholars have proposed abandonment, particularly in industries such as music, where artists frequently get a scant share of the proceeds from the sale of copies of their works.⁹⁹ While a full critique of this option is beyond the scope of this Article, abandonment is unlikely to preserve incentives in content industries requiring sustained investment;¹⁰⁰ perhaps more significantly, it eliminates the possibility that artists could, someday, profit from distribution through platforms that give them a more equitable share of the value of their works.¹⁰¹

Even those who believe in the continued relevance of copyright, however, differ on how to achieve copyright's goals in the current technological environment. While competing proposals divide on a number of different axes, one area of disagreement strikes me as fundamental: whether the current technological environment justifies a shift away from the direct infringement model and toward one that reallocates copyright's burdens among a broader class of individuals and technologies. The reallocation proposals differ in motivation and effect, but share a common skepticism about the suitability of common law tools for preserving copyright's balance in the digital age.

The first reallocation scheme appears in Senator Hollings' proposed Consumer Broadband and Digital Television Promotion Act.¹⁰² The Hollings legislation seeks to speed the growth of broadband by assuring secure delivery of digital content. Absent a standard security technology

98. Netanel calls this option "digital abandon." See Netanel, *supra* note 15, at 55-57.

99. See, e.g., Ku, *supra* note 16.

100. See Neil Weinstock Netanel, *Copyright and a Democratic Civil Society*, 106 YALE L.J. 283, 288-89 (1996) (arguing that "sustained works of authorship"—books, articles, films, songs, and paintings—form a central part of democratic discourse, and that a robust copyright is a necessary (though not necessarily sufficient) condition both for the creation and dissemination of that expression and for its independent and pluralist character"). Even if it does not ultimately reduce incentives to create such works, abandonment may have the effect of deterring copyright holders from making them available in new formats. See Jane C. Ginsburg, *Putting Cars on the Information Superhighway: Authors, Exploiters and Copyright in Cyberspace*, 95 COLUM. L. REV. 1466, 1499 (1995) (contending that "[t]he viability of cyberspace as a medium for the consensual communication and creation of sustained works of authorship—real 'cars,' not simply conversations, data of the day, or pirated postings—will depend on authors' and copyright owners' confidence" that online copyright issues "will find solutions that will meet the needs of both authors and users"); Graeme W. Austin, *Does the Copyright Clause Mandate Isolationism?*, 26 COLUM. J. L. & ARTS 17, 46 & n. 196 (2002); see also Neil Weinstock Netanel, *Locating Copyright within the First Amendment Skein*, 54 STAN. L. REV. 1 (2001) (lauding copyright's "structural effect" of "subsidizing a robust speech sector, consisting of authors, publishers, and media enterprises that need not rely on potentially censorial government subsidies in order to be heard").

101. See Ginsburg, *supra* note 9, at 1646-47 ("The more self-publication offers realistic prospects of remuneration for authors, the more likely we are to see an increase in the volume and diversity of works of authorship, as authors will be able to bypass the gatekeeping functions of publishers and other intermediaries.").

102. S. 2048, 107th Cong., 2d Sess. (2002).

to protect content, the argument goes, copyright holders will not make their most valuable works available on-line, and consumers will accordingly have little need for greater bandwidth. The solution, in Senator Hollings' view, is to mandate that standard security technology appear in virtually every new computer-related product.¹⁰³

The Hollings bill would transform the burden allocation that characterized copyright law under *Sony*. Whereas previously, the law imposed the costs of copyright compliance only upon content users and their close associates,¹⁰⁴ the Hollings model would charge the entire high-technology community with an affirmative responsibility to prevent unauthorized use of copyrighted material.¹⁰⁵ It would arrest technology by imposing a uniform government standard.¹⁰⁶ It would burden all

103. The bill would require every "digital media device" distributed in the United States to include standard security technology to protect against the unauthorized use of copyrighted works. *Id.* §§ 3, 5. "Digital media devices" include any hardware or software that retrieves, transfers, converts, or reproduces copyrighted content. *Id.* § 9. The standard security technology would be decided by participating industry groups or, barring their consensus, by the Federal Communications Commission. *Id.* § 3. Theoretically, this system would protect against infringing file-sharing, because content files would travel with watermarks or other code that set limits on their use, and end users' computers would identify and honor that code. Realistically, even this rigorous security system would be vulnerable to hackers who would remove the code and redistribute the underlying content. See Netanel, *supra* note 15 (noting vulnerability of security technologies); see also Jim Hu, *Hollywood Sets Stage for Piracy Battle with PC Industry*, CNET NEWS.COM, Aug. 7, 2002, available at <http://news.com.com/2009-1023-9468672.html> (last visited Sept. 29, 2003) ("Even if encryption technologies are required by law, their endurance remains an open question.").

104. The Digital Millennium Copyright Act modified this model somewhat by prohibiting the use or distribution of tools that could circumvent copy protection schemes. The DMCA, however, consciously avoided imposing any obligation on technology developers to include specific copy protections in their products. See 17 U.S.C. § 1201(c)(2) ("Nothing in this section shall require that the design of, or design and selection of parts and components for, a consumer electronics, telecommunications, or computing product provide for a response to any particular technological measure . . .").

