A REVERSE NOTICE AND TAKEDOWN REGIME TO ENABLE PUBLIC INTEREST USES OF TECHNICALLY PROTECTED COPYRIGHTED WORKS

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I. INTRODUCTION

The WIPO Copyright Treaty (WCT), concluded in 1996, recognizes "the need to maintain a balance between the rights of authors and the larger public interest, particularly education, research and access to information" in updating international copyright norms to respond to challenges arising from advances in information and communications technologies, including global digital networks.[1] The WCT implements this balance by affirming that existing exclusive rights, as well as exceptions to and limitations on those rights, can and should be applied to copyrighted works in

1. WIPO Copyright Treaty, Preamble, Dec. 20, 1996, WIPO Doc. CRNR/DC/94, *available at* http://www.wipo.int/documents/en/diplconf/distrib/pdf/94dc.pdf [hereinafter WCT].

digital forms.[2] Indeed, nations are free "to devise new exceptions and limitations that are appropriate in the digital network environment."[3]

The treaty also calls for nations to "provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights,"[4] although such rules should not impede acts that are "permitted by law" or otherwise beyond the authority of copyright owners.[5] The treaty gives no guidance, however, about how nations might implement this anti-circumvention norm so as to enable privileged and other public interest uses of copyrighted works.

While the WCT embodies a negotiated balance between copyright owners and users of digital works, the translation of this balance into the domestic laws of the United States (U.S.) and the member states of the European Union (EU) has not been fully successful.[6] When enacting the Digital Millennium Copyright Act (DMCA) of 1998 as the U.S. implementation of the WCT,[7] Congress achieved a reasonable balance of competing interests in its creation of safe harbors from copyright liability for internet service providers (ISPs) and other intermediaries for the infringing acts of others.[8] However, contrary to its apparent intention, Congress failed to achieve a similar balance of interests when establishing new rules forbidding circumvention of technical protection measures (TPMs) used by copyright owners to control access to their works and in regulating the

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2. *Id.*, arts. 6-8; Agreed Statements Concerning the WIPO Copyright Treaty, statement concerning art. 1(4), Dec. 20, 1996, WIPO Doc. CRNR/DC/96 (published Dec. 23, 1996), *available at* http://www.wipo.int/documents/en/diplconf/distrib/pdf/96dc.pdf [hereinafter Agreed Statements]. The WCT also reflects an international consensus that nations are entitled "to carry forward and appropriately extend into the digital environment limitations and exceptions in their national laws which have been considered acceptable under the Berne Convention." *Id.*, statement concerning art. 10.

3. Agreed Statements, *supra* note 2, statement concerning art. 10.

4. WCT, *supra* note 1, art. 11. *See, e.g.*, Pamela Samuelson, *The U.S. Digital Agenda at WIPO*, 37 VA. J. INT'L L. 369, 409-15 (1997) (discussing the evolution of the WCT anti-circumvention provision).

5. WCT, *supra* note 1, art. 11.

6. Maintaining a balance between the interests of copyright owners in having adequate protection for their works and the public in having access to and the freedom to use these works in non-infringing ways has long been a "bedrock principle" of U.S. copyright law and policy. *See, e.g.*, H.R. REP. NO. 105-551, at 18 (1998); Chamberlain Group, Inc. v. Skylink Techs., Inc., 381 F.3d 1178, 1196 (Fed. Cir. 2004) (quoting legislative history of the DMCA).

7. Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (anti-circumvention rules codified at 17 U.S.C. § 1201).

8. 17 U.S.C. § 512 (2000).

manufacture and distribution of technologies primarily designed or produced to enable circumvention of copyright-protective TPMs.[9]

Although the EU followed the U.S. lead in adopting DMCA-like rules that forbid circumvention and trafficking in circumvention tools,[10] it diverged from the U.S. approach by explicitly requiring member states to fulfill a normative commitment to ensuring that certain public interest uses can be made of technically protected works. Article 6(4) of the EU Copyright Directive provides that member states must take "appropriate measures" to ensure that right holders enable lawful users of copyrighted works to exercise certain exceptions or limitations provided for by national law, even when the works in question are technically protected.[11] Unfortunately, the Directive contains some limits that seemingly undermine this commitment,[12] and like the WCT, it provides little guidance about how member states might achieve this goal. National implementations of this Directive thus far have not, in our judgment, adequately facilitated public interest uses of technically protected content nor fulfilled the normative commitment to parity in the ability to exercise exceptions and limitations.[13]

The resulting imbalance in U.S. and EU member state anti-circumvention rules harms legitimate interests of the public in making fair uses, privileged uses, and other non-infringing uses of copyrighted works (which collectively we deem to be "public interest uses" of copyrighted

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9. 17 U.S.C. § 1201 (2000). Part II will discuss various limitations on and exceptions to the DMCA anti-circumvention rules, including authorization of the Library of Congress to develop new exceptions and limitations; it will also show that these do not accomplish the needed balance.

10. Directive 2001/29/EC on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society, art. 6, 2001 O.J. (L 167) 10 [hereinafter Copyright Directive]. This Directive is more restrictive than the DMCA in at least two ways. First, it bans all acts of circumvention, not just circumventions of access controls. *Compare id. with* 17 U.S.C. § 1201(a)(1)(A). Second, it lacks a set of built-in exceptions and limitations such as those in the DMCA. *Compare* Copyright Directive, *supra*, art. 6, *with* 17 U.S.C. § 1201(c)-(j).

11. Copyright Directive, *supra* note 10, art. 6(4). We recognize that other commentators have been more skeptical than we are about the will to carry through with this normative commitment. *See, e.g.*, Severine Dusollier, *Exceptions and Technological Measures in the European Copyright Directive of 2001—An Empty Promise*, 34 IIC 62 (2003); INST. FOR INFO. LAW, UNIV. OF AMSTERDAM, STUDY ON THE IMPLEMENTATION AND EFFECT IN MEMBER STATES' LAWS OF DIRECTIVE 2001/29/EC ON THE HARMONISATION OF CERTAIN ASPECTS OF COPYRIGHT AND RELATED RIGHTS IN THE INFORMATION SOCIETY, FINAL REPORT 73 (2007) [hereinafter COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY].

12. *See infra* notes 312-315 and accompanying text.

13. *See id.; see also infra* notes 351-357 and accompanying text.

works).[14] We believe that practical judicial and administrative measures can and should be devised to implement the spirit of the WCT in both the U.S. and EU without reopening the contentious debates that engulfed the process leading up to enactment of the DMCA and the EU Copyright Directive. To this end, we propose adoption of a "reverse notice and takedown" procedure to help achieve some of the balance in anti-circumvention rules that the WCT endorsed, but which implementing legislation has thus far failed to deliver.[15] Under this regime, users would be able to give copyright owners notice of their desire to make public interest uses of technically protected copyrighted works, and right holders would have the responsibility to take down the TPMs or otherwise enable these lawful uses.

We call this a "reverse notice and takedown" process because, in an inversion of the notice and takedown procedure first developed through common law adjudication about ISP liability for wrongful acts of users,[16]

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14. Numerous commentators have noted the imbalance of the DMCA anti-circumvention rules and their deleterious effects on fair, privileged, and other non-infringing uses of copyrighted works. *See, e.g.*, Timothy K. Armstrong, *Digital Rights Management and the Process of Fair Use*, 20 HARV. J. L. & TECH. 49 (2006); Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354 (1999); Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J. L. & TECH. 41 (2001); Julie E. Cohen, Lochner *in Cyberspace: The New Economic Orthodoxy of "Rights Management"*, 97 MICH. L. REV. 462 (1997); Jacqueline D. Lipton, *Solving the Digital Piracy Puzzle: Disaggregating Fair Use from the DMCA's Anti-Device Provisions*, 19 HARV. J. L. & TECH. 111 (2005); Tricia J. Sadd, *Fair Use as a Defense Under the Digital Millennium Copyright Act's Anti-Circumvention Provisions*, 10 GEO. MASON L. REV. 321 (2001); Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Rules Need to Be Revised*, 14 BERKELEY TECH. L.J. 519 (1999); Jane C. Ginsburg, *The Pros and Cons of Strengthening Intellectual Property Protection: Technological Protection Measures and Section 1201 of the U.S. Copyright Act*, (Columbia Law Sch. Pub. Law & Legal Theory Working Paper Group, Paper No. 07-137, Feb. 1, 2007), *available at* http://ssrn.com/abstract=960724.

The imbalance in the DMCA rules is at least partly attributable to the entertainment industry's success in analogizing the bypassing of TPMs to "breaking and entering" someone's home. *See, e.g.*, *WIPO Copyright Treaties Implementation Act and On-Line Copyright Liability Limitation Act: Hearing on H.R. 2281 and H.R. 2180, Hearings Before the Subcomm. on Courts and Intellectual Property of the House Comm. on the Judiciary*, 105th Cong. (1997) (testimony of Robert W. Holleyman II, President, Business Software Alliance) ("H.R. 2281 makes illegal the act of circumvention . . . in the same way that criminal laws make illegal the act of breaking and entering into a home or warehouse.").

15. *See infra* Sections III.B-C.

16. Religious Tech. Ctr. (RTC) v. Netcom On-Line Commc'n Servs., Inc., 907 F. Supp. 1361 (N.D. Cal. 1995). *Netcom* opined that internet access and service providers

it is the user who will be giving notice and the content owner who will have a responsibility to take something down. A reverse notice and takedown regime would achieve for the anti-circumvention rules a comparable symmetry to the balance embedded in the ISP safe harbor rules. It would also effectuate the nascent, but not fully realized, legislative intent to permit public interest uses of technically protected digital content, while at the same time protecting copyright owners against circumvention of TPMs that would facilitate or lead to massive infringements.[17]

The Article will demonstrate that a reverse notice and takedown mechanism is best understood as a principle capable of numerous implementations. In the U.S., the most likely way to achieve this goal is through judicial interpretation of the anti-circumvention rules through case by case adjudication. It was, after all, the judicial branch that introduced the fair use doctrine into U.S. law and also pioneered the notice and takedown rules to govern ISP liability. In the heated political climate in which the DMCA was enacted, the measured analysis developed in *Netcom* was invaluable in shaping ISP liability rules. Unfortunately, no similarly careful judicial assessment was available in the late 1990's to guide Congress about how to achieve an appropriate balance in the anti-circumvention rules. We believe that courts in the U.S. can and should be enlisted in bringing about a balanced approach for dual-use circumvention technologies akin to that developed for the dual-use technologies and services of ISPs. Recent decisions, moreover, provide a theoretical base upon which this case law evolution could occur.

In the EU, by contrast, member states could implement a reverse notice and takedown regime in the course of fulfilling their obligations under the Copyright Directive, including Article 6(4), which requires them to

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were not liable for user infringements unless and until they had received notice about the existence of infringing materials on their sites and failed to investigate and take infringing materials down. *Id.* at 1373-76. (The *Netcom* decision is discussed *infra* notes 36-42 and accompanying text.) This notice and takedown approach was later legislatively adopted in the U.S. and EU. Three of the four DMCA safe harbors for ISPs, for example, employ the judicially devised notice and takedown framework set forth in *Netcom. See* 17 U.S.C. § 512(b)-(d). (The fourth, section 512(a), creates a safe harbor for copies made in the course of transitory digital network transmissions for which notice and takedown is infeasible.) *See also* Directive 2000/31/EC on Certain Legal Aspects of Information Society Services, in Particular Electronic Commerce in the Internal Market (Directive on Electronic Commerce), arts. 12-14, 2000 O.J. (L 178) 1, *available at* http://eur-lex.europa.eu/LexUriServ/site/en/oj/2000/l_178/l_17820000717en00010016.pdf [hereinafter E-Commerce Directive]. For a discussion of this Directive and a comparison with U.S. law, *see* Rosa Julia-Barcelo, *On-line Intermediary Liability Issues Comparing E.U. and U.S. Legal Frameworks*, 22 EUR. INTELL. PROP. REV. 105 (2000).

17. This proposal is developed in Section III.D.

ensure that users of technically protected works can exercise certain public interest exceptions. Although it is not possible in either the U.S. or the EU to write anti-circumvention rules on a completely blank slate, there is flexibility in the legal cultures of both entities to implement a reverse notice and takedown procedure to achieve needed balance in anti-circumvention regulations. Nations that have yet to implement the WCT may find our proposed reverse notice and takedown regime provides a far more balanced way to comply with the treaty than the approach being promoted by U.S. trade negotiators.[18]

Part II of this Article discusses the legislative history of the DMCA and the checks and balances embodied in its ISP safe harbor and anti-circumvention rules. It shows that the notice and takedown regime under section 512 has achieved a reasonable balance in the regulation of ISPs for wrongful acts of users, but that section 1201 lacks a similar balance. Certain caselaw interpretations of section 1201 have, moreover, made the DMCA anti-circumvention rules seem even more imbalanced than its express provisions require.[19]

Part III argues that a reverse notice and takedown regime would provide a needed balance in the U.S. anti-circumvention rules and shows that there is sufficient flexibility in the existing U.S. legal framework for courts to fashion such a regime. Part IV argues that member states of the EU should likewise consider adopting a reverse notice and takedown regime as a sound way to effectuate the duty that the Copyright Directive imposes on them to ensure that users are able to enjoy copyright exceptions and limitations that have been granted under national laws, notwithstanding the use of TPMs to control access to and uses of copyrighted works.[20]

Because the EU imposed this duty, yet deferred to national judgments about how to fulfill it, EU member states would seem to have more flexibility to experiment with different ways to implement a reverse notice and takedown regime than the U.S. presently does. Part IV discusses some of the available options.

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18. *See, e.g.*, Anupam Chander, *Exporting DMCA Lock-outs*, 54 CLEV. ST. L. REV. 205 (2006) (discussing imbalanced anti-circumvention rules that the U.S. has insisted on in trade agreements with several nations).

19. *See, e.g.*, Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 324 (S.D.N.Y. 2000), *aff'd sub nom.* Universal City Studios, Inc. v. Corley, 273 F.3d 429 (2d Cir. 2001).

20. Copyright Directive, *supra* note 10, art. 6(4).

II. CHECKS AND BALANCES IN THE ISP SAFE HARBORS AND ANTI-CIRCUMVENTION RULES

The WCT was the end product of an international conversation about updating copyright laws for the digital age that began when the Clinton Administration published its "White Paper" on Intellectual Property and the National Information Infrastructure in September 1995.[21] No checks and balances were built into that document. Among other things, the White Paper opined that internet service and access providers were and should be strictly liable for copyright infringement of their users on account of the temporary copies made in the random access memory of their computers.[22] ISPs were, in the White Paper's view, in a far better position to monitor and control user infringements than copyright owners.[23] The prospect of liability would give them strong incentives to ensure that their sites were not used for infringing purposes and to develop technologies to deter infringements.[24]

The White Paper also recommended legislation to outlaw technologies the primary purpose or effect of which was to bypass TPMs that copyright owners used to protect their works.[25] Without such protection, the drafters warned, copyright owners would not be willing to make their works available in digital form. The White Paper contemplated no public policy exceptions to or limitations on the proposed anti-circumvention rules, a strategy that generated considerable opposition and criticism.[26] This Sec-

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21. *See* WORKING GROUP ON INTELLECTUAL PROP. RIGHTS, INFO. INFRASTRUCTURE TASK FORCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE (1995), *available at* http://www.uspto.gov/web/offices/com/doc/ipnii/ipnii.pdf [hereinafter White Paper]. Imbalance in the White Paper's interpretation of digital copyright issues was widely noted at the time. *See, e.g.*, Peter Jaszi, *Caught in the Net of Copyright*, 75 OR. L. REV. 19 (1996); Leslie A. Kurtz, *Copyright and the National Information Infrastructure in the United States*, 18 EUR. INTELL. PROP. REV. 120 (1996); Jessica Litman, *The Exclusive Right to Read*, 13 CARDOZO ARTS & ENT. L.J. 29 (1994); Charles McManis, *International Intellectual Property Protection and Emerging Computer Technology: Taking TRIPS on the Information Superhighway*, 41 VILL. L. REV. 207 (1996); Pamela Samuelson, *The Copyright Grab*, 4.01 WIRED 96 (1996).

22. White Paper, *supra* note 21, at 114-24. The White Paper analyzed ISP liability based on temporary copies made in random access memory of computers as direct infringements of copyright. The White Paper discussed contributory and vicarious liability in a different section. *Id.* at 109-14.

23. *Id.* at 117.

24. *Id.* at 117-18.

25. *Id.* at 230-34.

26. *See, e.g.*, JESSICA LITMAN, DIGITAL COPYRIGHT: PROTECTING INTELLECTUAL PROPERTY ON THE INTERNET 122-65 (2001) (discussing the controversy). *See also supra* note 21.

tion will discuss the different ways that Congress responded to criticisms of the White Paper's proposed ISP and anti-circumvention liability rules.

A. ISP Safe Harbor Provisions

Congress had already begun to consider whether ISPs should be liable for wrongful acts of their users, such as libelous postings on bulletin board services, at the time the White Paper was published.[27] In 1996, as part of a telecommunications regulation reform measure, the telecom industry got a broad grant of immunity from liability for user wrongs.[28] The industry successfully argued that imposing liability on ISPs for wrongful acts of which they were unaware was unfair and unwise. Requiring them to monitor their sites for wrongful activity would not only interfere with user privacy and freedom of expression interests, but it would also increase dramatically the cost of internet access.

Self-regulation was deemed a more effective way to create incentives for ISPs to ensure that their sites were being used for lawful purposes.[29] At the copyright industry's insistence, Congress carved out an exception to the Communications Decency Act's (CDA) immunity provision for intellectual property violations.[30]

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27. The ISP immunity provision was first introduced in Congress on Aug. 4, 1995. *See* 141 CONG. REC. H8468-69 (daily ed. Aug. 4, 1995). Prior to this, the caselaw on ISP liability for tortious acts of users was mixed. *Compare* Cubby, Inc. v. CompuServe Inc., 776 F. Supp. 135 (S.D.N.Y. 1991) (rejecting a defamation claim against CompuServe because it did not monitor user postings) *with* Stratton Oakmont, Inc. v. Prodigy Servs. Co., 1995 WL 323710 (N.Y. Sup. Ct. 1995) (refusing to dismiss a lawsuit similar to *Cubby* because, by monitoring some user postings for harmful speech, Prodigy had shown it could monitor for defamation as well). The telecommunications industry became concerned that it would routinely be held liable for wrongful acts of users insofar as it policed its sites for any reason. The telecom industry lobbied hard for Congressional preemption of decisions such as *Stratton Oakmont*. The House Conference report makes clear that "[o]ne of the specific purposes of [the immunity provision] is to overrule . . . decisions which have treated such providers and users as publishers or speakers of content that is not their own." H.R. REP. NO. 104-458, at 94 (1996) (Conf. Rep.).

28. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56. Title V of this Act was the Communications Decency Act. The immunity provision is now codified at 47 U.S.C. § 230(c)(1) ("No provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information provider.").

29. The rationale for this grant of immunity is discussed in *Zeran v. America Online*, 129 F.3d 327 (4th Cir. 1997).

30. 47 U.S.C. § 230(e)(2). The Ninth Circuit has recently ruled that this limitation on CDA immunity applies only to federal intellectual property laws. *See* Perfect 10, Inc. v. CCBill LLC, 481 F.3d 751, 768 (9th Cir. 2007) (applying CDA immunity provision to state right of publicity claims).

Having won a broad grant of immunity in the first round of the fight over ISP liability for wrongful acts of users, the telecom industry believed that, by advancing the same arguments used to gain immunity under the CDA, it could persuade Congress to reject the White Paper's contention that that industry should be held strictly liable for copyright infringements.[31] ISP technology platforms were, moreover, "dual-use" technologies, in the sense that they could be as easily used for lawful as for unlawful purposes. Under the Supreme Court's decision in *Sony Corp. of America v. Universal City Studios, Inc.*, ISP platform technologies seemed to qualify for the safe harbor that *Sony* carved out for technologies having substantial non-infringing uses.[32]

The telecom industry's chances for averting the strict liability rule proposed in the White Paper were substantially enhanced by two pre-DMCA developments. One was the *Netcom* decision, which rejected the White Paper's strict liability theory against ISPs.[33] A second was an international repudiation of a similar proposed strict liability rule for internet intermediaries that the U.S. had initially supported at the diplomatic conference that produced the WCT.[34] An Agreed Statement on the treaty further clarified that "mere provision of physical facilities for enabling or making a communication does not in itself amount to communication" under the treaty.[35] ISPs could accordingly point to the international consensus against a strict liability rule when arguing for a more balanced approach before Congress.

The *Netcom* decision was a pivotal development in the legislative drama that spawned the DMCA safe harbors.[36] In response to the copyright owner's direct infringement claim against Netcom, the alleged infringer's Internet access provider, Judge Whyte identified the question in

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31. *See supra* text accompanying note 29 for the rationale for the CDA immunity.

32. Sony Corp. of Am. v. Universal City Studios, 464 U.S. 417, 442 (1984).

33. Religious Tech. Ctr. (RTC) v. Netcom On-Line Commc'n Servs., Inc., 907 F. Supp. 1361, 1370 (N.D. Cal. 1995).

34. The Clinton Administration had supported a draft treaty provision under which ISPs would have been strictly liable for temporary copies of infringing materials passing through their computers. *See* Samuelson, *supra* note 4, at 383-92 (discussing debate over ISP liability at the WIPO diplomatic conference).