105. As described in a letter to Senator Hollings from the United States Association for Computing Machinery (USACM): "Devices as disparate as electronic cameras, wrist watches, electric pianos, televisions, ATM machines, cell phones, home security systems, and medical equipment (among many examples) all process and display information electronically. Under the proposed legislation, all would be required to support anti-copying protocols." See Letter to Senator Ernest F. Hollings from United States Association for Computing Machinery, Sept. 26, 2001, available at <http://www.acm.org/usacm/SSCA-letter.html> (hereinafter "USACM letter") (last visited Sept. 29, 2003). This expansive reach runs counter to the Supreme Court's insistence, in *Sony*, that copyright not burden free access to markets "substantially unrelated" to copyright infringement. *Sony*, 464 U.S. 417, 441-42 (1984).

106. For this reason, among others, a consortium of copyright holders and technology companies recently announced its opposition to Hollings-like legislation. The consortium, which includes the Recording Industry Association of America, the Business Software Alliance, and the Computer Systems Policy Project, released a seven-point list of "policy principles" that called for marketplace solutions to copy-protection challenges and pointed to education, publicity, and private enforcement actions as the core strategies for reducing infringement. See Press Release, Business Software Alliance, *Recording, Technology Industries Reach Groundbreaking Agreement on Approach to Digital Content Issues* (Jan.

consumers with the inevitable loss of speed and efficiency that the mandated technology would entail.¹⁰⁷ Depending on which security measures were ultimately adopted, moreover, the new law could threaten fair use rights and put the government imprimatur on copy-protection technology designed to prevent leaks, rather than floods.¹⁰⁸ Essentially, the Hollings proposal would fortify copyright holders' arsenal at the expense of technology and technology users. Rather than the surgical approach called for by *Sony*, it would opt for a bludgeon.

At the other end of the spectrum from the Hollings scheme stands a series of compulsory licensing and levy proposals, described most convincingly by Professor Neil Netanel.¹⁰⁹ Whereas the Hollings model would maintain a system of exclusive rights but would insist that technology developers help to enforce them, the levy approach would abandon exclusive rights (at least for certain works in certain media) and replace them with a system of technology-funded subsidization. As envisioned by Professor Netanel, the levy would apply to "commercial providers of all consumer products and services the value of which, the Copyright Office determines, P2P file swapping substantially enhances."¹¹⁰ A consortium of technology and copyright interests would decide upon appropriate levies for various technologies, and the proceeds would be allocated to copyright holders in an amount bearing some

14, 2003), available at <http://www.bsa.org/usa/press/newsreleases//2003-01-14.1418.phtml?type=policy> (last visited Sept. 29, 2003); see also Declan McCullagh, *Copyright Truce Excludes Key Voices*, CNET NEWS.COM, Jan. 15, 2003, available at <http://news.com.com/2100-1023-980671.html> (last visited Feb. 11, 2003).

107. See USACM letter ("Inclusion of anti-copying technology in general purpose equipment—including real-time computing devices used in traffic control, air flight control, medical equipment, and manufacturing—adds to their complexity and potential for failure. Unexpected interactions with other code, and accidental activation of protection protocols cannot be ruled out in every case, and in many venues the potential for damage is extreme.").

108. See *Hearing on Protecting Content in a Digital Age*, *supra* note 19, at 4-5 (statement of Robert A. Perry of the Home Recording Rights Coalition) (contending that content owners have sought copy protection standards that would prevent consumers from engaging in *Sony*-type home copying of off-air broadcasts).

109. See Netanel, *supra* note 15; see also William T. Fisher, *A Royalties Plan for File Sharing*, CNET NEWS.COM, July 11, 2003, at <http://news.com.com/2010-1071-1024856.html> (last visited Sept. 4, 2003) (proposing compulsory licensing scheme for peer-to-peer file trading); cf. Brandon Mitchener, *German Mediator Recommends Copyright Levy on Computers*, WALL ST. J. ONLINE, Feb. 5, 2003, available at <http://online.wsj.com/article/0,,SB1044385225838491533,00.html> (last visited Feb. 5, 2003) (describing existing European levies on recording devices, as well as recent recommendation by German mediator that levies be assessed on PCs and distributed to copyright owners through existing collecting societies). But see P. Bernt Hugenholtz, Lucie Guibault & Sjoerd van Geffen, *The Future of Levies in a Digital Environment: Final Report* (2003), available at <http://www.ivir.nl/publications/other/DRM%20Levies%20Final%20Report.pdf> (last visited Sept. 29, 2003) (opposing the expansion of copyright levies in Europe).

110. Netanel, *supra* note 15, at 32.

relationship to the relative popularity of their works on file-sharing networks.

The levy proposal would arguably preserve the essential objectives of common law copyright. It would ensure some economic reward to content creators; it would protect the public's ability to engage in personal and other fair uses of copyrighted works; and it would allow—indeed, encourage—the growth of new technological platforms for content delivery. In the abstract, then, the model has significant appeal.

Despite these advantages, however, the levy model poses a number of challenges and imposes significant ongoing costs. The few existing compulsory licensing experiments in copyright law have faced criticism as inflexible, unwieldy, and non-responsive to changes in the way that people use and respond to creative content.¹¹¹ The task of determining and allocating royalties has confounded those charged with it, even in situations involving a discrete group of players, such as music copyright holders and digital broadcasters who play their works.¹¹² These difficulties may swell to the breaking point in a compulsory licensing scheme broad enough to encompass all technologies that benefit from file-sharing networks and all creative content traded on such networks.¹¹³

111. See, e.g., Jane C. Ginsburg, *Copyright and Control over New Technologies*, 101 COLUM. L. REV. 1613, 1642-45 (2001) (describing problems with statutory royalty and levy schemes); Gordon, *supra* note 32, at 858-59 (outlining problems with compulsory licensing schemes generally); Robert P. Merges, *Contracting Into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CAL. L. REV. 1293, 1308-1316 (1996) (criticizing the mechanical license and other compulsory licensing regimes in intellectual property law); Mark A. Lemley, *Dealing with Overlapping Copyrights on the Internet*, 22 U. DAYTON L. REV. 547, 583 (1997) (noting unwieldiness of cable and satellite retransmission compulsory license rules, and contending that any corollary on-line would be even more complex); see also Jenna Greene, *Royalty Arbitration Targeted on Hill: Congress Thought it had Found a More Efficient Way to Decide Copyright Royalties. Now that Reform is Under Question.*, LEGAL TIMES, Apr. 21, 2003, at 1 (cataloguing shortcomings of past copyright royalty proceedings).

112. See *Royalty Rate Is Set for Web Use*, WALL ST. J., Apr. 4, 2003, at B5 (describing temporary truce in longstanding dispute between Internet radio operators and labels and artists); Jim Hu, *Webcasters, RIAA Propose New Royalties*, CNET NEWS.COM, Apr. 3, 2003, available at <http://news.com.com/2100-1027-995470.html> (last visited May 14, 2003).

113. This is not to say that a compulsory license scheme would not present a feasible alternative for technologies that bear a more symbiotic relationship to infringement, including those that would not exist but for their infringing applications. See Dogan, *supra* note 12, at 958 n. 97 (suggesting damages, rather than injunctions, as appropriate relief against parties whose technologies owe their existence to infringement but have proven non-infringing applications). Congress took such an approach in the Audio Home Recording Act of 1996, see *infra* text at notes 77-78, and it could apply equally to other technologies primarily used for infringement. Whether particular copying and storage media owe their existence to infringement is an empirical matter that falls beyond the scope of this article.

Of course, it is equally plausible that the risk of legal liability, or the advantage of authorized access to content, will induce manufacturers of such technologies to engage in an ex ante, private bargaining process with copyright holders to ensure the protection of copyrighted content. See, e.g., Lauren Wiley, *BPDG Proposes "Broadcast Flag" to Protect DVD*

Like the Hollings proposal, moreover, the levy scheme involves a subsidy by the non-file-sharing public. The subsidy operates in a somewhat different way—under the Hollings bill, the public would subsidize copyright holders' technological protection scheme, whereas the levy would involve a monetary payment from technology purchasers to copyright holders to compensate for unauthorized file-sharing. Nonetheless, because the tax would apply to a wide range of digital technologies without regard to their use by the purchaser, the levy would represent a wealth transfer from technology users generally toward those who get the most value from file-sharing activity.¹¹⁴

At root, both the Hollings and the levy proposals rest on an assumption that existing infringement standards no longer represent the optimal way to achieve copyright's objectives in an era of digital file-sharing. Yet that assumption—made only a couple of years after Napster made its first appearance—deserves its own critical attention before serving as the departure point for a new copyright paradigm. Before we embark on a radical overhaul of copyright, we should make sure that the existing system is broken. Particularly, given the significant costs of the proposed alternatives, Congress should not turn to them without some clear evidence that existing legal tools cannot bring infringement to a manageable level.¹¹⁵

III. THE CASE FOR COMMON LAW

Existing law gives copyright holders an important tool that they have only recently begun to utilize in the file-sharing context: the direct infringement suit.¹¹⁶ While this alternative comes with its own risks and

Broadcasts, EMEDIA LIVE, June 24, 2002, available at http://www.emedialive.com/r10/2002/news0802_02.html (last visited May 14, 2003).

114. For a more detailed discussion of the efficiency and fairness concerns associated with such a reallocation, see Lunney, *supra* note 17, at 855-56.

115. Advocates of a levy contend that, even if existing standards *could* rein in infringement, they would do so at a tremendous cost, both in resources devoted to enforcement and in lost creative and consumptive consumer utility. See *infra* note 23. They have a point, but the levy proposals themselves implicate immense measurement, bureaucratic and transactional costs, making it difficult to say with confidence that their adoption would result in net benefits to creators and users of copyright works.

116. Copyright holders have recently begun to utilize this strategy. See, e.g., Lynette Holloway, *Recording Industry to Sue Internet Music Swappers*, N. Y. TIMES, June 26, 2003, available at <http://www.nytimes.com/2003/06/26/technology/26MUSI.html> (last visited June 26, 2003) (reporting that recording industry association planned to file "at least several hundred civil and criminal lawsuits" against file-sharers within several weeks; see generally Michael Geist, *'Big Music' Set to Declare War on its Audience*, TORONTO STAR, May 12, 2003, available at <http://shorl.com/degotredalako> (last visited May 12, 2003) ("the outcome of the [*Grokster*] case [discussed *infra* note 96] suggests that the recording industry may now turn its attention with renewed vigour toward the actual individuals who engage in file sharing, since a finding of copyright infringement is much easier to obtain in those cases").

costs, it offers a number of benefits relative to the overhaul options outlined above. Ultimately, its efficacy will turn on an untested empirical question: whether legal action against end users will deter enough file-sharing to preserve an acceptable balance between copyright holders and the broader public. No one can predict the answer to that question, but experience, logic, and early returns suggest that the longstanding rules of direct infringement may represent the best hope for accommodating the competing objectives of copyright.