35. Agreed Statements, *supra* note 2, statement concerning art. 8.

36. *RTC*, 907 F. Supp. at 1364-66. Litigation ensued after Dennis Erlich, a former minister of the Scientology religion turned vocal critic, posted portions of the writings of L. Ron Hubbard in the alt.religion.scientology Usenet newsgroup. RTC, owner of the relevant copyrights, sued Erlich, Thomas Klemesrud (the operator of a bulletin board service (BBS) on which Erlich had made the postings), and Netcom (the Internet access provider for Klemesrud's BBS), for copyright infringement. *Id.* at 1366.

the case as "whether possessors of computers are liable for incidental copies automatically made on their computers using their software as part of a process initiated by a third party."[37] Judge Whyte decided that RTC's direct infringement theory was an unreasonable interpretation of copyright law because it would logically lead to imposing liability on owners of "every single Usenet server in the worldwide link of computers transmitting Erlich's message to every other computer."[38] Before an Internet access provider could become directly liable, there needed to be proof of "some element of volition or causation," proof "which is lacking where a defendant's system is merely used to create a copy for a third party."[39]

Although Judge Whyte also agreed with Netcom that it should not be held contributorily liable for Erlich's infringement before receiving notice about this risk, he took issue with Netcom's assertion that RTC's notice of Erlich's infringement was "too equivocal given the difficulty in assessing whether registrations are valid and whether a use is fair."[40] While "a mere unsupported allegation of infringement by a copyright owner may not automatically put a defendant on notice of infringing activity," Judge Whyte declared, "Netcom's position that liability must be unequivocal is unsupportable."[41] Upon receipt of a proper notice, Judge Whyte thought that Netcom should have a duty to investigate the claim of infringement and to take the material down if the claim was valid. Failure to do so

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37. *Id.* at 1368. In support of its direct infringement claim, RTC relied upon the White Paper; the Ninth Circuit's decision in *MAI Systems Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993), which held that temporary copies of copyrighted works made in the random access memory of computers were infringing reproductions of the works unless authorized by the copyright owner or the law, *id.* at 518; and *Playboy v. Frena*, 839 F. Supp. 1552 (M.D. Fla. 1993), which held the operator of a BBS directly liable for infringing copies of Playboy bunny pictures that users had uploaded to and downloaded from the BBS. The White Paper had also relied upon *MAI* in support of its view that making temporary as well as permanent copies of works in digital form were copyright-significant acts and upon *Frena* in support of its view that ISPs were directly liable for user infringements. *See* White Paper, *supra* note 21, at 64-69, 120.

38. *RTC*, 907 F. Supp. at 1369.

39. *Id.* at 1370. Judge Whyte also granted Netcom's motion for summary judgment on RTC's vicarious liability claim. Although the judge was skeptical of Netcom's claim that it lacked the ability to supervise and control users' postings, the vicarious claim was unsustainable because Netcom had not received any direct financial benefit from user infringements. *Id.* at 1375-77.

40. *Id.* at 1373. "To require proof of valid registration would be impractical and would perhaps take too long to verify, making it impossible for a copyright holder to protect his or her works in some cases. . . ." *Id.*

41. *Id.* at 1374.

amounted to a substantial contribution to user infringement that, if proven, would justify contributory infringement liability.[42]

Two of the DMCA safe harbors are codifications of the *Netcom* ruling: section 512(a) exempts service providers from liability for incidental copies made in the course of network transmission of digital content on behalf of users;[43] and section 512(c) exempts copies made in storing information for users except when providers have received proper notice of infringement from the copyright owner and failed to investigate the charges and remove infringing materials.[44] Congress also created safe harbors for caching of digital content to enable faster service to users and for information locating tools (e.g., search engines) that might connect users to infringing materials.[45] The information storage, caching, and information location tool safe harbors have notice and takedown requirements akin to those articulated in *Netcom*.[46]

The DMCA safe harbors represented a major victory for telecom and internet industry groups, given that powerful copyright industry groups had wanted service providers held strictly liable for infringing acts of users. Other legislative concessions to ISPs included: a specification of what constitutes adequate notice from copyright owners before the duty to investigate arises;[47] a counter-notice regime so that users can ask to restore information initially taken down in response to a complaint of infringe-

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42. *Id.* at 1374-75. There being a triable issue of fact on the adequacy of RTC's notice to Netcom and the reasonableness of Netcom's response, the latter's motion for summary judgment on the contributory infringement claim failed. *Id.* The White Paper had not considered a notice and takedown regime as a way to balance competing interests in ISP liability cases.

43. 17 U.S.C. § 512(a).

44. *Id.* at § 512(c).

45. *Id.* at § 512(b) (caching safe harbor), § 512(d) (information location tool safe harbor). As mentioned above, the EU found notice and takedown to be a balanced approach to ISP liability in its E-Commerce Directive, which, like the DMCA, provides a safe harbor for transmission, caching, and information storage. It has no counterpart, however, to section 512(d). E-Commerce Directive, *supra* note 16, arts. 12-14.

46. 17 U.S.C. §§ 512(b)(2)(E)(i), (c)(1)(A), (d)(1)(A).

47. *Id.* at § 512(c)(3). The Ninth Circuit gave this requirement some teeth in a recent secondary liability case:

> In order to substantially comply with sec. 512(c)(3)'s requirements, a notification must do more than identify infringing files. The DMCA requires a complainant to declare, under penalty of perjury . . . that he has a good faith belief that the use is infringing.. . . Permitting a copyright holder to cobble together adequate notice from separately defective notices . . . unduly burdens service providers.

Perfect 10, Inc. v. CCBill LLC, 481 F.3d 751, 761-62 (9th Cir. 2007).

ment;[48] an immunity for taking information down based on a good faith belief that such action was proper;[49] limitations on injunctive relief;[50] and a clarification that service providers were not obliged to monitor their sites for infringing materials.[51]

Copyright industry groups obtained some concessions as well. ISPs could rely on the safe harbors only if they had adopted and reasonably implemented policies to terminate repeat infringers, and if they accommodated standard technical measures that might be developed in the future for the protection of digital copyrighted works.[52] ISPs were obliged to publicly designate an agent to whom notices of infringement could be sent.[53] The DMCA also authorized copyright owners to seek subpoenas to require service providers to disclose names and other identifying information about ISP subscribers whom copyright owners alleged were infringers.[54]

The DMCA safe harbors have generally been efficacious in run-of-the-mill copyright infringement cases involving users and their ISPs.[55] Copyright owners have incentives to monitor Internet sites for infringing materials and to provide appropriately detailed information to ISPs so that the infringing material can be taken down. Copyright owners are deterred from sending false or overreaching notices of infringement not only by provisions of the DMCA that penalize wrongful notices,[56] but also by the prospect of "bad" publicity and judicial sanctions if they send improper or

48. 17 U.S.C. § 512 (g)(2)-(3).

49. *Id.* at § 512(g)(1).

50. *Id.* at § 512(j)(1)-(2).

51. *Id.* at § 512(m).

52. *Id.* at § 512(i). *See Perfect 10, Inc.*, 481 F.3d at 758-64 (discussing the reasonable implementation requirement).

53. 17 U.S.C. § 512(c)(2).

54. *Id.* at § 512(h). *But see* Recording Indus. Ass'n of Am. v. Verizon Internet Servs., Inc., 351 F.3d 1229 (D.C. Cir. 2003) (holding RIAA not authorized to obtain subpoena identifying information as to file-sharers whose communications Verizon transmitted; section 512(h) allows subpoenas as to section 512(c) storage of information, not as to section 512(a) transmissions of information).

55. *See, e.g.*, Christian C.M. Beams, *Note: The Copyright Dilemma Involving Online Service Providers: Problem Solved . . . For Now*, 51 FED. COMM. L.J. 823, 846 (1999); Heidi Pearlman Salow, *Liability Immunity for Internet Service Providers—How Is It Working?*, 6 J. TECH. L. & POL'Y 31, 49-50 (2001).

56. 17 U.S.C. § 512(f). This provision has some teeth, as is illustrated by *Online Policy Group v. Diebold, Inc.*, 337 F. Supp. 2d 1195 (N.D. Cal. 2004) (sanctioning electronic voting technology firm for knowing misrepresentations when giving notice to an ISP to take down allegedly infringing materials).

overreaching notices.[57] ISPs have incentives to cooperate with copyright owners in the notice and takedown process and to terminate repeat infringers lest they forfeit the safe harbors provided by the DMCA.

While there is some empirical evidence that ISPs are perhaps quicker than they should be to take materials down upon receipt of notice and that the counter-notice procedures are too rarely invoked,[58] ISPs and copyright owners have generally adapted to conducting businesses within the framework of the notice and takedown regime of the DMCA safe harbors.[59] Viacom's pending copyright infringement lawsuit against YouTube will test how secure the DMCA safe harbors really are,[60] but it will not be surprising if the court tells Viacom that it should take its complaint to Congress, as Viacom is essentially trying to achieve through litigation what the copyright industry was unable to obtain from Congress in 1998.[61] Leaving aside the Viacom lawsuit, the past decade of experience with the DMCA notice and takedown regime suggests that a relatively balanced and workable solution to this particular dual-use technology problem has been found.[62]

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57. *See, e.g.*, Free Speech Battle Over Online Parody of 'Colbert Report,' http://www.eff.org/news/archives/2007_03.php#005176 (Mar. 22, 2007) (challenging Viacom notice and takedown demand as to parody available on YouTube).

58. *See, e.g.*, Jennifer Urban & Laura Quilter, *Efficient Process or "Chilling Effects"? Takedown Notices Under Section 512 of the Digital Millennium Copyright Act*, 22 SANTA CLARA COMPUTER & HIGH TECH. L.J. 621 (2006). For examples of notice and takedown letters that have had chilling effects on users, see http://chillingeffects.org/copyright/.

59. *See, e.g.*, Kevin M. Lemley, *Comment: Protecting Consumers From Themselves: Alleviating the Market Inequalities Created by Online Copyright Infringement in the Entertainment Industry*, 13 ALB. L.J. SCI. & TECH. 613, 620 (2003).

60. *See* Complaint, Viacom Int'l, Inc. v. YouTube, Inc., No. 07 Civ. 2103 (S.D.N.Y. Mar. 12, 2007). For contrasting perspectives on this lawsuit, *see, e.g.*, Lawrence Lessig, Op-Ed, *Make Way for Copyright Chaos*, N.Y. TIMES, Mar. 18, 2007, at sec. 4, page 12, *available at* http://www.nytimes.com/2007/03/18/opinion/18lessig.html?ex=1182139200&en=41732111a3c5e994&ei=5070; Douglas G. Lichtman, *The Case Against YouTube*, L.A. TIMES, Mar. 20, 2007, at A19, *available at* http://www.latimes.com/news/opinion/la-oe-lichtman20mar20,0,7632194.story.

61. *See, e.g.*, CoStar Group, Inc. v. LoopNet, Inc., 373 F.3d 544 (4th. Cir. 2004) (rejecting copyright owner arguments for intermediary liability as having been resolved by DMCA safe harbors).

62. *See, e.g.*, Beams, *supra* note 55, at 841; Tim Wu, *Does YouTube Really Have Legal Problems?*, SLATE, Oct. 26, 2006, http://www.slate.com/id/2152264/ (arguing that "the content industry actually likes section 512 more than anyone will admit"). *See also* Michael L. Rustad & Thomas H. Koenig, *Rebooting Cybertort Law*, 80 WASH. L. REV. 335, 397 (2005) (praising the balance of the notice and takedown rules).

B. Anti-circumvention Provisions

In addition to endorsing a strict liability rule against ISPs, the White Paper anticipated that many copyright owners would find it desirable to use technical protection measures (TPMs) for digital media products or services intended for distribution via global digital networks; yet, it also recognized that clever technologists could build tools to bypass these TPMs, which would thereby render digital works vulnerable to infringements.[63] To offer greater security to technically protected content, the White Paper recommended enactment of a ban on technologies, "the primary purpose or effect of which is to avoid, bypass, remove, deactivate, or otherwise circumvent" technical measures used by copyright owners to protect their works.[64]

The White Paper offered very little policy analysis in support of this ban.[65] It dismissed as misguided expressions of concern about the effects of anti-circumvention rules on the public domain and on fair and other privileged uses of copyrighted works.[66] Clinton Administration officials also proposed that a virtually identical provision should be included in the WCT.[67]

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63. White Paper, *supra* note 21, at 230.

64. The White Paper's proposal was:

> No person shall import, manufacture or distribute any device, product, or component incorporated into a device or product, or to offer or perform a service, the primary purpose or effect of which is to avoid, bypass, remove, deactivate, or otherwise circumvent, without authority of the copyright owner or the law, any process, treatment, mechanism, or system which prevents or inhibits the exercise of any of the exclusive rights under section 106.

Id., Appendix 1 at 6.

65. The White Paper did state:

> The Working Group finds that prohibition of devices, products, components, and services that defeat technological methods of preventing unauthorized use is in the public interest and furthers the Constitutional purpose of copyright laws. Consumers of copyrighted works pay for the acts of infringers; copyright owners have suggested that the price of legitimate copies of copyrighted works may be higher due to infringement losses suffered by copyright owners. The public will also have access to more copyrighted works if they are not vulnerable to the defeat of copy protection systems.

Id. at 230.

66. *Id.* at 231-32.

67. *See* Samuelson, *supra* note 4, at 409-15 (discussing proposed WIPO treaty anti-circumvention provision).

1. The Sony Safe Harbor Was the Pre-DMCA Default Rule for Dual-Use Technologies

The radical nature of the White Paper's proposed anti-circumvention rule can best be appreciated by contrasting it with the safe harbor for technologies with substantial non-infringing uses set forth in *Sony Corp. of America v. Universal City Studios, Inc.*[68] *Sony* was the first case to consider whether copyright owners could hold technology developers indirectly liable for user infringements on the ground that the primary purpose or effect of the challenged technologies was to facilitate unauthorized copying of copyrighted works.[69]

Universal sued Sony for contributory infringement in 1976, shortly after Sony introduced the Betamax video tape recorder (VTR) to the market, claiming that Sony knew that the primary use of its Betamax machines would be to make unauthorized, and hence infringing, copies of copyrighted works, such as movies shown on broadcast television.[70] Indeed, Sony's advertisements encouraged the public to purchase its VTRs in order to copy favorite programs.[71] In 1981, the Ninth Circuit Court of Appeals ruled in Universal's favor, on the grounds that making copies of copyrighted television programs, even for time-shifting purposes, was direct infringement, and that Sony had knowingly contributed to that infringement because the primary use of Betamax machines was to make such copies.[72] In 1984, the Supreme Court reversed, holding that time-shift copying of TV programs was fair use and that Sony was not liable for contributory infringement on account of the substantial non-infringing uses to which the Betamax machines could be put.[73]

Justice Stevens, writing for the Court in *Sony*, observed that the only theory on which Sony could be held liable was "that [it has sold] equipment with constructive knowledge that its customers may use that equip-

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68. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417 (1984). The White Paper did not mention that its anti-circumvention rule would partially overturn the *Sony* safe harbor for technologies with substantial non-infringing uses. The White Paper mischaracterized *Sony* as a case in which the absence of a market for home-taping had led the Court to conclude that time-shift copying of television programs was fair use. White Paper, *supra* note 21, at 79.

69. For a well told history of the lawsuit, *see generally* JAMES LARDNER, FAST FORWARD: A MACHINE AND THE COMMOTION IT CAUSED (rev. ed. 2002).

70. *Sony*, 464 U.S. at 459.

71. *Id.*

72. Universal City Studios, Inc. v. Sony Corp. of Am., 659 F.2d 963, 971-72 (9th Cir. 1981).

73. *Sony*, 464 U.S. at 447-56.

ment to make unauthorized copies of copyrighted material."[74] There was, however, "no precedent for imposition of [secondary] liability on such a theory,"[75] nor any basis in the copyright statute.[76] Holding Sony liable on this theory was unwarranted, moreover, because of the significant effects it would have on other parties, including copyright owners who approved of time-shift copying of their programs by Betamax users, members of the public who wanted access to such technologies to make authorized and fair uses of them, and of course, Sony and other technology developers who wanted to make and sell these technologies.[77] "When a charge of contributory infringement is predicated entirely on the sale of an article in commerce that is used by the purchaser to infringe [an intellectual property right], the public interest in access to that article is necessarily implicated."[78]

Sony recognized that Congress had resolved a similar tension in patent law by imposing contributory liability on technology developers only when they made and sold devices that had been "especially made or especially adapted for use in an infringement of . . . a patent."[79] Congress had created a statutory safe harbor from contributory liability for dual-use technologies, that is, for "staple articles of commerce," which applies to technologies "suitable for substantial non-infringing use."[80] This safe harbor recognized a legitimate public interest in having the ability to access and enjoy staple articles for their non-infringing purposes.

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74. *Id.* at 439.

75. *Id.*

76. Justice Stevens pointed out that U.S. copyright law "does not expressly render anyone liable for infringement committed by another." *Id.* at 434. Universal argued that "*Kalem* [*Co. v. Harper Bros.*, 222 U.S. 55 (1911)] stands for the proposition that supplying the 'means' to accomplish an infringing activity and encouraging that activity through advertisement are sufficient to establish liability for copyright infringement." *Sony*, 464 U.S. at 436. This was, Justice Stevens opined, a "gross generalization that cannot withstand scrutiny." *Id.*

77. *Id.* at 434-42.

78. *Id.* at 440. This statement was particularly significant because by the time the Court heard oral argument in *Sony* for the second time, 9.5 million American households had Betamax machines; under Universal's theory, virtually every Betamax user was a copyright infringer, and Sony's potential liability was vast. Counsel for Sony led off his oral argument with this fact. *See* Jessica Litman, *The* Sony *Paradox*, 55 CASE W. RES. L. REV. 917, 940 (2005). The potential for statutory damages for which Sony and/or owners of Betamax machines might be liable if Universal's theory was accepted was staggeringly large.

79. 35 U.S.C. § 271(c).

80. *Id.* For a highly informative discussion of the caselaw on the staple article of commerce rule, see 5 DONALD S. CHISUM, CHISUM ON PATENTS § 17.03 (2004).

Invoking an "historic kinship" between the copyright and patent laws,[81] the Court decided such a safe harbor was appropriate for copyright law as well as for patent law. "The sale of copying equipment, like the sale of other articles of commerce, does not constitute contributory infringement," *Sony* opined, "if the product is widely used for legitimate unobjectionable purposes."[82] Indeed, "it need merely be capable of substantial non-infringing uses."[83] Because the Betamax had substantial non-infringing uses for time-shift copying of television programs, the Court ruled that Sony could not be held secondarily liable for any infringing acts of users of these machines.[84]

In the twenty-some years since the *Sony* decision, information technology developers and the copyright industries have flourished.[85] The *Sony* safe harbor has been an important contributor to the success of both industries. Consumer electronics industry representatives speak of the *Sony* safe harbor as the "Magna Carta" for their industry.[86] Universal and other motion picture producers greatly benefited from the installed base of Betamax and other VTRs, which created opportunities for a wholly new lucrative market for copyrighted motion pictures, such as the sale of video cassettes of movies that could be played in VTR machines.[87] Many other new technologies, including notably the iPod, have similarly allowed both information technology and copyright industries to achieve mutual success.[88]

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81. *Sony*, 464 U.S. at 439. For an argument that the Court was justified in borrowing this rule from patent law, see, for example, Brief of Amici Curiae of Sixty Intellectual Property and Technology Law Professors and US-ACM Public Policy Committee, to the U.S. Supreme Court in *MGM v. Grokster*, 20 BERKELEY TECH. L.J. 535 (2005) [hereinafter IP Professor Amicus Brief]. *But see* Peter S. Menell & David Nimmer, *Unwinding* Sony, 95 CAL. L. REV. 941, 985 (2007) (questioning the historic kinship justification).

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

83. *Id.*

84. *Id.* at 456.

85. *See, e.g.*, Pamela Samuelson, *The Generativity of* Sony v. Universal*: The Intellectual Property Legacy of Justice Stevens*, 74 FORDHAM L. REV. 1831, 1850-51 (2006) (discussing the legacy of *Sony*).

86. Litman, *supra* note 78, at 951. There is considerable support for the *Sony* safe harbor among academics as well as among technology developers. *See, e.g.*, IP Professor Amicus Brief, *supra* note 81; Brief of Intel Corp. as Amicus Curiae Supporting Affirmance, Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913 (2005) (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/20050301_intel.pdf [hereinafter Intel Amicus Brief]. However, there are also some critics. *See, e.g.*, Menell & Nimmer, *supra* note 81; Douglas Lichtman & William Landes, *Indirect Liability for Copyright Infringement: An Economic Perspective*, 16 HARV. J. L. & TECH. 395 (2003).

87. LARDNER, *supra* note 69, at 297-313.

88. *See, e.g.*, Intel Amicus Brief, *supra* note 86.

Although Congress has been persuaded on two occasions to deviate from the *Sony* safe harbor in very narrowly drawn circumstances,[89] it has rejected other legislative proposals aimed at giving copyright owners greater control over dual-use technologies.[90] Courts have also denied relief to some who sought to expand technology developer liability.[91] Yet, when presented with technologies lacking in substantial non-infringing uses, courts followed *Sony* and imposed liability for infringements thereby enabled.[92]

The White Paper had sought to establish a new rule for technology developer liability with respect to so-called circumvention technologies based on the "primary use" of the technology.[93] This approach resembled the technology developer liability rule that the Supreme Court rejected in *Sony* as too unbalanced. Soon after enactment of the DMCA, the entertainment industry commenced litigation against peer-to-peer ("P2P") file-sharing software developer Napster with the aim of overturning the *Sony* safe harbor for technologies with substantial non-infringing uses.[94] In cases against P2P file-sharing technology developers, the entertainment industry once again urged the courts to adopt a "primary use" theory of technology developer liability for user infringements.[95] Part III will discuss why the latter effort was unsuccessful, but for now, it suffices to say

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89. *See* 17 U.S.C. § 1002 (prohibiting manufacture and sale of digital audio recording technologies unless they incorporate serial copy management technologies); 47 U.S.C. § 605(e)(4) (outlawing development and distribution of satellite cable decoder boxes). These narrow exceptions to the *Sony* safe harbor are discussed in Samuelson, *supra* note 85, at 1858-62.

90. *See, e.g.*, Nicholas E. Sciorra, *Note, Self-Help and Contributory Infringement: The Law and Legal Thought Behind a Little "Black Box,"* 11 CARDOZO ARTS & ENT. L.J. 905 (1993).