Perhaps the strongest argument for a direct infringement approach is that it has for centuries represented the most effective means of preserving copyright's incentives while maintaining the integrity of unrelated markets. By providing rights against those who actually value (and use) copyrighted works, infringement law allows copyright holders to receive rewards that bear some relationship to the value of their creations, while spreading the costs efficiently across those who consume them.¹¹⁷ A focus on direct infringers rather than on technological tools, moreover, ensures that technologies and services that have significant non-infringing applications can develop without interference by copyright holders.

A direct infringement model, of course, can achieve its economic objectives only if it leads to licensed transactions in copyrighted works.¹¹⁸ In the file-sharing context, this means that it must cause a critical mass of users to abandon file-sharing in favor of licensed music products.¹¹⁹ At first glance, such a result appears unlikely. Given the worldwide dispersion of file-sharing activities and the difficulty of pursuing end users, copyright holders can feasibly pursue only a tiny fraction of those

117. Cf. Lunney, *supra* note 17, at 856 (noting that subsidization of infringement by non-infringing technology users can result in inefficiencies and inequities); Gordon, *supra* note 32, at 868-69 (explaining superiority of markets over courts in setting prices for use of intellectual property).

118. Wendy Gordon has described this as one of the two critical requisites for the "asymmetric market failure" justification for intellectual property law:

The first condition is that authors and inventors would not be able to obtain much payment for their work in the absence of a rule that restrained strangers from copying, and, as a result, potential creators produce fewer works than the public would have been willing to pay for. . . . The second condition for asymmetric market failure is that once a no-copy rule is put in place, licensing will evolve. In other words, the second condition is met if, in the presence of a copyright or some other rule restraining strangers from copying, markets will succeed, not fail.

Gordon, *supra* note 32, at 854.

119. It need not convert all users; as discussed above, copyright has always been "leaky," and copyright holders have never appropriated all of the value of their works. Because the transaction costs associated with creation and distribution of copyrighted works are rapidly decreasing, moreover, it may take less of an economic incentive to encourage people to engage in these activities. Cf. Ku, *supra* note 16, at 300 (contending that the Internet eliminates the need for a financial incentive to distributors: "When content is distributed through the Internet, the public internalizes the costs of distribution.").

engaged in unauthorized file-sharing. Optimal deterrence theory suggests that in these circumstances, only an astronomical penalty would deter end users from engaging in file-sharing.¹²⁰

Despite these theoretical objections, a number of features of the current file-sharing environment make it plausible that direct infringement suits may reduce unauthorized file-sharing. For one thing, while file-sharing has changed the nature of content distribution from top-down to end-to-end, it appears to retain a certain centralized structure. Studies suggest that ninety percent of the content available on file-sharing networks is provided by a mere ten percent of the individuals on those networks.¹²¹ By identifying and pursuing some subset of those individuals, copyright holders could make other high volume sharers perceive a non-negligible risk of detection, and could potentially reduce the supply of unauthorized content.¹²²

Even the more moderate file-sharer may well be deterred by the threat of legal action, especially as legitimate alternatives to unauthorized file-sharing emerge. Through well-publicized lawsuits and criminal actions, copyright holders and government authorities can bring a message to the public that individuals engaged in file-sharing are violating the law, and face stiff penalties if they continue their behavior. This message—which the RIAA has only recently asserted with any conviction¹²³—was notably absent in the early peer-to-peer lawsuits,

120. Under the traditional formula, “the ideal penalty (insofar as deterrence is concerned) equals the harm caused by the violation multiplied by one over the probability of punishment.” Richard Craswell, *Deterrence and Damages: The Multiplier Principle and Its Alternatives*, 97 MICH. L. REV. 2185, 2186 (1999) (describing this prescription as “the multiplier principle” and citing sources). See also A. Mitchell Polinsky & Steven Shavell, *Punitive Damages: An Economic Analysis*, 111 HARV. L. REV. 869, 873-74 (1998) (contending that punitive damages should apply “only if an injurer has a chance of escaping liability for the harm he causes,” and that penalties in such cases must “exceed compensatory damages so that, on average, they will pay for the harm that they cause”). Cf. Daniel W. Shuman, *The Psychology of Deterrence in Tort Law*, 42 U. KAN. L. REV. 115, 121 (1993) (citing research that “suggests that the uncertainty whether an injured person with a meritorious tort claim will pursue it undermines deterrence, and that the remote possibility of a large damage award does little to further the goal of deterrence”).

121. See John Borland, *Record Labels Mull Suits Against File-Traders*, CNET NEWS.COM, July 3, 2002, available at <http://news.com.com/2100-1023-941547.html> (last visited May 29, 2003) (citing study of Gnutella users conducted by Xerox's Palo Alto Research Center (PARC)).