91. In *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255 (5th Cir. 1988), for instance, the maker of the Prolok copy-protection software sued Quaid, the maker of Ramkey software that bypassed Prolok, claiming Quaid was a secondary copyright infringer because the primary use of its software was likely to be making infringing copies of Prolok-protected software. The court invoked the *Sony* safe harbor as a basis for denying Vault's claim because Ramkey was a dual-use technology that enabled purchasers of software products to make lawful backup copies. *Id.* at 262.

92. *See, e.g.*, A&M Records, Inc. v. Abdallah, 948 F. Supp. 1449 (C.D. Cal. 1996) (imposing secondary liability because alleged non-infringing uses were insubstantial).

93. *See supra* note 25 and accompanying text.

94. *See* A&M Records, Inc. v. Napster, Inc., 114 F. Supp. 2d 896 (N.D. Cal. 2000), *aff'd in part, rev'd in part*, 239 F.3d 1004 (9th Cir. 2001), discussed *infra* Part III.A.

95. *See, e.g.*, Petition for a Writ of Certiorari at 15-20, Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd., 545 U.S. 913 (2005) (No. 04-480) (interpreting *Sony* as a "primary use" case), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/20041008_Grokster_final_petition.pdf.

that the White Paper proposal for regulating technologies based on their primary purpose or use was a radical departure from the *Sony* safe harbor default rule in place since 1984.[96]

2. Technology Developers Criticized the White Paper's Anti-Circumvention Proposal

Information technology developers raised numerous concerns about the White Paper's proposed anti-circumvention rule in addition to objecting to its incompatibility with the *Sony* safe harbor for technologies with substantial non-infringing uses.[97] For one thing, the proposed provision was vague about what kinds of "processes" and "treatments" it was designed to protect. For another, its willingness to penalize technology developers based on "primary effect" meant that developers risked liability for what users did with the technology, rather than for what the technology had been designed to do. The proposed rule also lacked exceptions for legitimate acts, such as building tools to bypass TPMs for law enforcement, national security, or computer security research purposes. It could, moreover, be interpreted as outlawing the development of reverse engineering technologies to enable interoperability among computer programs.

The greatest concern of technology developers, however, was that the provision might be construed as imposing a duty on them to detect and enforce any TPM that copyright owners might use to protect their works in digital form. The most vigorous technology industry lobbying about anti-circumvention rules concentrated on getting statutory clarification that they had no obligation to design technologies to respond to copyright-protective TPMs.

The technology industry's opposition to the proposed anti-circumvention rule contributed to a stall in the initial legislative efforts in

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96. Although the White Paper did not acknowledge that its proposal would have any impact on the *Sony* safe harbor, Marybeth Peters, the Register of Copyrights, did so in the course of the legislative debate that led up to the DMCA. *See WIPO Copyright Treaties Implementation Act and On-Line Copyright Liability Limitation Act: Hearing on H.R. 2281 and H.R. 2180, Before the Subcomm. on Courts and Intellectual Property of the House Comm. on the Judiciary*, 105th Cong. (1997) (statement of Marybeth Peters, the Register of Copyrights), *available at* http://www.copyright.gov/docs/2180_stat.html.

97. The technology industry objections to the White Paper proposed anti-circumvention rule are discussed at length in Samuelson, *supra* note 14, at 531-34, 546-57. Some in the technology industry, including the Business Software Alliance and its members, ultimately supported the DMCA anti-circumvention rules because they were more narrowly tailored than the White Paper proposal and because these developers sometimes use TPMs to control access to their works and did not want others to build tools to circumvent them.

1995 and 1996 to enact the White Paper's recommendation.[98] Another setback for copyright industry groups occurred in December 1996 when opposition to a White Paper-like ban on circumvention technologies caused it to be dropped from the final version of the WCT.[99] Many delegations at the WIPO diplomatic conference were concerned that the proposed anti-circumvention rule would chill development of dual-use technologies and impede fair and other non-infringing uses of copyrighted works and public domain materials.[100] To avert these undesirable effects, the treaty required only that contracting parties provide "adequate protection" and "effective remedies" against circumvention of TPMs,[101] which seemingly left the mode and extent of implementation of this norm to national discretion.

Congressmen Tom Campbell and Rick Boucher proposed to implement this treaty obligation in the U.S. with a minimalist anti-circumvention rule aimed at outlawing circumvention of a TPM for purposes of facilitating or engaging in infringing activities.[102] This bill was unacceptable to copyright industry groups, who favored adoption of a broad ban on circumvention technologies, akin to the proposal that had been rejected at WIPO, to serve as a standard for international implementation of the WIPO treaty's anti-circumvention norm.[103]

The Clinton Administration's post-treaty anti-circumvention proposal responded to technology industry concerns in several ways: by becoming more precise about the technical measures the rule was designed to protect;[104] by defining circumvention;[105] and by outlawing only technologies that were "primarily designed or produced" to circumvent TPMs, that had only limited uses other than for circumvention, or that had been marketed as circumvention tools.[106] It also contained an exception for national security and law enforcement activities.[107] Further lobbying led to the creation

98. *Id.* at 523.

99. *See* Samuelson, *supra* note 4, at 409-16 (discussing opposition to the proposed WIPO treaty anti-circumvention provision).

100. *Id.*

101. WCT, *supra* note 1, art. 11.

102. *See* H.R. 3048, 105th Cong. § 8 (1997).

103. *See, e.g.*, Chander, *supra* note 18, at 206-07 (discussing stronger than DMCA anti-circumvention rules being negotiated by the U.S. in free trade agreements with other nations).

104. 17 U.S.C. § 1201(a)(3).

105. *Id.*

106. *Id.* at § 1201(a)(2), (b)(1).

107. *Id.* at § 1201(e).

of exceptions for encryption research, computer security testing,[108] and reverse engineering to achieve interoperability.[109]

The technology industry also obtained the "no mandate" clause that had been its top priority. Section 1201(c)(3) provides that the law does not "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 protection measure."[110] Given how hard the copyright industries fought against inclusion of any exceptions to section 1201—beyond that for law enforcement and national security activities—especially the "no mandate" rule, it is notable that technology industry objections led to substantial changes in the circumvention technology rules.

Still, it was a major victory for the entertainment industry that the DMCA anti-circumvention rules premised technology developer liability on a "primarily designed or produced" standard.[111] Copyright industry representatives were pleased with the DMCA also because, on its face, section 1201 did not appear to require any proof that the availability of a circumvention tool enabled copyright infringement or even created a grave risk of infringement.[112] The exceptions are, moreover, complex and ambiguous enough to be susceptible to dismissive interpretations.[113]

3. Regulating Acts of Circumvention and Public Interest Uses of Technically Protected Works

The most troubling part of the legislative history of the DMCA anti-circumvention rules was the manner in which Congress dealt with the

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108. *Id.* at § 1201(g), (j).

109. *Id.* at § 1201(f).

110. *Id.* at § 1201(c)(3).

111. *Id.* at § 1201(a)(2)(A), (b)(1)(A).

112. For a discussion of numerous examples of ill effects arising from the overbreadth of the DMCA anti-circumvention rules, see ELECTRONIC FRONTIER FOUNDATION, UNINTENDED CONSEQUENCES: SEVEN YEARS UNDER THE DMCA (as updated Apr. 2006), *available at* http://www.eff.org/IP/DMCA/DMCA_unintended_v4.pdf [hereinafter UNINTENDED CONSEQUENCES].

113. *See, e.g.*, NATIONAL RESEARCH COUNCIL, THE DIGITAL DILEMMA: INTELLECTUAL PROPERTY IN THE INFORMATION AGE 171-76 (2001) [hereinafter DIGITAL DILEMMA] (raising objections to the complexity and narrowness of the DMCA encryption research exception). Under the *Reimerdes* decision, a journal publisher could arguably be held liable for violating the DMCA anti-circumvention laws even if the author of an encryption research article it planned to publish qualified for the DMCA exception because the publisher is not itself an encryption researcher. Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 320 (S.D.N.Y. 2000). *See* Pamela Samuelson, *Anti-Circumvention Rules: Threat to Science*, 293 SCIENCE 2028 (2001).

threat that TPMs posed for the public's ability to engage in fair and other non-infringing uses of copyrighted works protected by TPMs. As we shall see in Part IV, the EU implemented the WCT anti-circumvention norm by making a normative (if incomplete) commitment to ensuring that copyright exceptions and limitations on the scope of exclusive rights must be made as available when copyrighted works are protected by TPMs as when they are not.[114] No similar commitment is apparent in the DMCA rules, although there is ample, if somewhat equivocal, evidence that Congress had tried to assure itself through various measures that it was preserving opportunities for fair and other privileged uses of technically protected digital content.[115]

The initial threat that the White Paper posed to fair and other public interest uses of technically protected copyrighted works was somewhat indirect. The White Paper had not attempted to regulate the act of circumvention, but its proposal to ban circumvention technologies affected public interest uses insofar as circumvention tools were necessary to engage in such uses of content wrapped in TPMs.[116] From the standpoint of copyright owners, however, circumvention technologies that enabled fair or other public interest uses of technically protected works were dangerous because they were too likely to enable infringements. A broad ban on circumvention technologies was, they argued, necessary to protect against massive infringements.

It was not until 1997 that the Clinton Administration proposed a ban on the act of circumventing TPMs used by copyright owners to protect their works.[117] The bill distinguished between two types of TPMs: those used to control access to copyrighted works and those used to protect "a right of a copyright owner" in a work protected by copyright law.[118] Its sponsors did not explain why the bill distinguished between these two

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114. *See infra* Part IV (discussing limits that have hampered the effectiveness of Article 6(4) in achieving this objective).

115. *See, e.g.*, 17 U.S.C. § 1201(c)(1), discussed *infra* notes 124-125 and 251-257 and accompanying text.

116. *See, e.g.*, Julie E. Cohen, *Copyright and the Jurisprudence of Self-Help*, 13 BERKELEY TECH. L.J. 1089 (1998). Yet, perhaps building a circumvention tool for public interest purposes could be defended as authorized by the law, even if not by the copyright owner. *Id.* at 1142 n.200. If so, it might have been outside the White Paper's anti-circumvention ban, which recognized both sources of authority as relevant to the scope of the ban.

117. *See* H.R. 2281, 105th Cong. (1997).

118. The distinction between the two types of TPMs is evident in the bifurcation of the anti-tool rules. *See id.*, § 3. The DMCA, as enacted, has retained this distinction. *See* 17 U.S.C. § 1201(a)(2), (b)(1).

types of TPMs, nor why it proposed totally banning circumvention of access controls, but not of other TPMs.

A coalition of organizations, including libraries, educational institutions, and other nonprofit organizations raised concerns about the direct impact that such a ban would have on fair and other non-infringing uses of copyrighted works in digital form, on access to public domain materials, and on user privacy interests.[119] These concerns did not, however, arouse Congressional interest as much as concerns about overbroad ISP liability. This relative indifference may be explained in part perhaps because the lobbying clout of these nonprofits was minute in comparison with the heft of the copyright, telecom, and technology industries that lobbied about ISP liability. Furthermore, deployment of TPMs to protect copyrighted works was in its early stages, so concerns about impediments to fair and other privileged uses may have seemed speculative.[120]

Yet, if one knows where to look, there is considerable evidence of Congressional concern about enabling public interest uses of technically protected content. By regulating circumvention of access controls, but not of rights controls,[121] Congress decided, albeit implicitly, that circumvention for fair use and other public interest purposes should remain lawful. Congress also created three special public interest exceptions, including one for libraries, archives, and educational institutions to bypass TPMs to make a good faith effort to decide whether to buy the content protected by the TPM if circumvention was necessary to achieve this objective;[122] one that aims to protect user privacy interests implicated when content is protected by TPM; and one that buttresses parental control over minors.[123]

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119. *See WIPO Copyright Treaties Implementation Act and On-Line Copyright Liability Limitation Act: Hearing on H.R. 2281 and H.R. 2180, Before the Subcomm. on Courts and Intellectual Property of the House Comm. on the Judiciary*, 105th Cong. (1997) (testimony of Robert Oakley; testimony of M.R.C. Greenwood).

120. The important role of the House Commerce Committee in inserting some balance in the anti-circumvention rules is related in Samuelson, *supra* note 14, at 541-43.

121. 17 U.S.C. § 1201(a)(1)(A). *See* Ginsburg, *supra* note 14, at 6 (noting that section 1201 "does not prohibit the act of circumventing a rights control"). Ginsburg believes that the decision not to regulate circumvention of rights controls was intended to leave room for fair uses of technically protected works. *Id.* at 10.

122. 17 U.S.C. § 1201(d).

123. *Id.* at § 1201(h), (i). These provisions are, however, a puzzlingly narrow response to concerns expressed about the anti-circumvention ban. *See, e.g.*, Samuelson, *supra* note 14, at 537-53 (explaining the undue narrowness of section 1201's exceptions); David Nimmer, *Puzzles of the Digital Millennium Copyright Act*, 46 J. COPYRIGHT SOC'Y 401 (1999), *available at* http://ssrn.com/abstract=208876.

A more general indication of Congressional concern about the impact of section 1201 on fair and other privileged uses can arguably be found in section 1201(c)(1), which states that "[n]othing in this section shall affect rights, remedies, limitations, or defenses to copyright infringement, including fair use, under this title."[124] Some members of Congress who spoke about the anti-circumvention rules during the legislative debate over the DMCA seemed genuinely to believe this provision constituted a "savings clause" to enable fair and other privileged uses of technically protected copyrighted works.[125]

Finally, Congress established a triennial rulemaking process under which the Librarian of Congress (LOC) is directed to examine "the impact that the prohibition on the circumvention of technological measures applied to copyrighted works has on criticism, comment, news reporting, teaching, scholarship, or research."[126] The Librarian is authorized to create new exceptions from the ban on circumvention to enable public interest uses of copyrighted works when users of certain classes of copyrighted works show they "are, or are likely to be . . . adversely affected" by the use of TPMs.[127]

Much contested is whether these provisions of the anti-circumvention rules meaningfully contribute to an adequate balance of public and private interests in the DMCA. The first decision to have considered this question was *Universal City Studios, Inc. v. Reimerdes*,[128] in which Judge Lewis Kaplan concluded that Congress had considered, and decided against, allowing circumventions for fair use or other privileged purposes. "If Congress had meant the fair use defense to apply to [anti-circumvention] actions, it would have said so. The decision not to make fair use a defense to a claim under Section 1201(a) was quite deliberate."[129]

In affirming an injunction against posting or linking to DeCSS, software designed to bypass the Content Scramble System (CSS) protecting DVD movies, the Second Circuit rejected the argument that section 1201(c)(1) was a "fair use savings" clause. The panel declared that this

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124. 17 U.S.C. § 1201(c)(1).

125. *See, e.g.*, 144 CONG. REC. H7093 (daily ed. Aug. 4, 1998) (statement of Rep. Bliley) (indicating that the Commerce Committee understood the DMCA legislation to enable consumers to "exercise their historical fair use rights").

126. 17 U.S.C. § 1201(a)(1)(C).

127. *Id.*

128. 111 F. Supp. 2d 294 (S.D.N.Y. 2000).

129. *Id.* at 322.

interpretation "is not only outside the range of plausible readings of the provision, but is also clearly refuted by the statute's legislative history."[130]

Both the trial court and the Second Circuit considered the triennial rulemaking and the narrowly drawn public interest exceptions to section 1201 as adequately accommodating fair use and other public interests pertaining to technically protected works.[131] Judge Kaplan characterized the argument that purchasers of DVD movies have the right to circumvent CSS so long as they do not infringe copyrights in DVD movies as "pure sophistry" and as "a corruption of the first sale doctrine."[132] According to Judge Kaplan, the DMCA anti-circumvention laws "fundamentally altered the landscape of copyright" as to technology provider liability.[133]

Seemingly without realizing it,[134] Judge Kaplan arguably also closed off another possible public interest safety valve in the DMCA by construing DeCSS as a tool for circumventing access controls. If CSS is indeed an access control, then bypassing it would violate section 1201(a)(1)(A). Insofar as TPMs, such as CSS, are deemed "access controls" within the meaning of section 1201, the public interest circumventions that the DMCA was supposed to accommodate by not regulating circumvention of non-access-control TPMs have arguably been foreclosed. Copyright owners have apparently recognized that they may be able to defeat some public interest limitations on the scope of the anti-circumvention rules by adopting persistent access controls as their TPMs of choice.[135]

Given the hostility that *Reimerdes* and *Corley* displayed toward fair use as a limitation on the scope of section 1201, the next most plausible candidate for an accommodation of public interest uses of digital content protected by TPMs would seem to be the LOC rulemaking procedure. However, this procedure is not a sufficient safety valve for several reasons.

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130. Universal City Studios, Inc. v. Corley, 273 F.3d 429, 443 (2d Cir. 2001). *But see* Chamberlain Group, Inc. v. Skylink Techs., Inc., 381 F.3d 1178, 1200 (Fed. Cir. 2004) (regarding section 1201(c)(1) as a fair use savings clause).

131. *Reimerdes*, 111 F. Supp. 2d at 323; *Corley*, 273 F.3d at 443.

132. *Reimerdes*, 111 F. Supp. 2d at 317 n.137.

133. *Id.* at 324.

134. In discussing circumvention for fair use purposes, Judge Kaplan seemed to accept that technically sophisticated persons would be able to circumvent CSS to make fair uses of DVD movies without violating the DMCA rules. *Id.* at 388. Yet, his conclusion that CSS is an access control is inconsistent with his conclusion that technical sophisticates could make fair uses of DVD movies.

135. *See, e.g.*, R. Anthony Reese, *Will Merging Access Controls and Rights Controls Undermine the Structure of Anti-Circumvention Law?*, 18 BERKELEY TECH. L.J. 619 (2003).

First, it only occurs every three years, and any exceptions created only last for three years.[136] Second, it is largely focused on exempting classes of works rather than classes of uses, although classes of uses are more relevant when assessing public interest uses.[137] Third, proposals for exemptions can only be made during the rulemaking process, and a heavy burden of proof has been put on the proponent of any particular new exception to show adverse effects on privileged uses.[138] This contrasts sharply with the EU, which seems to place burdens on its member states and on copyright owners to ensure that privileged uses can be exercised, even when works are technically protected.[139]

Fourth, section 1201 does not authorize the LOC to create exceptions to the tool rules, only to the act of circumvention rule.[140] Without some way to obtain appropriate tools, circumvention privileges may not be meaningful. Fifth, the LOC has generally construed its rulemaking authority in a narrow manner.[141] For these reasons, we agree with the Electronic Frontier Foundation, a prominent civil liberties group, that "the DMCA

136. 17 U.S.C. § 1201(a)(1)(C)-(D).

137. *Id.*

138. *See* 17 U.S.C. § 1201(a)(1)(C); ELECTRONIC FRONTIER FOUNDATION, DMCA TRIENNIAL RULEMAKING: FAILING THE DIGITAL CONSUMER 3 (2005) [hereinafter EFF on Rulemaking], *available at* http://www.eff.org/IP/DMCA/copyrightoffice/DMCA_rulemaking_broken.pdf (explaining why ordinary consumers without copyright counsel are unlikely to be able to meet the onerous burden of proof established by the Copyright Office, but "[e]ven with expert assistance, the burdens imposed by the Copyright Office on participants often prove nearly insurmountable"). By focusing the inquiry on proof of adverse effects on non-infringing uses of classes of works, the DMCA makes it difficult to focus on particular uses, a more relevant criterion for fair use analysis. *See* Bill D. Herman & Oscar Gandy, *Catch 1201: A Legislative History and Content Analysis of the DMCA Exemption Proceedings*, 24 CARDOZO ARTS & ENT. L.J. 121 (2006).

139. *See infra* Section IV.A.

140. *See* 17 U.S.C. § 1201(a)(1)(D); EFF on Rulemaking, *supra* note 138, at 2 ("[A]verage consumers denied access to circumvention tools are not able to make use of the 6 exemptions that have been granted."). One of us has argued that there should be an implied right to make a tool to enable a privileged party to make a privileged use of technically protected content. Samuelson, *supra* note 14, at 554.

141. *See, e.g.*, Diane Leenheer Zimmerman, *Adrift in the Digital Millennium Copyright Act: The Sequel*, 26 U. DAYTON L. REV. 279, 283-84 (2001). *See also* ALA, DMCA SECTION 1201—THE ANTI-CIRCUMVENTION RULE (as updated Dec. 22, 2005), http://www.ala.org/ala/washoff/woissues/copyrightb/dmca/dmcasection1201.cfm (characterizing the LOC exceptions as "narrow"); EFF on Rulemaking, *supra* note 138, at 7 (pointing out that the Copyright Office has given a narrower interpretation of fair use in the course of its rulemakings than courts and commentators have done).

triennial rulemaking is fundamentally unable to protect the interests of today's digital media consumers."[142]

In the latest rulemaking,[143] the LOC moved beyond the exemption of "particular class[es] of works"[144] and proposed an exemption focused on a particular type of use by a particular type of user. It created an exception so that media or film study professors could make compilations of clips from CSS-protected movies for use in teaching classes.[145] Much as the LOC deserves credit for this innovative interpretation of its section 1201 authority, this exemption seems to leave in the lurch everyone else who might want to make fair use clips of CSS-protected movies.[146] Many other fair use clips of technically protected content can easily be imagined, but only those who participate in a triennial rulemaking have a chance of having their fair use interests accommodated through the rulemaking process.

The LOC rulemaking procedure "is a kind of safety valve" for the DMCA anti-circumvention rules, but as Professor Ginsburg has recently concluded, "it may not let off enough steam."[147] Too many public interest uses of copyrighted works are being blocked by TPMs.[148] The checks and balances that Congress arguably embedded in the DMCA have not achieved the necessary balance.

A better balance among competing interests can be attained within the framework of the DMCA anti-circumvention rules.[149] Among the more

142. *Id.* at 1. *See also id.* at 8 (offering suggestions about how the LOC rulemaking could be improved); Aaron Perzanowski, *Evolving Standards & The Future of The DMCA Anticircumvention Rulemaking*, 10 J. INTERNET L. 1, 20-21 (April 2007) (discussing shortcomings of the DMCA rulemaking process).

143. 37 C.F.R. § 201.40(b)(1) (2007).

144. *See* 17 U.S.C. § 1201(a)(1)(B)-(C).

145. *See* 37 C.F.R. § 201.40. For a discussion of the latest rulemaking, see, for example, Ginsburg, *supra* note 14, at 12-17. Ginsburg notes that the film teacher exception "departs significantly from prior rule-makings." *Id.* at 12-13.

146. For example, an evidence professor might want to bypass CSS in order to take clips from movies about trials to show his class how to (and not to) make objections, while a psychology professor might want to make fair use clips of movies to demonstrate how mentally ill people are depicted. We are hopeful that a judge with a broad view of 17 U.S.C. § 1201(c)(1) might analogize these and similar fair use circumventions to the exemption granted by the LOC, but there is as yet no precedent for doing so.

147. Ginsburg, *supra* note 14, at 16.

148. *See*, *e.g.*, Armstrong, *supra* note 14, at 68; Benkler, *supra* note 14, at 420-27; Lipton, *supra* note 14, at 124-36; Perzanowski, *supra* note 142, at 17-18.

149. Professors Burk and Cohen have proposed requiring deployers of TPMs to make unlocking technologies available to enable fair uses by third party escrow agents. Burk & Cohen, *supra* note 14, at 65-67. Professor Lipton has proposed that the Copyright Office establish an administrative procedure to assist prospective fair users of TPM content. Lipton, *supra* note 14, at 124.

modest measures, courts could decide that persistent access controls, such as CSS, are not the kinds of "access controls" that section 1201(a) actually regulates, which would open up considerably more room for fair use circumventions.[150] They could also find in section 1201(c)(1) a statutory basis for excusing fair use circumventions.[151] They could, moreover, regulate abuses of section 1201 and abusive uses of TPMs through the anti-circumvention misuse doctrine first proposed by Professor Burk.[152] Courts could additionally interpret the DMCA anti-circumvention rules as inapplicable to any technology that does not pose serious risks of enabling copyright infringement.[153]

The stronger measure to achieve balance in the DMCA anti-circumvention regulations that we propose is the reverse notice and takedown regime discussed in the next part. It would not only permit circumvention to enable public interest uses of technically protected digital content, but it could provide a mechanism to help those who lack the technical expertise to perform public interest circumventions by themselves. In an appropriate case, prospective fair users, after unsuccessfully seeking voluntary cooperation from relevant copyright owners, could seek a declaratory judgment that circumvention for specific public interest purposes should be permitted. Courts in such cases could order copyright owners to cooperate with facilitating such circumventions, including, as necessary, providing the key to unlock the TPM that was inhibiting a particular privileged use to the prospective user or designating a circumvention service to facilitate this action.

III. SETTING THE STAGE FOR A REVERSE NOTICE AND TAKEDOWN REGIME

The idea for a reverse notice and takedown regime emerged as we reflected upon two groups of cases that have recently challenged the outer limits of protection for copyrighted works in the digital environment. Both have elicited considerable attention and controversy,[154] although most

150. *See, e.g.*, Reese, *supra* note 135, at 663-64.

151. *See, e.g.*, Ginsburg, *supra* note 14, at 21-22; Samuelson, *supra* note 14, at 539-45.

152. Dan L. Burk, *Anticircumvention Misuse*, 50 UCLA L. REV. 1095 (2003).

153. The Federal Circuit opened up this possibility by its far-sighted decision in *Chamberlain Group, Inc. v. Skylink Technologies., Inc.*, 318 F.3d 1178 (Fed. Cir. 2004), discussed at length *infra* notes 241-258 and accompanying text.

154. *See, e.g.*, Matthew D. Brown et al., *Secondary Liability for Inducing Infringement After MGM v. Grokster: Infringement Prevention and Product Design*, 9 J. INTERNET L. 21 (Dec. 2005); Stacey Dogan, *Is Napster a VCR? The Implications of Sony for*

commentaries have not considered the two groups of cases in conjunction with one another. We, however, find in these sets of cases not only a deep symmetry, but the theoretical underpinnings for judicial evolution of a reverse notice and takedown regime that would permit and enable circumventions of technically protected copyrighted content for public interest purposes.

The first group of cases—*Napster*,[155] *Aimster*,[156] and *Grokster*[157]—considered whether online service providers and related software toolmakers who facilitated P2P file sharing of copyrighted sound recordings by a multitude of individual direct infringers should be held indirectly liable for their users' infringing acts. (We will call these the "dissemination technology cases.") Entertainment industry plaintiffs in these cases believed that the scale of infringements enabled by these technologies was so vast that courts would be willing to move away from the *Sony* safe harbor for technologies with substantial non-infringing uses in favor of a "primary use" test for technology/service developer liability under copyright law.[158]

As in the legislative debate that produced the DMCA, the entertainment industry dismissed as unimportant expressions of concern about the public's interest in access to these technologies and services for non-infringing purposes if the entertainment industry gained greater control over technology development.[159] Notwithstanding the many arguments and amicus briefs that the industry marshaled in favor of the primary use

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Napster and Other Internet Technologies, 52 HASTINGS L.J. 939 (2001); Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement without Restricting Innovation*, 56 STAN. L. REV. 1345 (2004); Lipton, *supra* note 14.

155. A&M Records, Inc. v. Napster Inc., 239 F.3d 1004 (9th Cir. 2001).

156. *In re* Aimster Copyright Litigation, 334 F.3d 643 (7th Cir. 2003).

157. Metro-Goldwyn-Mayer Studios Inc. v. Grokster Ltd., 545 U.S. 913 (2005).

158. *See* Brief for Motion Picture Studio and Recording Company Petitioners, Metro-Goldwyn-Mayer Studios v. Grokster Ltd., 545 U.S. 913 (2005) (No. 04-480), *available at* http://www.eff.org/IP/P2P/MGM_v_Grokster/04-480_Petitioners_brief.pdf [hereinafter MGM Brief]. Recall that the Court had rejected, albeit only just barely so, a primary use test for indirect liability for copyright infringement in the *Sony* case. *See supra* note 73 and accompanying text. Section 1201 adopts a variant on the primary use test for circumvention technology liability. While in theory a "primary purpose or design" test, as in the DMCA, is more rigorous than the "primary use" test for which Universal argued in *Sony*, we are skeptical about how different they would be in practice, given that when a technology is primarily used for an illicit purpose, a challenger of that technology will almost certainly argue that the technology must have been designed to facilitate these illicit uses and that any testimony about beneficial purposes for the design are self-serving misrepresentations to avoid liability. *See* IP Professor Amicus Brief, *supra* note 81, at 559-61.

159. *See, e.g.*, MGM Brief, *supra* note 158, 18-20.

test,[160] the Supreme Court maintained a balanced approach to technology/service developer liability in *Grokster*. It preserved the *Sony* safe harbor for technology developers except as to those who actively induce copyright infringement.[161] As in *Sony*, the Court was attentive to the interests of the public in access to dual-use technologies for non-infringing purposes.[162]

In the second group of cases—*Chamberlain*,[163] *Lexmark*,[164] and *StorageTek*[165]—makers of technologies claimed that by embedding software access controls inside their products, they had obtained the right to control the market for replacement parts or repair services. (We will call these the "lock-out technology" cases.) The courts ultimately decided these cases by permitting third-party suppliers of parts or services to bypass the lock-out codes and provide competing parts or services, notwithstanding the amplified rights of copyright owners under the anti-circumvention provisions of the DMCA.[166] Judges in the lock-out cases could not accept the unbalanced interpretation of section 1201 that the plaintiffs had constructed on the foundation laid by *Reimerdes* and *Corley*.

Both groups of cases focus attention on the extent to which recent legislative efforts to bolster the protection of copyright owners operating in the digital environment have unduly narrowed or sacrificed the interests of users, follow-on improvers, competitors, and the public at large that were core components of pre-digital traditional copyright law. In practical terms, however, the two groups of cases affect the public interest at diametrically opposite ends of the spectrum of protected rights.

This Article will show that the dissemination technology cases have implications for public interest users who want to access copyrighted works for unauthorized but non-infringing purposes when the works in question have been surrounded by TPMs designed to prevent unauthorized uses. The dissemination technology cases also have implications for the

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160. The many amicus briefs filed in support of MGM's appeal are available at http://www.eff.org/IP/P2P/MGM_v_Grokster/.

161. *Grokster*, 545 U.S. at 937.

162. *Id.* at 920 ("Given [their] benefits in security, cost, and efficiency, peer to peer networks are employed to store and distribute electronic files by universities, governmental agencies, corporations, and libraries among others.").

163. Chamberlain Group, Inc. v. Skylink Techs., Inc., 381 F.3d 1178 (Fed. Cir. 2004).

164. Lexmark Int'l, Inc. v. Static Control Components, Inc., 387 F.3d 522 (6th Cir. 2004).

165. Storage Tech. Corp. v. Custom Hardware Eng'g & Consulting, Inc., 421 F.3d 1307 (Fed. Cir. 2005).

166. Digital Millennium Copyright Act, 17 U.S.C. §§ 1201-05 (2000).

right of public interest users to access technologies that enable lawful uses. These cases recognize both the legitimacy of user access to equipment that enables non-infringing uses and the need for incentives to persuade manufacturers to invest in and create innovative technology, such as P2P file-sharing software, that can enhance non-infringing uses of copyrighted works.[167] By articulating a theory that took the "bad" technology developers out of the picture, as the Supreme Court did with its active inducement rule in *Grokster*, the Court created a climate in which public interest uses could more freshly be assessed both generally and as they pertain to circumvention of TPMs.

The lock-out technology cases contribute further to this fresh approach by rejecting the plaintiffs' anti-competitive section 1201 claims as unsound and by importing balancing principles from copyright and patent law as essential to the proper interpretation of section 1201. Among other things, the courts in *Chamberlain* and *StorageTek* recognized the need to guard the public's interest in making fair and other non-infringing uses of technically protected content. The lock-out cases, in our view, set the stage for judicial development of the reverse notice and takedown procedure we endorse in this Article.

A. The Dissemination Technology Cases: *Napster, Aimster,* and *Grokster*

In approaching the dissemination technology cases and the controversies they have provoked, we offer some preliminary observations. First, there are very few privileged public interest uses directly at stake when consumers use P2P file-sharing technologies to download entire musical works and sound recordings without payment to authors, artists, and recording studios. Unless one believes that copyrights are an inherently illegitimate form of property, one cannot readily defend the limitless free-riding on copyrighted works that P2P file sharing has engendered in terms of traditional exceptions to copyright protection.[168]

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167. *See, e.g.*, Lemley & Reese, *supra* note 154.

168. Some have argued that the public interest might better have been served by a liability rule than a property rule in response to the P2P file-sharing phenomenon, that is, by grant of a compulsory license to allow file sharing of copyrighted works for noncommercial purposes. *See, e.g.*, WILLIAM W. FISHER III, PROMISES TO KEEP: TECHNOLOGY, LAW AND THE FUTURE OF ENTERTAINMENT (2004); Neil Weinstock Netanel, *Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing*, 17 HARVARD J. L. & TECH. 1 (2003); *see generally* J. H. Reichman, *Of Green Tulips and Legal Kudzu: Repackaging Rights in Subpatentable Innovation*, 53 VAND. L. REV. 1743 (2000) (theory of compensatory liability regime). This would have ensured that revenues would flow back

One may lament the demise of any equivalent of the first sale doctrine in the online environment,[169] and one may castigate record companies for clinging too long to outdated business models, without viewing the downloaders as principled defenders of the public interest. Had the DMCA not so shamelessly sacrificed the public interest provisions of copyright law on the altar of TPMs,[170] few copyright law professors would express so much alarm about the cases expanding third-party liability for contributory and vicarious infringement.[171]

What alarms the critics is precisely the potential capacity of the dissemination technology cases, if mishandled by the courts, to exacerbate the imbalance found in the the DMCA's anti-circumvention rules and thereby to further reduce the bona fide and legitimate rights of users, improvers, competitors, and the public at large. From this perspective, every expansion of third-party liability in this group of cases could potentially further inhibit the already limited range of public interest exceptions to copyright protection. Perhaps worst of all, it could further undermine the incentives to invest in technologies needed for the sharing of information goods for legitimate and important public-good purposes.[172]

The validity of these concerns must, however, be tested against the actual holdings in these cases. Napster, Aimster, and Grokster operated online services that supplied P2P technologies to enable users of their software to search for digital files of commercially distributed copyrighted works on other users' computers, connect directly to the other users' computers in order to make copies of the desired files, and transfer the copies to the requesting users' computers.[173] The principal defense of these P2P developers against charges of secondary liability for copyright infringement was that they qualified for the *Sony* safe harbor for technologies with

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to the composers, performers, and producers of sound recordings while also ensuring that the works were widely distributed.

169. 17 U.S.C. §§ 106(3), 109 (2000).

170. *See, e.g.*, Litman, *supra* note 26, at 122-45.

171. *See, e.g.*, IP Professor Amicus Brief, *supra* note 81, at 556-57 (expressing concern about expansion of technology developer liability rules).

172. *See* Lemley & Reese, *supra* note 154, at 1354-56 (discussing problems of "dual-use" technologies that can be used in both non-infringing and infringing capacities).

173. A&M Records, Inc. v. Napster Inc., 239 F.3d 1004, 1011 (9th Cir. 2001). Napster differed from Aimster and Grokster in that its servers hosted indices through which users could directly search for specific files they wanted to download. *Id.* at 1012.

substantial non-infringing uses,[174] although Napster also raised two DMCA ISP safe harbor defenses.[175]

Napster's *Sony* defense characterized the downloading of MP3 files authorized by new artists, the sampling of songs users planned to buy if they liked them, and the archival copying of sound recordings users already owned as substantial non-infringing uses of its technology.[176] Because of the massive amounts of infringement taking place through use of these P2P services, the entertainment industry plaintiffs argued that the *Sony* safe harbor should not be available for services, or alternatively, that it should only be available if the primary use of the challenged technology was non-infringing, as in *Sony*.[177] Another reason to sue this P2P service was that "it was easier and more effective to shut down Napster than to sue the millions of people who illegally traded files on Napster."[178]

Napster was hardly a neutral ISP providing a vehicle for innocent transmissions of honest exchanges of information or opinions. Yet, it nonetheless claimed immunity under the section 512(a) safe harbor for internet transmissions initiated by others[179] and the section 512(d) safe harbor for information locating tools.[180] The courts in *Napster* rejected its statutory safe harbor defenses.[181] Although Napster's network was capable of some non-infringing uses, the fact remained that, as the Ninth Circuit observed, Napster knew or should have known that massive infringements were underway, and its business success depended on encouraging these

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174. *See, 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 (2002).

175. A&M Records, Inc. v. Napster, Inc., 114 F. Supp. 2d 896, 919 n.4 (N.D. Cal. 2000); A&M Records, Inc. v. Napster, Inc., 2000 WL 573136, at *3 (N.D. Cal. 2000) [hereinafter Napster II].

176. *Napster*, 114 F. Supp. 2d at 916.

177. *Id.* at 916 & n.20. The primary use of the Betamax machine was to make copies of television programs for time-shifting purposes, a use that the Court held was fair. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 423-24 (1984).

178. Lemley & Reese, *supra* note 154, at 1349. Lichtman and Landes argue that suing third parties instead of the actual direct infringers can be efficient when the former, although only indirectly responsible, are "typically in a good position to either prevent copyright infringement or pay for the harm it causes." *See* Lichtman & Landes, *supra* note 86, at 409.

179. *Napster II*, at *6-*8 (ruling on Napster's section 512(a) defense).

180. *Napster*, 114 F. Supp. 2d at 919 n.24. Napster argued that absent notice from the copyright holder, it had no way of knowing which transfers were infringing transfers. Brief for Defendant-Appellant Napster, Inc. at 52, *A&M Records, Inc. v. Napster, Inc.* 114 F. Supp. 2d 896 (N.D. Cal. 2000) (Nos. 00-16401 and 00-16403), *available at* http://www.eff.org/IP/P2P/Napster/brief0818.pdf.

181. *Napster II*, *supra* note 175, at *6-*8 (rejecting a section 512(a) defense); *Napster*, 114 F. Supp. 2d at 919 n.4.

infringements.[182] In hindsight, Napster's claim to shelter under the *Sony* safe harbor was undermined by its active inducement of infringement, as the Supreme Court later phrased it in *Grokster*.[183]

The court in *Napster* seemed self-consciously to draw parallels between contributory infringement and the safeguards established for ISPs under section 512 by suggesting that a system operator could avoid liability by purging infringing materials when it knew or should have known about them.[184] Obviously, a true contributory infringer, such as Napster, had no interest in this safeguard.[185]

Perhaps the most interesting aspect of the *Napster* case was the district court's characterization of Napster's system as a potential barrier to entry for honest purveyors of downloaded music operating under a fee-based system.[186] Here, indeed, is a positive nexus to *Sony*,[187] because the Supreme Court's refusal to ban manufacture of VTRs owing to their substantial non-infringing uses removed an inchoate barrier to entry into the movie rental and cassette business.[188] This result became an unforeseen bonanza for film studios who made considerable revenues by selling movies to rental companies and to consumers. In contrast, the district court correctly perceived the opposite effect in the *Napster* case, and the growth of fee-based providers via iTunes and other systems in the aftermath of Napster's closure would seem to vindicate that thesis.[189]

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182. *Napster*, 239 F.3d at 1020 n.5.

183. *See* Metro-Goldwyn-Mayer Studios Inc. v. Grokster Ltd., 545 U.S. 913, 936-38 (2005).

184. The Ninth Circuit Court of Appeals stated that "if a computer system operator learns of specific infringing material available on his system and fails to purge such material from the system, the operator knows of and contributes to direct infringement." *Napster*, 239 F.3d at 1021 (quoting Religious Tech. Ctr. (RTC) v. Netcom On-Line Commc'n Servs., Inc., 907 F. Supp. 1361, 1374 (N.D. Cal. 1995)). The Ninth Circuit invoked *Sony*, where the Supreme Court held that if liability had to be imposed, "it must rest on the fact that they have sold equipment *with constructive knowledge* of the fact that their customers may use that equipment to make unauthorized copies of copyrighted material." *Id.* at 1020 (quoting Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 439 (1984) (emphasis added)). Although the Supreme Court in *Sony* did not clarify what could qualify as constructive knowledge, the Court in *Napster* found that the company had materially contributed to the direct infringement committed by end users, since it had provided them with "the site and the facilities" without which copyright violations could not have been committed. *Napster*, 239 F.3d at 1022-23.

185. *Id.*

186. *Napster*, 239 F.3d at 1016.

187. *See* Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417 (1984).

188. *See, e.g.*, LARDNER, *supra* note 69, at 297-313.

189. *See, e.g.*, IFPI, DIGITAL MUSIC REPORT 2007, at 4 (2007), *available at* http://www.ifpi.org/content/library/digital-music-report-2007.pdf ("Digital music sales

Aimster, like Napster, made loose, self-serving assertions about the capability of the relevant software system for non-infringing uses, but this was disingenuous coming from someone whose business knowingly depended on the highest possible volume of infringing uses.[190] By co-opting the instant messaging networks of other ISPs to enable file sharers to find each other and search each other's autonomous files, Aimster's contributory acts were more remote and indirect than Napster's.[191] But Aimster's business objectives depended largely on the volume of its infringing uses; its main business activity was to facilitate these same infringing uses; and it structured its computer architecture so as not to know anything about the specific acts of infringement it did its best to facilitate.[192] Club Aimster, furthermore, gave users access to the top forty songs on the charts for a mere $4.95 a month.[193]

Although the Seventh Circuit's *Aimster* decision expressed some concern about not unduly impeding substantial non-infringing uses under *Sony*, it also toyed with imposing potentially burdensome obligations on technology developers to build in infringement-inhibiting technological measures.[194] The force of this speculation has been greatly weakened by the doctrine of "actively inducing infringement," on which the Supreme Court finally settled in *Grokster*.[195] In hindsight, it seems that the Seventh Circuit in *Aimster* was really groping its way toward the doctrine of active inducement later recognized in *Grokster*.

In *Grokster*, the software system at issue provided a range of means by which users could search through the pools of shared files while connecting directly with each other, and without reference to any central index hosted by defendants.[196] Neither Grokster nor its co-defendant Streamcast "operated the network over which the users of their software connected

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are estimated to have almost doubled in value worldwide in 2006, reaching an estimated trade value of around US $2 billion"). In 2006, Apple's iTunes accounted for nearly 6% of U.S. music sales, and generated about $1 billion in sales worldwide. Patrick Seitz, *Rock 'N' Roil: iTunes Reports Stir Up Investors*, INVESTOR'S BUS. DAILY, Dec. 14, 2006, at A04. Apple's revenue for "Other Music Product," which includes iTunes sales and iPod accessories, was $653 million for the second quarter of fiscal year 2007. APPLE INC., Q2 2007 UNAUDITED SUMMARY DATA (2007), *available at* http://images.apple.com/pr/pdf/q207data_sum.pdf.

190. *In re* Aimster Copyright Litigation, 334 F.3d 643, 651 (7th Cir. 2003).

191. *Id.* at 646.

192. *Id.* at 650.

193. *Id*. at 651-52.

194. *See id*. at 648.

195. *See* Metro-Goldwyn-Mayer Studios Inc. v. Grokster Ltd., 545 U.S. 913, 948-49 (2005) (Ginsburg, J., concurring).