122. See *id.* (“Discouraging this 10 percent of ‘providers’ would go a long way in reducing the amount of content available through file-swapping networks, industry insiders say”); cf. *German Police Swoop on File-Swappers*, REUTERS, May 8, 2003, available at <http://uk.news.yahoo.com/030508/80/dzjlm.html> (describing arrest, by German police, of 25-year-old student who used a file-sharing network “to distribute over a million MP3 music files daily to some 3,000 individual users over a period of weeks”).

123. See, e.g., Declan McCullagh, *Antipiracy Détente Announced*, CNET NEWS.COM, Jan. 14, 2003, available at <http://www.news.com.com/2100-1023-980633.html> (last visited

which focused solely on intermediaries. There is solid precedent for such an end-user approach: the software industry has had measurable success in its campaign to reduce business software piracy through a strategy that combines high-profile, well-publicized legal actions with cease and desist letters to others suspected of infringement.¹²⁴ Likewise, many people who share music files might well stop doing so if they understood the illegality of their action and even the remote risk of legal sanction against them.

At the same time, widespread file-sharing would likely continue if the content industries failed to offer attractive alternatives in a format that appealed to the public. In the past, individuals deciding whether to use KaZaA balanced the benefits it brought them—free music, by the song, rather than a \$17 CD—against the costs of file sharing—the psychic cost of committing illegal behavior, together with the risk of getting caught. But as the industry changes the price structure of its offerings and makes music available in more discrete, affordable packages, the benefits of file-sharing are diminishing relative to purchase of legal content.¹²⁵ The early success of Apple's iTunes, which has already spurred numerous competing single-song distribution services, demonstrates that the cost-benefit analysis, for many consumers, will shift as attractive legal alternatives emerge. Indeed, the labels may ultimately decide to get involved in peer-to-peer networks themselves.¹²⁶

Given all of the benefits from direct infringement suits, it might seem odd that copyright holders have only recently begun to file them.

May 14, 2003) (describing announcement, by coalition of content providers, of plan to abandon legislative agenda in favor of public education and piracy actions).

124. See Lisa M. Bowman, *File-Traders in the Crosshairs*, CNET NEWS.COM, July 15, 2002, available at <http://news.com.com/2100-1023-943881.html> (last visited May 29, 2003) (noting recording industry's plans to model antipiracy campaign after software industry's efforts); see also *Study: Software Piracy on the Wane*, CNET NEWS.COM, Aug. 5, 2003, available at http://news.com.com/2100-1012_3-5060288.html (last visited Aug. 6, 2003) (noting drop in unauthorized copying of business software, reported by software antipiracy organization); <http://www.bsa.org/usa/press/education/> (press releases describing settlements of legal actions against businesses using unlicensed software).

125. Apple Computer aggressively entered the market for per-song downloads in April 2003. See Pui-Wing Tam, *Apple Launches Online Store Offering Downloadable Music*, WALL ST. J., April 29, 2003, at B8. See also David Bank, *RealNetworks Is Launching Its Own Online-Music Network Users; Few Reasons to Continue Therapy*, WALL ST. J., May 28, 2003 (describing RealNetworks service that offers downloads of songs for 79 cents a track); Anna Wilde Matthews and Nick Wingfield, *Apple's Planned Music Service for Windows Draws Rivals*, WALL ST. J., May 9, 2003, at B1 (describing Apple Computer's planned iTunes for Windows and its anticipated competition in per-song download services); Brian Steinberg, *Advertising: MovieLink's Ads Lure and Lampoon*, WALL ST. J., Sept. 24, 2003, at B4 (describing advertising initiative by movie studios to promote authorized movie downloads).

126. See Michael J. Wolf, *Musical Bandits*, WALL ST. J., May 1, 2003, at A18 (predicting that music labels will ultimately join forces with file-sharing services and convert them into revenue generators).

To some extent, their initial reticence may have resulted from legal and technological uncertainty over the feasibility of identifying and suing individual file-sharers. Recently, however, the technology has evolved to identify such individuals,¹²⁷ and courts have held that copyright holders may use the DMCA subpoena power to obtain personal information about them.¹²⁸ Particularly in light of the Ninth Circuit *Napster* decision, which found file-sharing straightforward infringement,¹²⁹ copyright holders have strong legal footing for direct infringement claims. More likely, the music industry's reluctance stemmed from a fear of alienating their customers—of suing the very individuals whom they hoped would buy their products.¹³⁰ As their intermediary suits falter and, at least in the short term, do little to stem the tide of online infringement, end-user legal actions have emerged as the only feasible short-term alternative.

In the summer of 2003, the Recording Industry Association of America (RIAA) took its first steps toward bringing actions against end users. It issued subpoenas for the identity of thousands of end users that it alleged were engaged in unauthorized trading of copyrighted music files.¹³¹ While several service providers and end users have challenged the subpoenas,¹³² others have complied, and in September the RIAA filed hundreds of suits against alleged file traders.¹³³ Although it is far too early to know whether these legal actions will have any lasting effect on

127. *Recording Industry Reveals How Stealth, Sleuthing Track Piracy*, WALL ST. J., Aug. 28, 2003, at B5 (describing techniques used by RIAA to identify users engaged in infringing file-sharing).