196. *See id.* at 920-22.

and exchanged files, and the [district] court emphasized the decentralized nature of those networks," in the sense that "no information is transmitted to or through any computers owned or controlled by the software makers."[197] The lower court also recognized that the software was capable of substantial non-infringing uses, including the authorized dissemination of copyrighted works and dissemination of unprotected works.[198] For the district court, and later the Ninth Circuit, the distance of the software providers from the sites of infringement and their lack of active knowledge of specific infringements was sufficient to shelter them from contributory liability under the *Sony* exception, given the potential non-infringing uses to which the software could be put.[199]

For the Supreme Court, however, Grokster and Streamcast had forfeited the safe harbor established in *Sony* for technologies with substantial non-infringing uses, which the Court had drawn from patent law. In *Grokster*, the Court drew upon another complementary patent law doctrine that disallowed the safe harbor if the defendant had actively induced copyright infringement.[200] Using this approach, neither the relative degrees of remoteness or of the material contribution in the three cases, nor the relative weights of some potential non-infringing uses—allegedly rising to a possible ten percent of all uses in *Grokster*—could vindicate a *Sony* defense if the underlying intent of the operation was to actively induce copyright infringement.[201]

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197. Lemley & Reese, *supra* note 154, at 1364. In particular, the Ninth Circuit, quoting the District Court, explained: "[E]ven if the Software Distributors 'closed their doors and deactivated all computers within their control, users of their products could continue sharing files with little or no interruption.'" *See* Metro-Goldwyn-Mayer Studios Inc. v. Grokster Ltd., 380 F. 3d 1154, 1164 (9th Cir. 2004) (quoting Metro-Goldwyn-Mayer Studios Inc. v. Grokster Ltd., 259 F. Supp. 2d 1029, 1041 (C.D. Cal. 2003)).

198. *See Grokster*, 545 U.S. at 935.

199. *Grokster*, 259 F. Supp. 2d at 1036 ("[T]he existence of substantial non-infringing uses turns not only on a product's current uses, but also on potential future non-infringing uses."); *Grokster*, 380 F.3d at 1161 ("[I]f the product at issue is capable of substantial or commercially significant non-infringing uses, then the copyright owner must demonstrate that the defendant had reasonable knowledge of specific infringing files and failed to act on that knowledge to prevent infringement.")

200. *See Grokster*, 545 U.S. at 935.

201. In *Sony*, the Supreme Court explained that the application of the staple article of commerce doctrine required Betamax products to be capable of *commercially significant* non-infringing uses, meaning that VCRs should be capable of at least one potential legitimate use employed in a numerically significant manner. *See* Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 442-43 (1984). The ultimate outcome of the case was deeply influenced by the Court's finding that unauthorized time-shifting was indeed a legitimate fair use.

While some contend that this resolution will unduly chill innovation in dual-use technologies,[202] we have a more optimistic assessment of what *Grokster* accomplished. The *Grokster* decision rejected several proposals to limit the scope of the *Sony* safe harbor. It did not, for instance, exclude services, as such, from the *Sony* safe harbor. It did not adopt any particular standard of intolerable infringing uses. Moreover, it did not adopt a "primary use" test for judging the lawfulness of dual-use technologies.[203] The Court preserved the safe harbor for technologies with substantial non-infringing uses and focused instead on evidence of actions that demonstrated active and intentional promotion of infringement, which disqualified the defendants from the shelter of copyright's variant on patent law's staple article of commerce limitation.[204]

The extent to which suppliers of dual-use technologies may still benefit from a *Sony* safe harbor remains to be worked out in future cases, and care must be taken not to impair or undervalue actual non-infringing uses where they occur in a good faith context. Over time, however, it has become clear that the recording industry cannot cling to obsolete business models that oblige consumers to purchase music they do not want, and that this industry cannot attain control over P2P technology. Rather, as the district court in *Napster* correctly foresaw, shutting down firms such as Napster effectively removed barriers to the entry of fee-based music distribution systems,[205] such as Apple's iTunes service. This arguably helped to support the formation of a new business model that may benefit consumers and competition in the long run.

As to the future prospects for non-infringing users of dual-use technologies in general, we cannot accurately evaluate them through the lens of cases dealing with bad faith active inducers of infringement. Moreover, when we try to envision such cases through a cleaner lens, the real barriers to entry will not lie so much in the weakness of the *Sony* safe harbor as in the potentially troublesome intersection between sections 512 and 1201 of the DMCA.[206]

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202. *See, e.g.*, Rob Hof, *Larry Lessig:* Grokster *Decision Will Chill Innovation*, BUS. WEEK ONLINE, June 28, 2005, http://www.businessweek.com/the_thread/techbeat/archives/2005/06/larry_lessig_gr.html; Fred von Lohmann, *Remedying* Grokster, LAW.COM, July 25, 2005, http://www.law.com/jsp/article.jsp?id=1122023112436.

203. Pamela Samuelson, *Legally Speaking: Did MGM Really Win the* Grokster *Case?*, 48 COMM. OF THE ACM 19 (Oct. 2005), *available at* http://www.ischool.berkeley.edu/~pam/papers/CACM%20SCT%20decides%20MGM.pdf (pointing out that the Court rejected virtually all of MGM's proposed tests for liability).

204. *Id.*

205. *See* A&M Records, Inc. v. Napster Inc., 239 F.3d 1004, 1016 (9th Cir. 2001).

206. 17 U.S.C. §§ 512, 1201 (2000).

B. Implications for Public Interest Uses of Technically Protected Content

Our concern with dual-use technologies that impede non-infringing uses acquires considerably more traction the moment we try to envision the real life obstacles likely to be encountered by legally privileged non-infringing user groups who, by definition, advance some public interest consonant with, rather than antagonistic to, the goals of copyright protection. Here we are concerned with gaining access to copyrighted works in the digital environment in order to extract unprotectable subject matter, such as ideas and disparate facts; to make fair uses of protectable expressions, including research uses; and to exploit codified exceptions to, or limitations on, the bundle of exclusive rights.[207] Also of concern is access to works whose copyrights have expired but which cannot readily be located in public domain copies outside a given digitally controlled network.[208]

1. Facilitating Public Interest User Groups Under Section 512

By focusing on user groups whose typically nonprofit activities are thought to advance the public interest in education, research, science, and technological progress, we immediately dispel the atmosphere of mistrust arising from *Napster*, *Aimster* and *Grokster*, and allow courts to think positively about the need to balance public and private interests, as they traditionally sought to do in the pre-digital era.[209] Only when defendants begin to appear in a good faith posture can we really discern what is at

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207. 17 U.S.C. §§ 102(a), 107-122 (2000).

208. *See, e.g.*, Jonathan Band, *The Google Print Library Project: A Copyright Analysis*, J. OF INTERNET BANKING AND COM., (Dec. 2005), *available at* http://www.policybandwidth.com/doc/googleprint.pdf. (discussing projects to digitize public domain and copyrighted works in major library collections). In theory, anti-circumvention liability should not lie for public interest users who bypass TPMs to gain access to public domain works. However, if publishers use the same TPM to protect copyrighted and public domain works, then any tool that would bypass this TPM will arguably be illegal under section 1201 because of the copyrighted material also being protected by it.

209. *Cf.* WCT, *supra* note 1, Preamble ("The contracting parties, . . . [r]ecognizing the need to maintain a balance between the rights of authors and the larger public interest, particularly education, research and access to information, as reflected in the Berne Convention . . . . ") We do not mean to suggest that educators, researchers, and the like are the only parties who should be eligible to make public interest uses of technically protected copyrighted works. Many commercial firms engage in fair and other privileged uses, and they too should qualify for the reverse notice and takedown regime. We focus on the nonprofit public interest users in order to make the more general case for the need for the reverse notice regime, as these users are generally perceived in a favorable light in copyright discourse.

stake when the courts make appropriate judgments about the public's interest in access to technologies capable of substantial non-infringing uses.

Of course, P2P systems such as Napster, Aimster and Grokster could not long survive in such an atmosphere because they depend, directly or indirectly, on benefits derived from infringing uses. Private foundations, public entities, and public-private partnerships have already found good reasons to establish P2P file-sharing networks to promote access to information goods for non-infringing public interest purposes. For example, Creative Commons has established such networks for specific subject matter groupings,[210] and scientific efforts to link databases in virtual archives through P2P technologies[211] are growing in number.[212] Science Commons, an affiliate of Creative Commons, has unveiled plans to vigorously employ such technologies in a number of major projects.[213]

These initiatives are likely to increasingly rely on P2P technologies to enable participants to access and share privately held materials, whether copyrighted or not, that have been voluntarily made available to advance the goals of the different user communities in question. Because such communities are, as a rule, loosely organized and administered, they cannot and should not be charged with the duties of policing the contents of materials made available to the community for copyright infringement. Fortunately, so long as such groups take pains to position their networks within the penumbra of section 512 of the DMCA, they can obtain all the sharing advantages of P2P systems while largely immunizing themselves from liability for copyright infringement by virtue of the "notice and takedown" procedures that this provision sets up.[214]

Moreover, section 512 procedures allow systems managers to vet any infringement claims lodged against participating contributors and to refuse

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210. *See* Creative Commons, http://www.creativecommons.org.

211. *See generally* J. H. Reichman & Paul F. Uhlir, *A Contractually Reconstructed Research Commons for Scientific Data in a Highly Protectionist Intellectual Property Environment*, 66 LAW & CONTEMP. PROBS. 315 (2003) [hereinafter Reichman & Uhlir]; NAT'L RESEARCH COUNCIL, THE ROLE OF SCIENTIFIC AND TECHNICAL DATA AND INFORMATION IN THE PUBLIC DOMAIN (J. M. Esanu and Paul F. Uhlir, eds. 2003).

212. *See, e.g.*, Peter Dawyndt et al., *Contributions of Bioinformatics and Intellectual Property Rights in Sharing Biological Information*, 188 INT'L SOC. SCI. J. 249 (2006); Harlan Onsrud & James Campbell, *Big Opportunities in Access to "Small Science" Data*, DATA SCI. J., (2007). *See also* Science Commons, http://science.creativecommons.org (last visited July 20, 2007).

213. *See id.*; *see also* Abby Seff, *Will John Wilbanks Launch the Next Scientific Revolution?*, POPULAR SCIENCE (July 2007), *available at* http://www.popsci.com/popsci/technology/f8a1780809ed3110vgnvcm1000004eecbccdrcrd.html.

214. 17 U.S.C. § 512 (2000).

to comply with a takedown request if they choose to back their member's claim of privileged use against an outsider's claim of infringement.[215] Even in a worst case scenario, where the outsider's infringement claim ultimately prevails in a court of law, the public interest goals of the user community should encourage courts in this situation to narrowly tailor injunctions so as to avoid inhibiting any legitimate non-infringing uses.[216]

The "notice and takedown" modalities of section 512 thus make it possible to keep P2P networks running for nonprofit public interest purposes. Moreover, the "clean hands" legitimacy of the enterprise should at least ensure that no injunction otherwise affecting some infringing uses of the technology in question would shut down or impede such public interest initiatives. Nor is there anything in the Supreme Court's *Grokster* decision that creates an insuperable barrier to entry for launching these initiatives.[217]

Yet, once a public interest P2P file-sharing network is up and running, problems may arise insofar as the technology allows community members to link to external nonmember ISPs where copyrighted works have been deposited on conditions that restrict use or reuse of the material available there. A risk of conflict exists between the search potential of the software to enable non-infringing uses of posted material and the obligations of the service provider to respect the dictates of the copyright owners it hosts on its site. However, assuming that the service provider was covered by section 512 of the DMCA, this conflict could normally be resolved by "notice and takedown" provisions with which we are familiar.

Under section 512, all of the standard copyright exceptions and defenses are preserved even after the "notice and takedown" machinery superimposed upon them has been triggered. If the information locating tool triggers an objection from the copyright owner, the searcher can respond by asserting the non-infringing uses (e.g., fair uses) that he intends to make of the protected work in question. If the copyright owner acquiesces, the problem is solved. If not, the putative fair user can seek a declaratory judgment to remove the obstacle and vindicate the non-infringing use.

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215. *Id.* at § 512(g).

216. Public interest uses of protected works might also be facilitated if courts made more use of the Court's suggestion about the appropriateness of damage awards instead of injunctions in close fair use cases. *See* Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 578 n.10 (1994).

217. Indeed, the opening section of the *Grokster* decision speaks in positive terms about P2P technologies. Metro-Goldwyn-Mayer Studios Inc. v. Grokster Ltd., 545 U.S. 913, 920-21 (2005).

Clearly, these legal modalities would benefit from expeditious administrative procedures to promptly resolve such disputes at low cost, with deferred removal to courts only for specific issues that merited a full dress trial.[218] Our point is that, so long as we are dealing with traditional copyright defenses, section 512 of the DMCA poses no serious barriers to entry for our putative public interest initiative.

2. How Public Interest Uses May Be Frustrated by Section 1201

Serious problems may arise, however, when copyright owners surround information products available on their websites with technological fences specifically designed to thwart, for example, the search and sharing capabilities of the non-infringing, would-be public interest users.[219] TPM fences may initially prevent searchers from gaining access for the purpose of browsing contents in order to identify material of interest.[220] The same fences may then direct would-be non-infringing users to an electronic gateway, where electronic contracts of adhesion will condition entry on a waiver of all the users' rights that our putative searchers might otherwise put forward to justify access to and use of the information product in question.[221] The electronic fence will thus separate access from use. Insofar as section 1201(c) permits circumvention for privileged purposes,[222] this will arguably only kick in after lawful access has been gained. Yet, by then, user rights may have been abrogated by contract, and it may already be too late to hack through the electronic fence prohibited by section 1201.[223]

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218. *See, e.g.*, Lemley & Reese, *supra* note 154, at 1410-25.

219. Firms that want to use TPMs to protect public domain works can, of course, take the precaution of attaching to any bulky ineligible matter, such as a noncreative database, some copyrightable fig leaf component, such as an explanatory introduction, in order to bring the collective work as a whole within section 102(a) of the Copyright Act and trigger the additional protections of section 1201 of the DMCA. For implications for science, see Reichman & Uhlir, *supra* note 211, at 376-79.

220. The DMCA provides an exemption from section 1201(a)(1)(A) for nonprofit libraries, archives, and educational institutions to bypass access controls "solely in order to make a good faith determination of whether to acquire a copy of that work." 17 U.S.C. § 1201(d). This exemption would not, however, apply if the purpose of the circumvention was to index the work or to extract unprotectable facts, ideas, or public domain materials from the technically protected work.

221. *See* J. H. Reichman & Jonathan A. Franklin, *Privately Legislated Intellectual Property Rights: Reconciling Freedom of Contract with Public Good Uses of Information*, 147 U. PENN L. REV. 875 (1999). *See also* Burk, *supra* note 152 (discussing anti-circumvention misuse).

222. *See supra* notes 121-127 and accompanying text for a discussion of section 1201 and privileged uses.

223. 17 U.S.C. § 1201 (2000).

Ironically, this scenario inverts the situation found in cases such as *Napster*, *Aimster*, and *Grokster* where facilitators of mass infringements sought to hide behind potential non-infringing uses. Here, instead, bona fide non-infringing users risk being thwarted by copyright owners who use access control TPMs to disable privileged uses.

By using TPMs, copyright owners arguably gain the power to opt out of those parts of the copyright system they dislike. They can not only design TPMs to circumvent public interest uses, but can claim shelter behind section 1201 for doing so. Because some cases have construed section 1201 as abrogating fair use and other public interest exceptions as grounds for circumventing TPMs to extract non-infringing material, the public interest goals of the non-infringing user may be absolutely defeated by the TPM.[224] The DMCA does not explicitly allow circumvention for legally permissible purposes, although this would have been consistent with the WCT and seems to have been the intent of some in Congress.

From this perspective, section 1201 arguably functions as a form of "active inducement" to avoid the public interest exceptions embodied in the Copyright Act. Copyright owners employ TPMs and section 1201 protections in order to thwart infringing uses of their works. However, TPMs may protect against all unauthorized uses, both infringing and non-infringing. Although it is technically difficult to differentiate between these two classes of uses prospectively, firms could do more to facilitate some public interest uses of technically protected content if they chose to do so. There is as yet no incentive for copyright owners or TPM vendors to fine-tune TPMs to enable non-infringing uses.[225]

Thus, unless there is a way for section 1201 to be construed to recognize the legitimacy of access to enable non-infringing uses, the statute could become a one-way ratchet for attaining complete enclosure of digital content.[226] At the very least, it establishes a potential barrier to entry for some meritorious public interest initiatives of the kind envisioned above, and it tends to chill investment in developing viable dual-use technologies that could promote more efficient non-infringing uses.[227]

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224. *See* Ginsburg, *supra* note 14.

225. One interesting experiment in designing TPMs with fair use in mind is the open source digital rights management technology that Sun Microsystems is developing for digital content that would enable many fair uses. *See* Gerard Fernando et al., *Project DReaM, An Architectural Overview* (Sept. 2005), http://www.openmediacommons.org/collateral/DReaM-Overview.pdf.

226. *Cf.* James Boyle, *The Second Enclosure Movement*, 66 L. & CONTEM. PROBS. 33 (2003).

227. *See* Lemley & Reese, *supra* note 154, at 1390.

The *Reimerdes* decision has unfortunately provided considerable ammunition for the gutting of the public interest balance in copyright law by setting forth a framework for analyzing section 1201 claims that, if followed in subsequent cases, excludes consideration of virtually all public interest concerns. Under Judge Kaplan's interpretation of section 1201, anti-circumvention liability arises: (1) if a copyright owner has adopted a TPM to control access to its copyrighted works (even if they are persistent access controls such as CSS); and (2) if an unauthorized person has developed a technology that bypasses this TPM (relying, if necessary, on an inference that if the defendant's technology bypasses the TPM, it must have been primarily designed or produced to do so).[228] Under *Reimerdes*, it is irrelevant whether copyright infringement has occurred (or was even possible) as a result of the availability of the circumvention tool. Nor does it matter whether the tool might enable consumers to tinker with a copyrighted work he or she has purchased.[229]

Harm to the copyright owner's interests is presumed from the fact of the violation.[230] In Judge Kaplan's view, Congress deliberately decided against permitting circumvention or making circumvention tools to enable fair or other public interest uses of technically protected digital content, and section 1201(c) provided no shelter for public interest uses once copyright owners have deployed technical locks on their content.[231]

C. The Lock-out Technology Cases: *Chamberlain*, *Lexmark*, and *StorageTek*

Although Congress seems to have thought the DMCA anti-circumvention rules would protect copyright owners from massive infringements,[232] it did not take long for some technology developers to realize that these rules, as interpreted in *Reimerdes*, were susceptible to use as a tool for defeating competition in the market for uncopyrightable products and services.[233] Technology developers Lexmark, Chamberlain, and Storage Technology Corp. ("StorageTek") relied on *Reimerdes* in claim-

228. Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 317-19 (S.D.N.Y. 2000). *See also* Universal City Studios, Inc. v. Reimerdes, 82 F. Supp. 2d 211, 217 (S.D.N.Y. 2000).

229. *Reimerdes*, 111 F. Supp. 2d at 314-16, 317 n.137.

230. *Reimerdes*, 82 F. Supp. 2d at 215.

231. *Reimerdes*, 111 F. Supp. 2d at 322-24.

232. *See* S. REP. NO. 105-190, at 8 (1998) (expressing concern about massive piracy as a reason for adopting anti-circumvention rules).

233. *See, e.g.*, Pamela Samuelson and Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575, 1642-49 (2002) (predicting technology developer misuses of the DMCA rules).

ing that the DMCA's anti-circumvention rules conferred on them the right to control access, through digital lock-out codes, to software embedded in their products so as to prevent competitors from supplying after-market replacement parts or services.[234]

1. The Lock-out Technology Cases

Lexmark, a manufacturer of printers and toner cartridges, claimed that the authentication protocol (or digital handshake) component of copyrighted computer programs installed on chips in its printers and toner cartridges was an access control, the bypassing of which violated section 1201(a)(1)(A).[235] Because Static Control made chips designed and produced to bypass this access control, Lexmark charged it with violating section 1201(a)(2).[236] Static Control's customers were manufacturers of toner cartridges designed to work in Lexmark printers. The trial court, relying heavily on *Reimerdes*, issued a preliminary injunction against Static Control's manufacture of these chips.[237]

The Sixth Circuit eventually reversed, seemingly on the ground that the DMCA does not apply to digital fences limiting access to functional aspects of the printers.[238] The court's reasoning on the anti-circumvention

234. Lexmark Int'l, Inc. v. Static Control Components, Inc., 387 F.3d 522 (6th Cir. 2004); Chamberlain Group, Inc. v. Skylink Techs., Inc., 381 F.3d 1178 (Fed. Cir. 2004); Storage Tech. Corp. v. Custom Hardware, Eng'g & Consulting, Inc., 421 F.3d 1307 (Fed. Cir. 2005).

235. *Lexmark*, 387 F.3d at 528-32. Static Control successfully challenged the validity of the copyright in the toner cartridge software because it was a short program with limited functionality and copying was necessary in order to make compatible cartridges capable of running on Lexmark machines. *Id.* at 535-42.

236. *Id.* at 531.

237. Lexmark Int'l, Inc. v. Static Control Components, Inc., 253 F. Supp. 2d 943 (E.D. Ky. 2003).

238. The court observed:

> In the essential setting where the DMCA applies, the copyright protection operates on two planes: in the literal code governing the work and in the visual or audio manifestation generated by the code's execution. For example, the encoded data on CDs translates into music and on DVDs into motion pictures, while the program commands in software for video games or computers translate into some other visual and audio manifestation. . . . The copyrightable expression in the Printer Engine Program, by contrast, operates on only one plane: in the literal elements of the program, its source and object code. Unlike the code underlying video games or DVDs, 'using' or executing the Printer Engine Program does not in turn create any protected expression. Instead, the program's output is purely functional.

Lexmark, 387 F.3d at 548.

claim is, unfortunately, neither very coherent nor persuasive.[239] A concurring judge would more forthrightly have invoked the misuse doctrine, so as to "make clear that in the future companies like Lexmark cannot use the DMCA in conjunction with copyright law to create monopolies of manufactured goods for themselves just by tweaking the facts of [a] case."[240]

Shortly after issuance of the preliminary injunction in *Lexmark*, a similar attempt was made to use the anti-circumvention rules to foreclose competition in the market for electronic garage-door opening (GDO) devices.[241] Skylink made a universal GDO that bypassed the digitized "lockout" (access control) components of programs Chamberlain had installed in its GDOs and transmitters. Chamberlain argued that the "plain language" of the DMCA and precedents such as *Reimerdes* and the lower court decision in *Lexmark* provided compelling support for its claim against Skylink.[242] The Federal Circuit strongly disagreed and upheld the lower court's grant of summary judgment to Skylink.