128. *In re Verizon Internet Servs., Inc.*, 240 F. Supp. 24 (D.D.C. 2003); *see also* John Healey, *Could Copyright Cops Be on your E-Trail?*, NEWSDAY, Mar. 4, 2003, at A41 (describing technologies used to track down end users engaged in file-sharing); Amy Harmon, *U.S. Backs Record Labels in Pursuit of Music Sharer*, N.Y. TIMES, Apr. 21, 2003 (describing Justice Department brief in support of district court's decision in *Verizon*).

129. *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (2001); *see also* *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 259 F. Supp. 2d 1029, 1034 (2003) (holding that downloading music files on file-sharing network infringes exclusive rights to distribute and reproduce copyrighted works).

130. *See* Declan McCullagh, *End of an Era for File-Sharing Chic?*, CNET NEWS.COM, Aug. 25, 2003, at <http://news.com.com/2010-1071-5067473.html> (last visited Sept. 4, 2003) ("what the RIAA's lawyers and lobbyists fear, they admitted in private conversations . . . , is a public backlash").

131. *See Music Industry Gets Edge in Piracy Fight*, WALL ST. J., July 21, 2003, at C13 (reporting on the 871 subpoenas already issued by the recording industry, "with roughly 75 new subpoenas being approved each day").

132. *See, e.g.*, Complaint in *Pacific Bell Internet Servs. v. Recording Indus. Ass'n of Am.*, No. 03-3560 (N.D. Cal. filed Jul. 30, 2003), at http://www.eff.org/IP/P2P/PacBell_v_RIAA.pdf (last visited Sept. 4, 2003).

133. *See* Nick Wingfield & Ethan Smith, *Record Industry Files Suit Against 261 Music Uploaders; Move May Alienate Customers*, WALL ST. J., Sept. 9, 2003, at B1 (noting suits filed against 261 individuals, each of whom allegedly offered over 1,000 files for download on file-sharing networks).

end-user behavior, some early surveys suggest that the threat of lawsuits is already reducing demand for file-sharing services.¹³⁴

Finally, copyright holders increasingly have allies in their efforts to stop uncontrolled file-sharing: universities and businesses whose students and employees are gobbling bandwidth with their rampant use of file-sharing services. Unlike the providers of file-sharing technologies—whose incentive lies in disseminating the software and encouraging as many file transfers as possible¹³⁵—these Internet access providers have a self-interest in policing their networks to prevent misuse of their bandwidth.¹³⁶ In some cases, that self-interest competes with an interest in satisfied customers, but as the legal status of unauthorized file-sharing becomes more settled and the cost of complying with subpoenas escalates,¹³⁷ many intermediaries have sought ways to push their users toward legal alternatives.¹³⁸ Some have addressed the problem by

134. See Lisa M. Bowman, *Are Swappers Scared of the RIAA?*, CNET NEWS.COM, Aug. 21, 2003, at <http://news.com.com/2100-1027-5066632.html> (last visited Sept. 4, 2003) (describing report that showed sharp drop in file-sharing after the RIAA issued its subpoenas). But see Leslie Walker, *Big-Time File Swappers Still at Large*, THE WASHINGTON POST, Aug. 24, 2003, at F7 (noting report that showed recent reduction in households engaged in file swapping, but suggested that the RIAA's "legal campaign against file swappers is only scaring 'light downloaders' rather than the big fish the RIAA says it wants to catch").

135. Grokster and other decentralized file-sharing networks make money on advertising: "The more individuals who download the software, the more advertising revenue [they] collect." *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 259 F. Supp. 1029, 1044 (C.D. Cal. 2003); see also Alex Frangos, *Eluding a New Web Hazard*, WALL ST. J., Mar. 4, 2003, at D1 (describing "spyware," software that automatically installs on the computers of those who download KaZaA and other file-sharing programs, tracks users' Web browsing, and generates pop-up ads that correspond to their perceived preferences).

136. See John Borland, *Businesses Boosting Anti-P2P Software*, CNET NEWS.COM, Aug. 27, 2003, at <http://news.com.com/2100-1035-5068950.html> ("the discovery of activity that's taking up large amounts of bandwidth and exposing the company to potential legal liability is exactly the type of revelation that's persuading a growing number of companies to do something about file swapping"); John Borland, *Labels Turn Guns on Workplace Pirates*, CNET NEWS.COM, Feb. 13, 2003, available at <http://news.com.com/2100-1023-984548.html?tag=bplst> (last visited May 30, 2003) (quoting network security executive whose business clients are seeking to eliminate unauthorized file-sharing: "Bandwidth and resource consumption is the real driver for them.").

137. The expense of complying with the subpoenas has driven some internet service providers to question the RIAA's recent subpoena drive, and at least one ISP has challenged the constitutionality of the subpoenas served by the RIAA. See John Borland, *ISP Group Challenges RIAA Subpoenas*, CNET NEWS.COM, Aug. 11, 2003, available at <http://news.com.com/2100-1027-5062372.html> (last visited Aug. 14, 2003) (noting legal challenges to subpoenas, as well as letter sent by Internet company trade association requesting dialog with RIAA and stating, "Smaller ISPs, whose limited resources are already being exhausted by legitimate law enforcement requests, simply cannot afford to underwrite legal fishing expeditions and still provide services for their customers.").