The *Chamberlain* decision is remarkable in several respects. A fundamental premise underlying the Federal Circuit's interpretation of section 1201 was its perception that Congress had intended the DMCA anti-circumvention rules to be balanced:

> The most significant and consistent theme running throughout the entire legislative history of the anti-circumvention and anti-trafficking provisions of the DMCA . . . is that Congress attempted to balance competing interests, and "endeavored to specify, with as much clarity as possible, how the right against anti-circumvention would be qualified to maintain balance between the interests of content creators and information users." H.R. Rep. No. 105-551, at 26 (1998). The Report of the House Commerce Committee concluded that § 1201 "fully respects and extends into the digital environment the bedrock principle of

239. *Id.* at 545-51. The court, for example, questioned whether the Lexmark authentication sequence was an access control within section 1201 by observing that purchase of a Lexmark printer allowed access to the program. *Id.* at 549-50. Because it was possible to access the toner cartridge program if one bought a printer and toner cartridge, the court questioned whether the sequence was an effective access control measure. *Id.*

240. *Id.* at 551.

241. Chamberlain Group, Inc. v. Skylink Techs., Inc., 292 F. Supp. 2d 1040 (N. D. Ill. 2003), *aff'd*, 381 F.3d 1178 (Fed. Cir. 2004).

242. Chamberlain Group, Inc. v. Skylink Techs., Inc., 381 F.3d 1178, 1186, 1192 (Fed. Cir. 2004).

> 'balance' in American intellectual property law for the benefit of both copyright owners and users."[243]

It consequently rejected the notion that the DMCA had created a new exclusive right in copyright owners to control access to their works.[244] Section 1201 should instead be viewed as providing copyright owners with a new cause of action when circumvention of access controls threatened their ability to enforce their exclusive rights under copyright law.

In its search for a more balanced interpretation of the DMCA, the court considered at length linkages between the anti-circumvention rules and rights conferred by copyright law:

> Statutory structure and legislative history both make clear that § 1201 applies only to circumventions reasonably related to [copyright] protected rights. Defendants who traffic in devices that circumvent access controls in ways that facilitate infringement may be subject to liability under § 1201(a)(2). . . . [D]efendants whose circumvention devices do not facilitate infringement are not subject to § 1201 liability.[245]

Without proof of a nexus between the availability of an allegedly unlawful circumvention tool and the existence, or grave threat, of copyright infringement, section 1201 liability should not be imposed.[246] Thus, it was relevant that:

> Chamberlain has not alleged that Skylink's Model 39 infringes its copyrights, nor has it alleged that the Model 39 contributes to third-party infringement of its copyrights. . . . Chamberlain urges us to conclude that no necessary connection exists between access and *copyrights*. Congress could not have intended such a broad reading of the DMCA.[247]

To the extent that *Reimerdes* said otherwise, the Federal Circuit disagreed.

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243. *Id.* at 1195.

244. *Id.* at 1192-93. The Federal Circuit has thus rejected the views of some commentators that section 1201, in effect, created an exclusive right of access. *See, e.g.*, Jane C. Ginsburg, *Copyright Legislation for the "Digital Millennium,"* 23 COLUM. J. L. & ARTS 137, 140-43 (1999). *See also* Michael Landau, *Has the Digital Millennium Copyright Act Really Created a New Exclusive Right of Access?: Attempting to Reach a Balance Between Users' and Content Providers' Rights*, 49 J. COPYRIGHT SOC'Y U.S.A. 277, 286 (2001).

245. *Chamberlain*, 381 F.3d at 1195.

246. *Id.* at 1195-97.

247. *Id.* at 1197.

Under Chamberlain's interpretation of the DMCA, "the owners of a work protected *both* by copyright *and* a technological measure that effectively controls access to that work . . . would possess *unlimited* rights to hold circumventors liable under § 1201(a) *merely for accessing that work* even if that access enabled only rights that the Copyright Act grants to the public."[248] The Federal Circuit found this construction of the DMCA "problematic for a number of reasons."[249]

For one thing, Congress's exercise of its constitutional authority must be rational; yet, as construed by Chamberlain, section 1201(a) "borders on the irrational."[250] For another, its interpretation of section 1201(a) "would flatly contradict § 1201(c)(1)—a simultaneously enacted provision of the same statute."[251] It was consequently necessary to adopt "an alternative construction that leads to no such contradiction."[252]

Construing section 1201(a) as though it was concerned only with control over access, and not with rights protected by copyright law, would be "both absurd and disastrous."[253] It would "allow any manufacturer of any product to add a single copyrighted sentence or software fragment to its product, wrap the copyrighted material in a trivial 'encryption' scheme, and thereby gain the right to restrict consumers' rights to use its products in conjunction with competing products."[254] This would "allow virtually any company to attempt to leverage its sales into aftermarket monopolies," even though this would be unlawful under the antitrust laws and the copyright misuse doctrine.[255]

At least as problematic to the Federal Circuit were the implications of Chamberlain's interpretation of section 1201 for the rights of consumers to make fair uses:

> Chamberlain's proposed construction would allow copyright owners to prohibit exclusively fair uses even in the absence of any feared foul use. It would therefore allow any copyright own-

248. *Id.* at 1200.

249. *Id.*

250. *Id.*

251. *Id.* "A provision that prohibited access without regard to the rest of the Copyright Act would clearly affect rights and limitations, if not remedies and defenses." *Id.*

252. *Id.*

253. *Id.* at 1201.

254. *Id.* For analogous concerns about the need for courts to carefully manage boundaries between different modes of intellectual property protection, see *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989), which struck down Florida anti-plug mold law as contrary to patent law and policy.

255. *Chamberlain*, 381 F.3d at 1201.

> ers through a combination of contractual terms and technological measures, to repeal the fair use doctrine with respect to an individual copyrighted work—or even selected copies of that copyrighted work. Again, this implication contradicts § 1201(c)(1) directly. . . . Consumers who purchase a product have the inherent legal right to use that copy of the software. What the law authorizes, Chamberlain cannot revoke.[256]

Contrary to Chamberlain's contention, which relied on dicta from *Reimerdes*, "the DMCA emphatically did not 'fundamentally alter' the legal landscape governing the reasonable expectations of consumers or competitors; did not 'fundamentally alter' the ways that courts analyze industry practices; and did not render the pre-DMCA history of the GDO industry irrelevant."[257] The Federal Circuit consequently rejected Chamberlain's interpretation of section 1201 "in its entirety."[258]

The Federal Circuit had a second opportunity to consider the scope of the anti-circumvention rules in *StorageTek*.[259] StorageTek manufactures automated tape cartridge libraries for mass data storage. When StorageTek sells its tape libraries to customers, it licenses customers to use the functional code for managing the tape libraries but not the code to carry out maintenance functions.[260] Custom Hardware Engineering ("CHE") is an independent business that repairs data libraries manufactured by StorageTek. To enable it to carry out these repairs, CHE developed a program that bypassed a password protection scheme in the StorageTek maintenance code so that it could effectively intercept and interpret error messages generated by that program. Processing the error code information enabled CHE to diagnose and repair data libraries for StorageTek's customers. StorageTek claimed that CHE had violated the DMCA anti-circumvention rules.[261]

Relying on its analysis in *Chamberlain*, the Federal Circuit found no DMCA violation: "To the extent that [the defendant's] activities do not constitute copyright infringement or facilitate copyright infringement, StorageTek is foreclosed from maintaining an action under the DMCA.

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256. *Id.* at 1202.

257. *Id.* at 1194.

258. *Id.*

259. Storage Tech. Corp. v. Custom Hardware, Eng'g & Consulting, Inc., 421 F.3d 1307 (Fed. Cir. 2005).

260. *Id.* at 1309-10.

261. StorageTek also claimed copyright infringement. A majority of the Federal Circuit decided that the 17 U.S.C. § 117 safe harbor for computer maintenance services protected CHE's activities. *Storage Tech. Corp.*, 421 F.3d at 1311-18.

That result follows because the DMCA must be read in the context of the Copyright Act, which balances the rights of the copyright owner against the public's interest in having appropriate access to the work."[262] Even if activation of the maintenance code might violate the firm's contractual rights with customers, this unauthorized activation of the code could not violate the DMCA because the contractual rights "are not the rights protected by copyright law."[263] Without proof of a nexus between the rights protected by copyright law and the circumvention of the TPM, no violation of the DMCA anti-circumvention rules could occur.[264]

2. Broader Implications of the Lock-out Technology Cases

While this trio of cases—*Lexmark*, *Chamberlain* and *StorageTek*—reached the right results, they failed to consider a fundamental postulate of U.S. intellectual property law, namely, that the exclusive rights that copyright law confers cannot be used to defeat competitive uses of non-copyrightable functional products or features that are suitable for regulation under the more pro-competitive mandate of the patent laws.[265] This proposition, established by the Supreme Court in the 1880 landmark case of *Baker v. Selden* and extended by *Baker*'s progeny, stands for the necessity of maintaining a clear line of demarcation between industrial and artistic property laws.[266] Properly understood, *Baker v. Selden* authorizes intermediate copying of even an entire copyrightable work in order to extract the non-copyrightable functional elements, so long as the competi-

262. *Id.* at 1318. However, the *StorageTek* decision opens the disquieting possibility that a better-drafted contract could exclude the provision of competing repair services by express terms that this court would uphold. *Id.* at 1316-17.

263. *Id.* at 1319.

264. *Id.*

265. Baker v. Selden, 101 U.S. 99 (1880). *See, e.g.*, Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510 (9th Cir. 1993) (affirming the lawfulness of reverse engineering of copyrighted software to get access to interface information which was beyond the scope of copyright protection); Atari Games Corp. v. Nintendo of Am., Inc., 975 F.2d 832 (Fed. Cir. 1993) (accord).

266. *See generally* J. H. Reichman, *Computer Programs as Applied Scientific Know-How: Implications of Copyright Protection for Commercialized University Research*, 42 VAND. L. REV. 639, 649 n.288 (1989) (analyzing historical meaning of *Baker v. Selden* and criticizing commentators' misinterpretations, especially that of Melville Nimmer's treatise); Pamela Samuelson, *Why Copyright Law Does Not Protect Processes and Systems*, 85 TEX. L. REV. 1921, 1944-61 (2007) (demonstrating that Nimmer's interpretation of *Baker* is unsound).

tor's ultimate production avoids any unnecessary taking of protected expression.[267]

Unfortunately, some commentators have obscured the pristine meaning of *Baker v. Selden*,[268] which Professor Kaplan, among others, clearly understood.[269] There has been a regrettable tendency to treat *Baker* as merely endorsing a form of fair use in cases involving functional works[270] rather than as an independent and fundamental, perhaps even constitutionally based, subject matter requirement of the federal intellectual property system.[271] *Baker v. Selden*, properly understood, establishes fundamental limits on the ability of copyright owners to exercise control over the development of technologies because this would bypass the strictures of the patent law.[272] Because of this, the DMCA cannot override *Baker* and its fundamental policy prescriptions cannot be frustrated by the provisions of that Act.[273] There is, moreover, no legislative history suggesting that Con-

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267. *See* Pamela Samuelson, Baker v. Selden: *Sharpening the Distinction Between Authorship and Invention*, *in* INTELLECTUAL PROPERTY STORIES 181, 181-92 (Rochelle Cooper Dreyfuss & Jane C. Ginsburg, eds. 2004) (discussing *Baker*'s repudiation of copyright protection for useful arts and its implications for the lawfulness of reverse engineering uncopyrightable technologies).

268. *See, e.g.*, 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT §§ 2.03, 2.18 (2006) (interpreting *Baker* narrowly).

269. *See* BENJAMIN KAPLAN, AN UNHURRIED VIEW OF COPYRIGHT 63-66 (1966). *See also* Reichman, *supra* note 266, at 649 n.288; Samuelson, *supra* note 266, at 1953-61; Lloyd L. Weinreb, *Copyright for Functional Expression*, 111 HARV. L. REV. 1149, 1175 (1998).

270. Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510 (9th Cir. 1993); Atari Games Corp. v. Nintendo of Am., Inc., 975 F.2d 832 (Fed. Cir. 1993).

271. U.S. CONST. art. I, § 8, cl. 8 (giving Congress power to "promote the progress of science and useful arts, by securing to authors and inventors exclusive rights for limited times for their *respective* writings and discoveries" (emphasis added)). *See also* J.H. Reichman, *Legal Hybrids Between the Patent and Copyright Paradigms*, 94 COLUM. L. REV. 2432 (1994) (discussing the fundamental premises of patent and copyright regimes).

272. Insofar as *Sony* held that technologies lacking in substantial non-infringing uses can be regulated by copyright law, even if technologies with substantial non-infringing uses cannot be, we regard *Sony* as consistent with *Baker*'s fundamental precepts.

273. We are concerned about whether federal appellate courts will vindicate the pristine meaning of *Baker v. Selden* or even perceive its critical importance for satisfactorily resolving this class of cases on more than an ad hoc, tentative grounds. We are also concerned about the Federal Circuit's tendency to defer in some cases to so-called "contractual" terms (regardless of the lack of meaningful assent by the "licensee") of mass-marketed products, which undermines our confidence in the staying power of that court as a check on abuses of public interest limitations on intellectual property rights. *See, e.g.*, Monsanto Co. v. McFarling, 363 F.3d 1331 (Fed. Cir. 2004) (enforcing "license" on bag of seeds sold to a farmer). Courts dealing with Lexmark or Chamberlain-like DMCA claims may find it useful to consider Professor Burk's intriguing theories of "anticircum-

gress intended to override *Baker* and its progeny in adopting the DMCA anti-circumvention rules.

The Federal Circuit deserves considerable praise for expressly recognizing that balance is a bedrock principle of intellectual property law and for developing a framework for interpreting section 1201 that enables courts to develop a balanced approach to interpretation of the DMCA's anti-circumvention rules insofar as copyright owners try to use them to block fair and other non-infringing uses of technically protected copyrighted works. Just as the court in *Netcom* rejected the White Paper's unbalanced and overly broad interpretation of the reproduction right,[274] courts interpreting section 1201 should reject *Reimerdes*' unbalanced and overly broad interpretation of section 1201 in favor of the framework set forth in *Chamberlain* and *StorageTek*, which we believe is far more consistent with the letter and spirit of the WCT and with Congressional intent in enacting the anti-circumvention rules.

D. The Reverse Notice and Takedown Framework

Building on the insights of *Chamberlain* and *StorageTek*, courts faced with public interest challenges to the DMCA anti-circumvention rules should follow *Netcom*'s lead by developing a notice and takedown approach to balancing the interests of copyright owners and the public.. A reverse notice and takedown procedure to enable privileged uses of technically protected works is consistent with section 1201. It would lower the barrier to entry for public interest users and reconcile the tensions between sections 1201(a) and 1201(c).

1. The Basic Concept

Under our proposal, any confrontation between the user community's efforts to make non-infringing uses of material available to the public on a website and the copyright owners' technological fencing under section 1201 could elicit a demand from the user group for a right to a limited bypassing of TPMs for legitimate purposes. For example, they might assert a need to index the material in question and extract specified components, in order to complete a specified non-infringing project. Copyright owners could be given fourteen days either to object to the limited circumvention or to allow it by silence, without prejudice. In case of denial, the user

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vention misuse." Burk, *supra* note 152. This would avert the risk posed if the DMCA anti-circumvention rules allowed every product sold on the general products market to obtain 150 years of copyright protection behind digitized electronic fences that have nothing to do with the protection of literary and artistic works.

274. *See supra* note 33 and accompanying text.

group would be entitled to seek a declaratory judgment to vindicate its claim to an entitlement to circumvent a TPM for the purpose of engaging in the specified non-infringing use.

To become fully operational, this proposal would benefit from standardized procedures concerning the form in which notice should be given to copyright owners for "reverse notice and takedown" demands. It would also require courts to allow those providing needed decryption skills and technology to benefit from the same privileged use exception that a *demandeur* had ultimately vindicated either in court or by silent acquiescence of the copyright owner. Above all, such a regime would particularly benefit from the kind of expeditious, low-cost administrative tribunals proposed in other contexts.[275]

These long-term considerations should not, however, obscure the feasibility or desirability of immediately instituting ad hoc case-by-case judicially devised reverse notice and takedown procedures to promote the formation of a jurisprudence of permissible non-infringing uses of technically protected content to complement and supplement the jurisprudence of infringing uses discussed above.[276] *Netcom* has shown that courts in the U.S. can evolve balanced solutions in response to digital copyright problems. Reverse notice and takedown procedures could attenuate the tension between section 1201(a) of the DMCA, which on its face seems oblivious to fair use and other permissible uses of technically protected content, and section 1201(c), which seeks to preserve public interest uses. The exact contours for attaining this goal need to be worked out over time.

Section 1201(a) might seem to imply that it is not lawful to develop self-help decryption devices to crack the technological fence and remove unprotected or unprotectable matter. But bona fide non-infringing users should be able to petition for the right to have a tool to extract specified matter for specified non-infringing uses. If these proposals are documented by supporting evidence, they could trigger recourse to section 1201(c) in order to prevent section 1201 from perversely thwarting legislatively and judicially sanctioned permitted uses.

Resort to a reverse notice and takedown procedure of this kind would help make the DMCA into an instrument that promotes adequate protection of copyrighted works without creating barriers to entry that thwart

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275. *See, e.g.*, Lipton, *supra* note 14, at 149-55.

276. After all, the "notice and take down" provisions of section 512 of the DMCA emerged from a negotiated compromise derived from the teachings of prior case law on contributory infringement in the digital environment. *See supra* notes 36-57 and accompanying text.

new technologies for sharing unprotected matter. It could facilitate licensing to nonprofit entities on reasonable terms and conditions, and it could help to frustrate growing tendencies to put public domain matter off limits by encasing it in impenetrable electronic fences. It could also attenuate the systematic use of digitized, electronic prior restraints on speech, which are likely to eventually provoke constitutional challenges.[277] Indeed, an extension of the reverse notice and takedown model could present would-be users of public domain material with a workable choice between sustaining the costs of securing and implementing judicially approved circumvention or purchasing the public domain matter from the vendor at reasonable prices for the sake of convenience.

2. Illustrative Applications

Below are four examples of situations in which courts might find the proposed reverse notice and takedown procedure useful:[278]

(1) Some years ago, the American Civil Liberties Union challenged the constitutionality of a law requiring public libraries to install filtering software if they take funds to promote Internet access to patrons. The filters were meant to protect minors from accessing indecent or otherwise harmful materials. However, such software under- and over-blocks content, and it impedes access to materials which, though harmful to minors, may qualify as constitutionally protected speech for adults.[279] When the Supreme Court ultimately ruled against the constitutional challenge, it recognized the under- and over-blocking problem, and held that over-blocking interfered with the legitimate interests of adults in accessing some blocked materials.[280]

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277. *Cf.* Benkler, *supra* note 14, at 414-29 (challenging the constitutionality of the DMCA anti-circumvention rules); Ginsburg, *supra* note 14, at 21 (anticipating such challenges).

278. These examples largely reflect the scope for the proposed reverse notice and takedown procedure under U.S. law. As we explain in Part IV, we believe that the reverse notice and takedown procedure would also be an appropriate and desirable means for EU member states to implement their obligations under the Copyright Directive. But the precise scope of those obligations is a matter that different member states have read differently. *See infra* text accompanying notes 326-327. For other examples of public interest uses that have been or may be thwarted or chilled by the DMCA, *see, e.g.*, Benkler, *supra* note 14, at 388-89; Ginsburg, *supra* note 14, at 20; Lipton, *supra* note 14, at 113-15; Sadd, *supra* note 14, at 321-22; Samuelson, *supra* note 14, at 544-45, 548-49, 553. *See also* UNINTENDED CONSEQUENCES, *supra* note 112.

279. United States v. Am. Library Ass'n, 539 U.S. 194 (2003).

280. Justices Kennedy and Breyer thought that the interests of adults in access to a wider array of materials was adequately addressed by provisions of the Congressional legislation that allowed libraries to unblock sites for patrons wishing to view blocked but

The challenge for libraries since that decision has been to decide whether to install filters, and if installed, which filtering software to choose. Libraries may want to conduct a comparative assessment of the efficacy of software filtering programs, but filtering software will likely use TPMs to block access to the list of sites that the software blocks. Because makers of filtering software are likely to consider block-lists as proprietary trade secrets, they are unlikely to agree to bypassing the TPMs. Library staff may also lack sufficient expertise to bypass the TPMs to make such an assessment.[281]

It is in the public interest for libraries to have access to this information. Under a reverse notice and takedown procedure, a court could order the software filtering firms to take down the TPMs so that the comparative analysis could take place. The software filter developer could petition the court to condition the takedown on the libraries' willingness not to reveal the trade secret block-lists. We have confidence that courts could fashion appropriate relief that balanced the interests of the libraries in being able to communicate findings with other librarians and the interests of the software developers in keeping the list data secret.

(2) A linguistics professor might want to develop a compilation of clips from movies to show that the word "redskins" in Western movies has been systematically used in a derogatory fashion.[282] If this professor is not a technically sophisticated person, he or she may not be able to bypass CSS in order to make these clips from DVD movies. If the professor requests access to unprotected forms of these movies to engage in the stated fair uses and this request is ignored or denied by the motion picture studio copyright owners, the linguistics professor should be able to ask a court to

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nonetheless lawful content. *Id.* at 214-15 (Kennedy, J., concurring); *id.* at 215-20 (Breyer, J., concurring). Unblocking may, however, involve circumvention of a TPM, which could run afoul of section 1201(a)(1)(A).

281. *See* Pamela Samuelson, *Principles for Resolving Conflicts Between Trade Secrets and the First Amendment*, 58 HASTINGS L.J. 777, 790-91 (2007) (discussing an effort to reverse engineer a TPM to get access to block-list information for filtering technologies, such as those widely used by libraries, that was thwarted by threats of DMCA anti-circumvention liability).