138. See John Borland, *Colleges Make Dent in Campus P2P*, CNET NEWS.COM, Sept. 2, 2003, at <http://news.com.com/2100-1027-5070407.html> (noting "considerable progress" made by colleges and the entertainment industry in reducing infringement on campuses); John Borland, *Colleges Explore Legal Net Music Setups*, CNET NEWS.COM, Aug. 1, 2003, available at <http://news.com.com/2100-1027-5059030.html> (last visited Aug. 14, 2003)

limiting the bandwidth available to their users; others have begun to monitor the content transmitted to or from their network.¹³⁹ Congress has also pressured universities to discipline individuals engaged in widespread swapping of copyrighted files.¹⁴⁰ While it would offend the principles underlying *Sony* to impose a legal obligation upon these conduits to eliminate unauthorized file-sharing, their *de facto* role in diminishing the behavior cannot be ignored.

From the public's perspective, then, an infringement-oriented approach has a number of benefits. It preserves copyright incentives while maintaining pressure on content industries to make their products available on attractive terms to compete with—rather than eliminating—alternative forms of content delivery. It also continues the existing prohibition on copyright holder interference with technology,¹⁴¹ imposes the cost of access to content upon those who most value it, and maintains the principles of fair use.

Despite all of these advantages, I do not contend that the infringement-oriented approach will necessarily solve the current dilemma in copyright law. It raises its own problems, and only time will tell whether it will prove adequate to preserve copyright's incentives in a digital age. Nonetheless, some of the apparent flaws in the model are either inherent and appropriate, or easily addressed.

First, some might argue that direct infringement suits cannot adequately stem infringement over peer-to-peer networks—either because deterrence will not work or because legal actions will simply exacerbate the public animosity toward recording labels.¹⁴² To some extent, this is an empirical question whose answer depends on the cost-benefit analysis of individual Internet users and the viability of alternatives to file-sharing. Only time will tell whether the combination

(describing initiative by university consortium to provide legal, on-campus alternative to unauthorized file-sharing: "The rampant use of file-swapping services has flooded [universities'] internal networks with unpredictable data traffic and has exposed their students and even the institutions themselves to the potential of legal liability. Sponsoring legitimate services would remove those headaches, some university administrators believe.").

139. See John Borland, *Fingerprinting P2P Pirates*, CNET NEWS.COM, Feb. 20, 2003, available at <http://news.com.com/2100-1023-985027.html> (describing University of Wyoming's use of software that monitors content of data flowing through its network).

140. See Declan McCullagh, *Congress Targets P2P Piracy on Campus*, CNET NEWS.COM, Feb. 26, 2003, available at <http://news.com.com/2100-1028-986143.html> (last visited May 29, 2003).

141. See Ginsburg, *Copyright and Control*, 101 COLUM. L. REV. at 1645-46 ("[T]he conclusion that a compulsory license regime is better for authors than exclusive rights presumes that authors are obliged in practice to give up their rights to a publisher; it disregards the potential of digital media to free authors from the corporate distributors on whom they depended to bring their work to the public.").

142. Wolf, *supra* note 126 ("Suing the people you hope will be your customers is always a dubious approach.").

of negative deterrence and positive draw from competing products will stem infringement to any significant degree. It bears emphasis, moreover, that copyright has never aspired to achieve perfect enforcement; it seeks only to preserve the basic contours of markets for copyrighted works. If direct infringement suits can achieve this in the new digital environment, then existing law will have proven itself capable of preserving the goals of copyright.

Second, a number of commentators have bemoaned the arbitrariness of a direct infringement strategy and the disproportional penalties faced by those unlucky enough to fall into the trap of copyright law.¹⁴³ These problems are inherent in any legal system that relies on deterrence to make up for imperfect enforcement. In the case of file-sharing, they may prove temporary, because the emergence of alternative legal products is coinciding with the content industries' enforcement campaign, an increasing number of individuals may well begin to make alternative choices.¹⁴⁴ Additionally, because the recording industry in these cases will likely take an approach similar to the software industry's recent campaigns, most of the targeted individuals will receive no more than notice through a cease-and-desist letter.

Third, while this Article has focused only on domestic strategies, piracy is a global phenomenon, and file-sharing is rampant around the world. Certainly, the global nature of the Internet presents immense enforcement challenges, but copyright holders seeking to capture global markets have always pursued infringers on a jurisdiction-by-jurisdiction basis. The strategies discussed in this Article apply equally across jurisdictions, and copyright holders seeking to preserve markets outside the United States should arguably pursue similar strategies in those jurisdictions.¹⁴⁵ Antipiracy campaigns in software, music, and movies are

143. See, e.g., Lunney, *supra* note 17, at 851-52 ("At some point, a point copyright law may already have reached, the level of punishment required to deter private copying generally will simply become unjust."); Lichtman & Landes, *supra* note 6, at 408 (arguing against direct liability in cases involving widespread wrongdoing and low probability of detection, such as the direct actions against video game pirates in the 1980s: "because detection and litigation were so expensive, direct liability in this instance led to almost random penalties; of the millions of equally culpable computer users, only a handful were dragged into court. To many, the injustice of a legal right enforced that randomly outweighed whatever benefit those lawsuits offered.").

144. If end-user deterrence succeeds in changing the social norms of peer-to-peer networks, the social costs and enforcement costs from an end-user campaign will fade over time. In contrast, the costs from the alternative schemes discussed in this Article—including the administrative costs of a levy, the efficiency losses due to subsidization of file-sharing users, and the Hollings scheme's imposition of suboptimal technology—would continue as long as either the levy or the digital rights management system was in place.