282. *See* Samuelson, *supra* note 14, at 540 (giving this example). Public interest users should not, in our judgment, have to undertake extra expense and effort to search for possible alternative formats for the works of which they want to make fair use when a technically protected format is near at hand. In this respect, we join the EFF's criticism of the Copyright Office for its unwillingness to consider the inconvenience and expense of such efforts as a factor favoring permitting fair use exemptions for such users. *See* EFF on Rulemaking, *supra* note 138, at 4-5.

order the studios to provide the appropriate access to the movies or to authorize the takedown by a circumvention service on their behalf.[283]

(3) The Computer History Museum is among the entities that might want to undertake a project to preserve computer programs written during the 1960's to early 1980's.[284] Some software developers have employed TPMs to control access to the programs; many programs are, moreover, stored in now-obsolete formats and/or on obsolete storage media that have effectively become TPMs. A Computer History Museum researcher would have to bypass the TPMs to preserve this historical material and store it in updated formats. Rather than waiting three years for the next LOC rulemaking,[285] Computer History Museum personnel should be able to ask a court to issue a reverse notice and takedown order insofar as copyright owners of the software did not agree or could not be found to give consent to bypassing the TPM.[286]

(4) Security researchers are often interested in reverse engineering TPMs, such as those used to protect commercially distributed sound recordings, for purposes such as determining if the TPMs might cause software to be installed on users' computers that would cause the computers to

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283. *See, e.g.*, Ginsburg, *supra* note 14, at 17 (suggesting that judges could authorize circumvention services to facilitate fair uses of works protected by TPMs).

284. It is not entirely clear whether computer programs in machine-executable forms would have been protectable under the Copyright Act of 1909, although the U.S. Copyright Office began accepting registration of computer programs as copyrightable works in the mid-1960's. *See* Copyright Office Circular 31D (Jan. 1965), *reprinted in* Duncan M. Davidson, *Protecting Computer Software: A Comprehensive Analysis*, 1983 ARIZ. ST. L.J. 611, 652 n.72. Obviously, bypassing a TPM protecting access to programs written in this period would not give rise to section 1201 liability if the programs were not copyrightable, but the risk for a preservationist in circumventing these old TPMs would nevertheless be real, given the registrations accepted then.

285. 17 U.S.C. § 1201(a)(1)(C). There is currently a partial exemption for libraries and archives to bypass a TPM to preserve digital content stored in obsolete formats, but this may not apply to museums and it certainly does not authorize the making of tools in order to engage in such circumventions. *See* Perzanowski, *supra* note 142, at 16 (discussing the narrowness of the exception for obsolete formats).

286. Difficulties in locating copyright owners have prevented many creative and educational reuses of copyrighted works, especially many older ones. The U.S. Copyright Office has proposed allowing reuses of so-called "orphan works" to proceed if the reusers have made reasonably diligent efforts to seek permissions. *See* U.S. COPYRIGHT OFFICE, REPORT ON ORPHAN WORKS 8 (2006). A similar problem may arise with TPMs. With the possibility of up to $2500 of statutory damages per circumvention at stake for violation of section 1201, *see* 17 U.S.C. § 1203(c)(3), there is a risk that public interest users, such as archivists, would be deterred from preservation activities. With a reverse notice and takedown procedure, the archivist could be assured that he or she would incur no liability for this circumvention as long as he or she did not infringe copyrights in the works.

be vulnerable to security attacks or that might surreptitiously monitor and report back on users' behaviors.[287] Undertaking such research would almost certainly involve bypassing the TPM and making tools to do so. Given the narrowness of the encryption research or computer security testing exceptions to section 1201, this activity would probably not qualify for a statutory safe harbor.[288] Yet, the work would nevertheless be in the public interest, even if the right holder in the sound recording did not approve of this activity.

Security researchers ought to be able to engage in such reverse engineering and to disclose the results of their research at scientific conferences.[289] In keeping with the reverse notice and takedown regime, a court could determine that research-related activities of this sort are lawful under a proper interpretation of section 1201.

3. Other Considerations

Although it would be more cost-effective to have a streamlined administrative process for considering reverse notice and takedown requests,[290] a

287. *See, e.g.*, Deirdre Mulligan & Aaron Perzanowski, *The Magnificence of the Disaster: Reconstructing the Sony BMG Rootkit Incident*, 22 BERKELEY TECH. L.J. 1157 (2007). Another public interest issue posed not only by the Sony BMG rootkit incident but more generally is that right holders do not always give notice that they have deployed TPMs in mass-marketed digital content. Without notice of TPMs, it becomes possible to inadvertently violate sections 1201(a)(1)(A) and 1201(a)(2) if one reverse engineers a purchased copy of digital content. For a discussion of this issue and the policy issues it raises, see Pamela Samuelson & Jason Schultz, *Regulating Digital Rights Management Technologies: Should Copyright Owners Have to Give Notice About DRM Restrictions?*, J. TELECOMM. & HIGH TECH. L. (forthcoming 2007).

288. If, for example, the TPM does not use encryption, but some other technique, the encryption research exception would, strictly speaking, not apply. *See* 17 U.S.C. § 1201(g). The computer security testing exception only applies if one is testing a computer network for security flaws. *Id.* at § 1201(j). The unduly narrow nature of these exceptions is discussed in DIGITAL DILEMMA, *supra* note 113, at 171-76.

289. *See, e.g.*, Joseph P. Liu, *The DMCA and the Regulation of Scientific Research*, 18 BERKELEY TECH. L.J. 501, 528-37 (2003) (arguing for flexibility in the anti-circumvention regulations as applied to scientific research). It is worth pointing out that security researchers are unlikely to be interested in getting access to the digital content protected by the TPM; they are primarily interested in the TPM itself and how it might interact with the content. As long as such researchers do not engage in or knowingly facilitate copyright infringement, their activities should not violate the DMCA. A reverse notice and takedown regime could be adapted to facilitate such research.

290. *See, e.g.*, Lipton, *supra* note 14, at 155 ("Administrative approaches tend to be more flexible and less formal in their procedures than judicial processes and are generally less costly than judicial hearings."). We recognize that our proposal has at least two disadvantages. First, few prospective privileged users may have the resources to seek judicial support for reverse notice and takedown challenges to technically protected content,

judicially developed case-by-case evolution is, in our judgment, preferable to a statutorily mandated administrative process. The case-by-case approach is more dynamic, flexible, and responsive to the fine details of each situation. It is, moreover, likely to lead to a normative framework for dealing with such requests. We fear that a statutorily created administrative process at this point would remain vulnerable to political economy problems akin to those that brought about the unbalanced DMCA anti-circumvention rules in 1998.

Once the courts develop normative baselines for dealing with reverse notice and takedown requests, however, an administrative process could evolve over time to apply and refine this normative framework. This development could also induce copyright owners to engage in private initiatives consistent with this framework, such as designating circumvention services to which putative public interest users might apply to obtain circumvention for non-infringing purposes.[291]

We believe that courts will be able to discern when putative public interest users are not acting in good faith when making reverse notice and takedown requests. Courts can also put in place safeguards to ensure that the reverse notice and takedown regime does not bring about the increased

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and second, the prospective privileged users will have to identify themselves to the copyright owner rather than making spontaneous fair or other non-infringing uses without informing the relevant copyright owners. *See* Burk & Cohen, *supra* note 14, at 59-61 ("[A] preauthorization requirement would be costly and would chill spontaneous uses. . . . [A]pplication to a third party is likely to compromise the sort of anonymity that users presently enjoy. . . . Spontaneous uses likely would disappear altogether. . . . [U]nder this system, fair use might become the sole provenance of well-capitalized firms with the resources to engage in the process.").

The first problem may be mitigated by the rise of public interest organizations (including nonprofit organizations such as the Electronic Frontier Foundation and high technology clinics such as those in operation at American University, Boalt Hall, Stanford, and USC Law Schools) with the capacity to represent prospective fair users. Moreover, in time, an administrative process might be set up to resolve these challenges, as Lipton proposes, *supra* note 14, at 149-55.

As to the second problem, a comparative approach is necessary. Realistically, the fair use infrastructure that Burk and Cohen propose is less likely to be achievable than the reverse notice and takedown procedure we propose. So while their proposal is more socially optimal than ours in that copyright owners would not have to know the identity of the prospective fair user, ours is more socially optimal in that courts can actually make it happen. Moreover, a reverse notice and takedown procedure might, in time, lead to something akin to the fair use infrastructure they envision, if copyright owners found it more efficient to designate a service to deal with public good circumvention claims instead of having to respond to them on a regular basis.

291. Indeed, this may be a way to accomplish the "fair use infrastructure" that Burk and Cohen envisioned some years ago. *See* Burk & Cohen, *supra* note 14.

infringements that the DMCA was enacted to avoid (for example, by ordering copyright owners to make use of trusted circumvention services rather than ordering takedowns of the TPMs that might lead to massive infringements).

Whether courts in the United States will, in practice, defend good faith public interest communities against technologically induced inhibitors of non-infringing uses with the same zeal they have thus far used in guarding against online inducers of infringement in *Napster*, *Aimster*, and *Grokster* remains to be seen. Certainly, the logic with which the courts have justified limitations on regulation of dual-use technologies resonates with similar concerns to vindicate non-infringing uses of technically protected content and to remove barriers now thwarting development of appropriate technologies to achieve this goal. A judicially engrafted reverse notice and takedown solution could provide a minimalist bridging device to achieve this balance. *Chamberlain* and *StorageTek* provide a conceptual framework for an interpretation of section 1201 out of which the reverse notice and takedown approach we propose could develop through common law adjudication.

IV. REVERSE NOTICE AND TAKEDOWN AS A MODE OF IMPLEMENTING ARTICLE 6(4) OF THE EU COPYRIGHT DIRECTIVE

As noted earlier, the reverse notice and takedown approach is eminently consistent with the WCT, which expressly reserved legally permitted uses from the scope of the obligatory anti-circumvention measures.[292] In countries that adopted the treaty verbatim, such as Japan, there can be no domestic or international objections to any effort to introduce the reverse takedown and notice approach. Because of the civil law traditions prevalent in the EU, it would not be feasible for member states to adopt the reverse notice and takedown regime through common law litigation. So it is fortunate that the EU Copyright Directive has provided a general (if incomplete) framework for member states to achieve a balanced solution by providing legal reinforcement of TPMs used by copyright owners

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292. WCT, *supra* note 1, art. 11, which states:
> Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or *permitted by law*.

Id. (emphasis added).

to protect their works while at the same time enabling public interest uses of technically protected content.

Indeed, Article 6(4) of the EU Copyright Directive *requires* member states to adopt mechanisms that preserve the ability of users to take advantage of certain exceptions and limitations guaranteed by copyright law notwithstanding the application of TPMs.[293] The proposed reverse notice and takedown procedure is one way in which member states could fulfill that obligation.[294] Moreover, such a procedure would effectuate the basic normative commitment to the continued availability of exceptions to exclusive rights expressed in Article 6(4).[295] In fact, it does so more fully than current member state implementation of the Article (which has arguably been confined by textual limits on the scope of Article 6(4)) itself.[296]

In this part, we explain the basic contours of Article 6(4) of the Directive, and how adoption of the reverse notice and takedown procedure would implement member states' obligations under that provision. This discussion also allows us to elaborate further on some aspects of the proposal already mentioned in Part III.

A. The Unfulfilled Normative Commitment Underlying Article 6(4)

The EU Copyright Directive starts from the general normative position that exceptions and limitations that would have been available absent the application of TPMs should remain available notwithstanding the application of such measures.[297] Unlike the DMCA, the Copyright Directive does not contain a list of exemptions from the circumvention prohibitions.[298]

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293. *See* Copyright Directive, *supra* note 10, art. 6(4).

294. *See infra* Section IV.C.

295. *See infra* Section IV.A.

296. *See infra* text accompanying notes 311-314. For a summary and analysis of member state implementation, see Guido Westkamp, *The Implementation of Directive 2001/29/EC in the Member States* (Feb. 2007), *in* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11.

297. *See* Copyright Directive, *supra* note 10, art. 6(4). Of course, this is not the only normative commitment embodied in the Directive. The Commission also sought to create a climate in which copyright owners would pursue new business models for online distribution of content. Reconciliation of these competing policy objectives may explain, although not coherently, the different constrictions on Article 6(4). *See infra* text accompanying notes 311-314.

298. Recitals 48 and 51 of the Directive suggest the possibility of exemptions for cryptography research and public security. *See id.*, recitals 48, 51; *see also* Richard Li-Dar Wang, *DMCA Anti-Circumvention Provisions in a Different Light: Perspectives from Transnational Observation of Five Jurisdictions*, 34 AIPLA Q.J. 217, 237 (2006). Because the Directive lacks any specific exemptions, it is seen by some as rejecting any

However, the EU legislators were aware of the risk that TPMs might become an absolute prohibition restricting users from engaging in acts permitted under traditional copyright law.[299] Concern about that prospect found expression in Article 6(4).[300] The first paragraph of Article 6(4) provides that:

> Notwithstanding [the prohibitions against acts of circumvention and circumvention devices], in the absence of voluntary measures taken by right holders, including agreements between right holders and other parties concerned, member states shall take appropriate measures to ensure that right holders make available to the beneficiary of an exception or limitation provided for in national law in accordance with [various articles in the Directive listing permissible exceptions to copyright, such as copyright in connection with teaching], the means of benefiting from that exception or limitation . . . . [where that beneficiary has legal access to the work].[301]

The Directive thus seems to take the position that a technological adaptation, namely, the application of TPMs, should not alter the balance that existed under default rules of copyright law with respect to the en-

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right of "self-help." However, some member states have implemented rights of self-help to circumvent TPM under strict conditions. *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 106 (describing Norwegian and Danish implementation).
Moreover, there is nothing in the Directive to suggest that the "appropriate measures" called for by Article 6(4) might not include immunity from liability after the right holder had failed to make available the means of benefiting from an exception or limitation. *See id.* at 108-109 (noting the Directive's preference for voluntary arrangements by right holders, but suggesting that the broad language of "appropriate measures" leaves much room for member states to adopt different approaches); *cf.* Christophe Geiger, *The New French Law on Copyright and Neighbouring Rights of 1 August 2006—An Adaptation to the Needs of the Information Society?*, 38 IIC 401, 421-23 (2007) (noting the dangers of deferring entirely to right holder arrangements and arguing that "the only measure that would truly have been 'appropriate' within the meaning of Article 6(4)" would have been a prohibition on right holders applying TPM to deprive the public of the benefit of exceptions with a "pronounced social function").

299. *See* LIONEL BENTLY & BRAD SHERMAN, INTELLECTUAL PROPERTY LAW 309-11 (2d ed. 2004) (noting fears expressed).

300. *See* Bernt Hugenholtz, *Why the Copyright Directive is Unimportant, and Possibly Invalid*, 22 EUR. INTELL. PROP. REV. 501 (2000) (describing article 6(4) as "a provision that is presumably intended to reconcile the interests of right owners employing technical protection measures with the interests of users wishing to benefit from copyright limitations"); BENTLY & SHERMAN, *supra* note 299, at 310 ("As regards the relationship between the technological measures and exceptions to copyright, article 6(4) of the [Copyright Directive] provides for a strange, barely comprehensible, compromise.").

301. *See* Copyright Directive, *supra* note 10, art. 6(4).

joyment of exceptions and limitations.[302] We call this principle "prescriptive parallelism," to convey the notion that the traditional copyright balance of rights and exceptions should be preserved in the digital environment.[303]

Article 6(4) is only one dimension of parallelism in the EU Directive. It also contains a provision that anticipates a reduction in private copying levies under national copyright laws, potentially to zero, where copyright owners have applied TPMs to works and thus secured by technology what they formerly obtained through legally sanctioned levy schemes.[304] Copyright owners should not be able to double dip, and should receive the same level of effective protection, whether through law or technology.

We do not want to overstate the principle of prescriptive parallelism underlying the EU Directive. Article 6(4) is a means by which the EU sought to ensure that the balance of copyright law was maintained after the application of technological protection measures.[305] But that goal is pursued against the broader backdrop of a Directive that contemplates adjustments to the legal rights of both copyright owners and users to reflect the availability and application of such measures. For example, one of the principal objectives of the EU Directive was to provide legal protection against circumvention of technological protection measures, which might be conceived as enhanced legal protection for copyright owners in light of enhanced copying capacity.[306]

Moreover, the prescriptive parallelism of Article 6(4) must also be viewed against the treatment of exceptions by the EU Directive generally.

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302. Article 5(3)(o) also permits member states to create exceptions or limitations to rights provided for in articles 2 and 3 "in certain other cases of minor importance where exceptions or limitations already exist under national law, provided that they only concern analogue uses . . . ." Copyright Directive, *supra* note 10, art. 5(3)(o).

303. Compare the similar concept expressed in Agreed Statements, *supra* note 2, statement concerning art. 10.

304. Article 5(2)(b) of the Copyright Directive permits member states to create exceptions or limitations to the reproduction right "in respect of reproductions on any medium made by a natural person for private use . . . on condition that the right holders receive fair compensation which takes account of the application or non-application of technological measures referred to in Article 6 to the work for subject matter concerned." Copyright Directive, *supra* note 10, art. 5(2)(b).

305. *See* Hugenholtz, *supra* note 300, at 501.

306. *See* Copyright Directive, *supra* note 10, art. 6(1)-(2). During the legislative debates, the Commission apparently suggested that *all* exceptions listed in Article 5 should explicitly prevail over contrary TPMs, and Article 6(4) was the compromise provision that reconciled the Commission's position with that adopted by the Council of Ministers (which was more supportive of right holders' freedom to use TPMs). *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 104.

Although the stated objective of the Directive was in part to harmonize the disparate sets of exceptions and limitations available under national copyright laws in the EU, the Directive effected only a very modest amount of harmonization, at least in the short run.[307] Its broad list of exceptions is largely permissive,[308] although there is a mandatory exception for ephemeral copies,[309] and there is a restriction on adoption of further exceptions.[310]

More importantly for purposes of this Article, the failure to *mandate* the adoption of a wide range of exceptions undermines the effectiveness of Article 6(4) in achieving its general goal of prescriptive parallelism. Article 6(4) only guarantees that technological protection measures should not impede the ability of third parties to take advantage of exceptions or limitations if they are provided in national law.[311] Furthermore, there are a number of other significant textual constraints on the potential effectiveness of Article 6(4), including its limitation to seven defined exceptions rather than all exceptions or limitations existing in national law,[312] its in-

307. *See generally* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11; *see also* INST. FOR INFO. LAW, UNIV. OF AMSTERDAM, THE RECASTING OF COPYRIGHT AND RELATED RIGHTS FOR THE KNOWLEDGE ECONOMY (2006). These studies were commissioned by the European Commission's Internal Market Directorate-General.

308. *See* Copyright Directive, *supra* note 10, art. 5(2)-(3) (providing that member states *may* provide for certain exceptions or limitations); *see also* Hugenholtz, *supra* note 300.

309. *See* Copyright Directive, *supra* note 10, at art. 5(1). The Directive states:

> [T]emporary acts of reproduction . . . which are transient or incidental and an integral and essential part of the technological process and whose sole purpose is to enable a transmission in the network between third parties by an intermediary, or a lawful use, of a work or other subject matter to be made, and which have no independent economic significance, shall be exempted from the reproduction right.

Id.

310. *See id.* at recital 32. *But see id.*, art. 5(3)(o) (quoted *supra* note 302). It might be that over time the mere listing of permissible exceptions will cause a convergence as different national legislators begin to work from the same turnkey list, secure in the knowledge that adopting such exceptions will not meet with the objections of the European Commission.

311. *See id.* at art. 6(4).

312. These include exceptions for copying by libraries and educational institutions, copying for the benefit of persons with a disability, and copying for the purpose of scientific research. There is no coherent explanation, other than raw political compromise, for the inclusion of these exceptions but not others in Article 6(4). *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 110 ("Because this provision was negotiated in the last hours before adoption of the final text of the Directive, there is no public record available to shed light on the legislator's intent. As a result, the list of limitations included in Article 6(4) appears highly arbitrary."). Indeed, the arbitrariness of the list

applicability to works made available on-demand,[313] and its unclear relationship with the anti-circumvention and interoperability provisions in the Software Directive.[314]

These limitations in the text of the Directive have caused many scholars to doubt the capacity of the provision to achieve its declared objectives.[315] In deference to ordinary canons of interpretation, we are reluctant

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may simply reflect the broader failure of the Directive to rationalize treatment of exceptions generally. *See id*.

Moreover, Article 6(4) does not, for example, include uses that users are entitled to make because a work is in the public domain or because all that is taken is otherwise unprotected by copyright law. It can be argued that the protections of Article 6 do not apply to public domain material in the first place because right holders are not in a position to authorize uses of such works. As a result, some national legislatures have taken the position that TPMs on public domain works can be circumvented without liability. *See* Urheberrechtsgesetz [Copyright Act], Sept. 12, 2003, BGBl. I at 1774, art. 1, §95(a)(2) (F.R.G.). Of course, in practical terms, if right holders package public domain works with some protected works, it is unclear whether this interpretation will be sufficient to save access to such works without more affirmative legislative statement. *See* BENTLY & SHERMAN, *supra* note 299, at 309.

313. The mechanisms of article 6(4) do not apply where the work is made available on an on-demand basis because the provision is inapplicable where "the work or other subject matter is made available to the public on agreed contractual terms in such a way that members of the public may access them from a place and at the time individually chosen by them." The language of this sentence in the directive itself makes the scope of the limitation uncertain and could be tested in a number of ways. *See* BENTLY & SHERMAN, *supra* note 299, at 311 n.132 (noting room for dispute regarding the phrase "agreed contractual terms"); *see also* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 112 (suggesting that confining this limit on Article 6(4) to negotiated contracts would be consistent with the legislative purpose).

More importantly, the on-demand language surely cannot be read in ways that render the general provision meaningless. *See* Maciej Barczewski, *International Framework for Legal Protection of Digital Rights Management Systems*, 27 EUR. INTELL. PROP. REV. 165, 167 (2005) (noting that reading the "available contractually on-demand" limits in Article 6(4) in ways that allowed digital lock-up of all works available online would conflict with the directive's aims); *see also infra* text accompanying note 323. The same interpretive rationale surely should be applied to yet another limit on Article 6(4), namely, that because the provision only applies where the beneficiary has legal access to a work, it is arguably ineffective against access control measures. *See* Severine Dusollier, *Fair Use by Design in the European Copyright Directive of 2001*, COMM. OF THE ACM, Apr. 2003, at 51, 53-54 (2003) [hereinafter *Fair Use by Design*]; Dusollier, *supra* note 11.