145. In some jurisdictions, authorities have already begun enforcement efforts against individuals. See, e.g., Jennifer Clark, *Italian Authorities Crack Down on File Sharing Over the Internet*, WALL ST. J. ONLINE, June 3, 2003, available at <http://online.wsj.com/article/>

already global, and copyright owners have to enforce their rights around the world. A global campaign against high-volume music traders may well have a deterrent effect, at least to some extent, and at least enough to cultivate demand for more attractive product offerings by music distributors.

Fourth, an infringement-centered approach, particularly one that relies on unilateral subpoenas, could be subject to abuse by copyright holders seeking personal identities for illegitimate purposes including harassment and strike suits. This concern is not an abstract one; a number of Internet service providers have challenged the constitutionality of the subpoenas issued by the RIAA in recent months, claiming that the subpoenas are technically inadequate and provide insufficient notice and opportunity for challenge by end users.¹⁴⁶ For the most part, these flaws are addressable, either through re-filing in appropriate venues, through compensation and notice by plaintiffs, or by a requirement that plaintiffs file suit to establish a case or controversy before issuing subpoenas for users' identity. In any event, policymakers can avoid abuse of subpoena power by interpreting the power narrowly and providing stiff sanctions for its bad faith use.¹⁴⁷

Finally, the press is already reporting the development of file-sharing networks and other end-to-end technologies that will mask the identity of end users, making identification and pursuit of direct infringers much more difficult.¹⁴⁸ To the extent that these technologies evolve and present attractive alternatives, they will certainly alter the cost-benefit calculus of users, and they may well reduce the deterrent effect of a direct infringement approach. But it seems at least possible that the reduction will be slight. The more effort required to acquire an MP3 file, and the more it requires acts that appear to evade the law, the

0,,SB105465539661755199,00.html (last visited June 4, 2003) (describing new Italian anti-file-sharing legislation that enables "a vast police clampdown on file sharing").

146. See Complaint in *Pacific Bell Internet Servs. v. Recording Indus. Ass'n of Am.*, No. 03-3560 (N.D. Cal. filed Jul. 30, 2003), at http://www.eff.org/IP/P2P/PacBell_v_RIAA.pdf (last visited Sept. 4, 2003); see also John Borland, *RIAA Turns Up Heat on Subpoena Fighter*, CNET NEWS.COM, Aug. 27, 2003, at <http://news.com.com/2100-1027-5069019.html> (last visited Sept. 4, 2003) (describing legal challenge brought by a unanimous user to prevent her ISP from turning over information in response to RIAA subpoena).

147. In a case involving the general subpoena power under the Federal Rules of Civil Procedure, for example, the Ninth Circuit recently found that an overbroad, abusive subpoena issued to an Internet service provider violated federal electronic privacy and computer fraud statutes. *Theofel v. Farey-Jones*, 341 F.3d 978, 984 (9th Cir. 2003) ("The subpoena power is a substantial delegation of authority to private parties, and those who invoke it have a grave responsibility to ensure it is not abused.").

148. See, e.g., *Online Music Pirates Dodge Capture*, BBC NEWS, Mar. 18, 2003, available at <http://news.bbc.co.uk/go/pr/fr/-/2/hi/technology/2860757.stm> (last visited Mar. 19, 2003) (describing file sharers' increasing use of "port-hopping," or use of random ports, to evade detection by music industry and ISPs).

more individuals may be deterred and look to legal channels. The more sophisticated the technology, moreover, the higher the price in terms of convenience, efficiency, and usability.¹⁴⁹

Given the realistic possibility that deterrence will work, we should give the direct infringement strategy a chance before changing our entire copyright system. Recent history suggests that technology will continue to evolve in ways that enable infringers to avoid the costs of copyright, and that copyright holders cannot effectively control those technologies. Given that reality—and the costs that go along with any radical reallocation of copyright costs—policyholders should encourage copyright holders to pursue strategies to deter behavior at the ends and reduce demand for illegal content, rather than deluding themselves into thinking that the law can prevent leaks.

IV. CONCLUSION

Given the nascent state of peer-to-peer technology and the breakneck speed of technological development, no one can say with confidence whether, and to what extent, legal efforts will ever reduce infringement on file-sharing networks. Undoubtedly, this uncertainty has contributed to the clamor for a targeted legislative fix. Such reactive legislation, however, rarely solves cutting-edge dilemmas more effectively than common law solutions.¹⁵⁰

The common law of copyright infringement did not evolve accidentally, but through a deliberate balancing of the interests of copyright holders and those of the public. Before upsetting that balance in favor of a broader sharing of the costs of copyright by technology users generally, policymakers should have confidence that current infringement standards can no longer serve copyright's objectives in a digital age. This article has suggested some of the reasons to believe that they can, and therefore counsels caution.

149. See Declan McCullagh, *P2P's Little Secret*, CNET NEWS.COM, July 8, 2003, at <http://news.com.com/2100-1029-1023735.html> (last visited Sept. 4, 2003) (noting decreased efficiency and usability of anonymous and fully decentralized file-sharing services).

150. Cf. Suzanna Sherry, *Haste Makes Waste: Congress and the Common Law in Cyberspace*, 55 VAND. L. REV. 309 (2002).