314. Council Directive 91/250/EEC, 1991 O.J. (L 122) 42 (EC) [hereinafter Software Directive]. The anti-circumvention provisions and interoperability exceptions in the Software Directive appear to survive the adoption of Article 6. *See* Copyright Directive, *supra* note 10, recital 50; *see also* Software Directive, *supra*, art. 7(1)(c); BENTLY & SHERMAN, *supra* note 299, at 311-312 (discussing UK implementation and noting different treatment of software).

315. *See* Hugenholtz, *supra* note 300; Dusollier, *Fair Use by Design*, *supra* note 313.

to read the limits in Article 6(4) in ways that render the general provision meaningless.[316] However, rather than focus on the details of the limitations of Article 6(4) as enacted, and perhaps looking forward to the possible revision of the Directive to take into account a recent report commissioned from the University of Amsterdam Institute for Information Law,[317] we will view the conceptual mechanism of Article 6(4) as a means of ensuring continued viability of privileged uses notwithstanding the application of technological protection measures. More particularly, we will consider the reverse notice and takedown proposal as a vehicle for implementing Article 6(4) and exploring its possible reform.

B. Reverse Notice and Takedown as a Mode of Implementing Article 6(4)

The reverse notice and takedown proposal articulated in Part III essentially consists of two parts. First, implicitly, all uses privileged under traditional copyright principles should continue to be privileged in an era of digital rights management. The application of TPMs should not alter the balance of rights between copyright owners and users.[318] This is a substantive principle, which might be followed with different modifications in different countries.[319]

Second, in order to effectuate this substantive principle, users need a mechanism by which to vindicate their rights and to secure the certainty required to engage in creative activity privileged under traditional copyright principles. Different institutional or procedural means through which

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316. *See* Thomas Rieber-Mohn, *Harmonising Anti-Circumvention Protection with Copyright Law: The Evolution from WCT to the Norwegian Anti-Circumvention Provisions*, 37 IIC 182, 188 (2006) (offering an interpretation of which contractual arrangements by right holders would preempt member state intervention by reference to the need to give Article 6(4) some meaning); Barczewski, *supra* note 313, at 167.

317. *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11. That report concluded that "the principle underlying article 6(4) . . . is worth maintaining" but recommended that the provision be simplified and clarified in a number of ways that ensure its effectuation. *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 133.

318. *See, e.g.*, Paolo Spada, *Copia privata ed opera sotto chiave* ["Private Copies and Locked Down Works"], 2002(1) RIVISTA DI DIRITTO INDUSTRIALE 591, 597-598 (stating that the system of technological protection measures provided authors by the EC Directive must acknowledge the exceptions to authors' rights, including privileged uses, because "these are an integral part of the authors' rights system and not merely contingencies of contract or the owners' brute force") (trans. JHR).

319. Even within the traditional copyright system, exceptions are quite different from one country to the next. How each country might want to approach the digital environment is unlikely to be more uniform.

to pursue this objective are possible,[320] but we believe the reverse notice and takedown procedure affords a number of distinct advantages, many of which were canvassed in Part III.

As an initial matter, we believe the proposed reverse notice and takedown procedure should be considered as a means of implementing member state obligations under Article 6(4). This proposal should be studied by countries committed to compliance with the EU regime, which includes not only the member states of the EU, but also countries that commit to such a regime (whether in general terms or in detail) in bilateral trade negotiations.[321] Even if certain limits apparently embodied in Article 6(4) turn out to circumscribe its actual scope in EU member states,[322] member state implementation of a narrower provision (e.g., with respect only to certain exceptions) might still afford insights as to how the basic structure of the proposed reverse notice and takedown procedure could be enhanced to better ensure that anti-circumvention provisions are consistent with privileged uses.

Moreover, such an exercise might also highlight the ways in which Article 6(4) could itself be broadened as EU legislators consider a revision of the Directive in light of the recent report by the Institute for Information Law at the University of Amsterdam.[323]

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320. For example, Professor Spada believes that the Directive entitles privileged users disadvantaged by TPMs to assert their rights under the Directive in national courts. *See* Spada, *supra* note 318, at 598.

321. Compliance with EU law is an obligation not only of all European Union member states, but also of member states of the European Free Trade Area (EFTA), as well as a number of countries pursuing future European Union membership or entering into bilateral trade agreements with the European Union. *See* MAXIMILIANO SANTA CRUZ, INT'L CENTRE FOR TRADE AND SUSTAINABLE DEVELOPMENT, INTELLECTUAL PROPERTY PROVISIONS IN EUROPEAN UNION TRADE AGREEMENTS: IMPLICATIONS FOR DEVELOPING COUNTRIES 2-3 (2007). In the past, the bilateral trade agreements negotiated by the EU have contained obligations with respect to intellectual property stated at a very general level, such as compliance with the WIPO Copyright Treaty. *See id.* at 10. In contrast, the United States has in its bilateral trade agreements sought to secure compliance with more detailed standards that resemble the language of the DMCA than the terms of the WCT. *See* Chander, *supra* note 18, at 206. However, some observers have detected a shift in the EU approach toward the more aggressive US approach in more recent negotiations. *See* SANTA CRUZ, *supra*, at ix-x, 18.

322. *See supra* text accompanying notes 311-314.

323. *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 132-33 (criticizing limits of Article 6(4)).

C. Application of Reverse Notice and Takedown Under Article 6(4)

Under Article 6(4), right holders are required to ensure that beneficiaries of exceptions have the ability to exercise those exceptions notwithstanding the application of technological protection measures to copyrighted works.[324] If right holders do not voluntarily ensure that result, member states are obliged to devise a mechanism to compel it.[325]

Member states have implemented this obligation in a number of different ways.[326] Each of the different forms of implementation offers a model for preserving privileged uses; yet, most are deficient and would benefit from a reverse notice and takedown procedure.[327]

1. Triggering an Entitlement to Relief

The reverse notice and takedown procedure would be available to any particular user who wished to engage in a privileged use with respect to even a single work. Thus, the threshold would be substantially lower than the "adverse effect on classes of work" standard found in the rulemaking authorization contained in the DMCA, even as refined under the 2006 rulemaking.[328] But this more generous approach is fully consistent with Article 6(4), which would appear to allow analysis of particular uses of particular works by particular users.[329]

One could argue that the unavailability of a single work to be put to a single use might be deemed insufficiently substantial a cost to justify the mechanisms contemplated by Article 6(4). But this calculus depends in part upon the nature of the mechanism and upon what is contemplated by the member state as an "appropriate measure" in response to any given

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324. *See* Copyright Directive, *supra* note 10, art. 6(4).

325. *See id.*

326. *See generally* Westkamp, *supra* note 296; *see also* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 132 ("In some member states, only individual beneficiaries may claim the application of the limitation, while in other countries, interest groups and third parties also have the right to do so. In yet other member states, administrative bodies may be entitled to force right holders to make the necessary means available to beneficiaries of limitations.").

327. Of course, much of the blame can be laid at the door of the Directive itself. *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 132-33.

328. *See* Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 71 Fed. Reg. 68472 (Nov. 27, 2006) (to be codified at 37 C.F.R. §201) [hereinafter 2006 Rulemaking], at 6-7.

329. *See* Copyright Directive, *supra* note 10, art. 6(4) (incorporating by reference exceptions in Article 5 that involve particular uses for particular purposes including, for example, copying for the purpose of scientific research).

inability to exercise an exception granted by copyright law. If the procedure were speedy, and if "appropriate measure" meant one that permits a single circumvention, then there would be virtually no real cost to a state acting on the basis of a lower trigger threshold.[330]

Because the reverse notice and takedown procedure contemplates the possibility of relief in the form of a limited exemption for a particular user, it would seem perfectly appropriate that the obligation of member states should arise more easily than if broader relief were sought. As the recent refinement by the Librarian of Congress of the notion of "classes of works" reflects,[331] the sub-categories of privileged uses that emerge from a matrix of affected works, from groups of users, and from a range of uses, are substantial and disparate. Not only must different forms of relief be available, but also different levels of need to actuate permitted uses should trigger such relief.

The fact that relief under the reverse notice and takedown procedure might be appropriate even with respect to a single use of a single work should not preclude the possibility of using the procedure where technological protection measures are having a more pervasive effect. Arguably, the relief available under any state-imposed mechanism should reflect the degree and type of harm caused by the application of technological protection measures. Thus, member states may need to create more intrusive or structural relief for third-party users or competitors if lawful uses of entire classes of works are being impeded.[332]

While this type of analysis parallels that conducted by the Register of Copyrights in the triennial rulemaking to some extent, the reverse notice and takedown procedure might remedy some of the deficiencies of that procedure. In particular, despite refinement in the 2006 rulemaking of the notion of adverse classes, the Register remains limited in the relief that she can offer, namely, the grant of a temporary exemption to a specified category of works from the application of Section 1201.[333] And that relief does not immunize third parties who, through the distribution of devices, assist in ensuring that privileged uses are made. Moreover, the process occurs only every three years.[334]

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330. *See* Symposium, *The Law & Technology of Digital Rights Management*, 18 BERKELEY TECH. L.J. 697, 760, 765 (2003) (remarks of Graeme B. Dinwoodie on Anti-circumvention Regulations in the United States and Elsewhere).

331. *See* 2006 Rulemaking, *supra* note 328.

332. *See* Symposium, *supra* note 330, at 765-66 (remarks of Dinwoodie).

333. *See supra* text accompanying note 137.

334. *See supra* text accompanying note 136.

Implementation of Article 6(4) in the United Kingdom includes the possibility that the complaint of obstruction to the exercise of privileged uses can be made on behalf of a class of users.[335] This type of claim should be a component of the reverse notice and takedown procedure. It would provide a useful, more flexible, and more dynamic complement to the rulemaking procedure.[336]

2. Encouraging the Proper Role for Voluntary Arrangements

We believe that the reverse notice and takedown proposal should be available to users and competitors even if copyright owners voluntarily make works available by overriding TPMs to some extent. In this respect, the proposal might appear to depart from the strict text of the EU Directive. Under the Directive, the obligation upon member states arises "in the absence of voluntary measures taken by right holders, including agreements between right holders and other parties concerned."[337] However, even though the provision contemplates some room for right holders to forestall legal intervention through voluntary arrangements such as contract, this freedom cannot be unlimited without rendering Article 6(4) meaningless.[338] In any event, we do not believe that right holders have, in fact, undertaken such voluntary measures thus far, which is why a reverse notice and takedown regime is sorely needed.

The very availability of the reverse notice and takedown procedure may, in fact, facilitate licensing on reasonable terms and conditions and

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335. *See* Copyright and Related Rights Regulations, 2003, S.I. 2003/2498, art. 24, § 296ZE(2) (U.K.), *available at* http://www.opsi.gov.uk/si/si2003/20032498.htm ("person being a representative of a class of persons prevented from carrying out a permitted act"); *see also* Unterlassungsklagengesetz [UklaG, Injunctions Act], Aug. 27, 2002, BGBl. I at 3422, as amended by Urheberrechtsgesetz [Copyright Act], Sept. 10, 2003, BGBl. I at 1774, art. 3, § 3a (F.R.G.)

336. If the request could not be made on behalf of a class of users, there might arise the problem whether similarly situated third parties could rely on responses of copyright owners to a request from a user under the reverse notice and takedown procedure. To the extent that the request invokes a "purpose exception," it is unlikely that copyright owners would make distinctions between users and thus as a practical matter similarly situated third parties could rely on relief granted by copyright owners. To the extent that copyright owners did make distinctions for improper reasons, occasion may arise to invoke Dan Burk's proposed anti-circumvention misuse doctrine. *See* Burk, *supra* note 152. With respect to "identity" exceptions, persons falling within the group of beneficiaries entitled to exercise the exception should be able to take advantage (i.e., treat as "precedential") relief granted to others possessing the same identity.

337. Copyright Directive, *supra* note 10, art. 6(4).

338. *See* Rieber-Mohn, *supra* note 316, at 188 (arguing that voluntary measures by right holders must be "appropriate" in order to avoid member state intervention and must occur within a reasonable period of time).

induce other voluntary measures to ensure that exceptions can be exercised; voluntary measures that adequately preserved the ability to exercise those exceptions would obviate the need for member states to take further action against right holders. Whether acting in advance of the threat of later sanctions (under the general language of Article 6(4)), or under contemporaneous threat (in the case of the reverse notice and takedown procedure implementing that provision), the shadow of legal compulsion might foster private ordering that is more balanced in nature.[339]

The only type of "voluntary measure" expressly referenced in Article 6(4) is "agreements between right holders and other parties concerned."[340] However, reaching consensus among the vast range of interests now implicated by copyright law may be quite difficult. The process of legislating copyright law, which often approximates a contractual negotiation, has become tortuous and slow. It is unlikely that agreements between copyright owners and users over taking down TPMs will be easy to achieve.

Because many exceptions depend on the type of use, rather than the category of user (i.e., purpose exceptions, not identity exceptions), it may not suffice merely to identify the relevant beneficiaries with whom to negotiate. If the obvious categories of users are singled out as beneficiaries, focusing on identity exceptions, it will privilege traditional "fair use communities,"[341] which may constrain important sources of creativity. Consensus among collectives often ignores the needs of single users or users within very loosely organized communities, and the reverse notice and takedown proposal will accommodate these potentially important creators.

Agreements are not the only form of voluntary measure through which right holders might forestall the intervention of member states. For example, right holders might apply TPMs in ways that permit privileged uses. Although this outcome might seem ideal in theory, such an approach carries with it technological limitations. Implementing such fact-specific exceptions as the fair use doctrine or other privileged uses in computer code will prove immensely difficult.[342] Thus, this cannot be the sole mechanism through which to ensure privileged uses.

Moreover, such arrangements raise broader normative concerns. Relying on copyright owners accurately to map technology to legal rules dele-

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339. Some private ordering has clearly occurred in the shadow of Article 6(4). *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 107.

340. *See id.*

341. *See also* Ginsburg, *supra* note 14.

342. *See* Nic Garnett, *Automated Rights Management Systems and Copyright Limitations and Exceptions*, WIPO Doc. No. SCCR/14/5 (Apr. 27, 2006), *available at* http://www.wipo.int/edocs/mdocs/sccr/en/sccr_14/sccr_14_5.doc.

gates immense power to those owners both in the interpretation of the default rules and in assessing the adequacy of the technology used to guarantee permitted uses.[343] Even if the copyright owners accurately interpreted and implemented existing permitted uses, technological features would remain inherently backward-looking.[344] One of the advantages claimed for the fair use doctrine is its capacity to adapt efficiently to reflect new technological conditions.[345]

The European Commission viewed legislative intervention as a background threat to provide incentives for voluntary arrangements with copyright owners. Even so, the reverse notice and takedown approach—immediately guaranteeing the right to demand the exercise of privileged uses, regardless of voluntary arrangements—may be preferable. The desired end is the same: encouraging private parties to make arrangements that allow valuable and privileged uses.

3. Ensuring an Effective Ability to Engage in Privileged Uses

One of the principal points of contention in implementing the WCT has been whether national legislation should prohibit both acts of circumvention and devices designed to facilitate circumvention. Creating excep-

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343. *See* Eduardo M. Penalver & Sonia Katyal, *Property Outlaws* (Fordham Law Legal Studies Research Paper No. 90, Apr. 2007), *available at* http://ssrn.com/abstract=745324 (discussing "anti-delegation" architecture of copyright law). To the extent that we wish to rely on the incorporation of privileged uses in the architecture of the technological protection measures, it might be important to enlist the support of unfair competition or consumer protection law in requiring the disclosure by copyright owners of the precise nature and extent of technological protection measures. This objective has been secured in a number of European countries, in part through DRM-specific legislation (e.g., Germany), Urheberrechtsgesetz [Copyright Act], Sept. 12, 2003, BGBl. I at 1774, art. 1, § 95(d) (F.R.G.), and in part through litigation under general principles of consumer protection (e.g., in France). *See* Association CLCV / EMI Music France, Tribunal de grande instance [T.G.I.] [ordinary court of original jurisdiction] Nanterre, 6e ch., June 24, 2003 (Fr.), *available at* http://www.legalis.net/jurisprudence-decision.php3?id_article=34 (fining Sony for failing to disclose TPM). As a result, market forces may play a greater role in ensuring that copyright owners do not abuse the application of technological protection measures in the first place. *See also* Nika Aldrich, *A System of Logo-Based Disclosure of DRM on Download Products* (Apr. 29, 2007), *available at* http://www.ssrn.com/abstract=983551.

344. Of course, the same may be true of agreements reached between copyright owners and users. Thus, any voluntary agreement that is concluded ideally should go beyond the articulation of present substantive rules and contemplate procedural or institutional components that facilitate attention to the spontaneity and dynamism of the ways in which users might wish to engage with copyrighted works.

345. *See* H.R. REP. NO. 94-1476, at 66 (1976)*; see also* Pamela Samuelson, *Fair Use For Computer Programs and Other Copyrightable Works in Digital Form: The Implications of* Sony, Galoob *and* Sega, 1 J. INTELL. PROP. L. 49 (1993).

tions to a prohibition on circumventing technological protection measures may be effectively meaningless if third parties with the technological capacity to engage in circumvention are not able to provide privileged users with circumvention tools.

Article 6(4) requires member states to ensure that right holders make available to the beneficiary of an exception or limitation the means of benefiting from that exception or limitation. This may impose a more affirmative obligation on member states to ensure that circumvention tools are available to some degree. Certainly, the forms of relief contemplated by Commission officials under the provision include quite affirmative steps, such as the distribution of the "unlocking keys" necessary to circumvent the technological protection measures.[346]

If the reverse notice and takedown procedure is to ensure the possibility of privileged uses notwithstanding the application of TPMs, the procedure might offer standing to providers of circumvention tools. Alternatively, third-party service providers might be afforded the right to take advantage of the relief secured by individual users under the procedure. In Part III, we thus suggested that courts "allow those providing needed decryption skills and technologies to benefit from the same privileged use exception that a *demandeur* had ultimately vindicated either in court or by silent acquiescence of the copyright owner."[347]

Copyright law does not typically permit a third party to defend the legality of their activities on the basis that it is facilitating the exercise of privileged uses by another party (outside the context of secondary liability).[348] Yet, absent the involvement of such third parties, the rights secured

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346. *See* Dusollier, *Fair Use by Design*, *supra* note 313; Nora Braun, *The Interface Between the Protection of Technological Protection Measures and the Exercise of Exceptions to Copyright and Related Rights: Comparing the Situation in the United States and the European Community*, 25 EUR. INTELL. PROP. REV. 496, 502 (2003).

347. *See supra* text accompanying note 275.

348. *See* Princeton Univ. Press v. Mich. Document Serv., 99 F.3d 1381, 1391 (6th Cir. 1996), *cert. denied*, 520 U.S. 1156 (1997) (quoting WILLIAM PATRY, FAIR USE IN COPYRIGHT LAW 420 n.34 (1996)) (arguing that "the courts have . . . properly rejected attempts by for-profit users to stand in the shoes of their customers making nonprofit or noncommercial uses"). The historical weakness of prohibiting commercially oriented third parties from claiming third-party beneficiary status with respect to the assertion of privileged uses forced the British House of Lords, in a leading case involving control of the spare parts market, to adapt a doctrine based in property law that imposed restrictions on the initial seller of the property, rather than find a right personal to the user of the property. Thus, in *British Leyland Motor Co. v. Armstrong Patents*, [1986] 1 All E.R. 850 (H.L.) (U.K.), the Court held that the owner of copyright in the drawings of an exhaust pipe of a car could not enforce that copyright so as to prevent the sale of unauthorized

by the reverse notice and takedown procedure may effectively become worthless.[349] In this context, the proposal thus derogates from parallelism with traditional copyright law, but it does so because the technological realities are different. A commercial copyshop might have improved the efficiency of professors producing coursepacks or students making personal copies, but the copying could have occurred without their help.[350] The same is not true of technological circumvention (otherwise there really would be some doubt about whether the measures were "effective").

4. Developing Appropriate Forms of Relief

Of course, one can avoid this debate entirely, at least within the structure of Article 6(4), by noting that this question is closely tied to the question of relief. To the extent that the relief provided is more structural in nature, such as requiring the modification of the TPMs or the distribution of the work in unprotected format, procedural devices such as expanded standing or third-party beneficiary rules would be unnecessary. Such "structural" relief does appear consistent with the type of approach contemplated by Commission officials under Article 6(4), when they suggested that the relief might include the "distribution of unlocking keys."[351]

Focusing on the nature of relief available under the reverse notice and takedown procedure might be a cleaner approach than innovating with procedural devices. In Part III, we suggested that copyright owners receiving the reverse notice and takedown request would either have the responsibility to take down the TPMs that impeded privileged uses or the obligation to contest the use on legally actionable grounds.[352] Compliance with such a request would, of course, effectively grant structural relief, albeit

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spare parts because to do so would derogate from the grant of the property right in the car.

This doctrine, though short-lived in UK copyright law because statutory revisions quickly addressed the specific problem of spare parts and rights in the designs of useful articles, highlights the importance of limiting the rights of the right holder rather than conferring personal rights only on individual users. *Cf.* Canon Kabushiki Kaisha v. Green Cartridge Co., [1997] A.C. 728 (P.C.) (appeal taken from H.K.) (*per curiam* opinion by Lord Hoffman); Mars U.K. v. Tecknowledge Ltd., [2000] F.S.R. 138 (Ch.) (U.K.) (opinion of Jacob, L.J.) (noting effect of demise of the *British Leyland* principle under UK law).

349. *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 133.

350. *See* Princeton Univ. Press v. Mich. Document Serv., 99 F.3d 1381 (6th Cir. 1996), *cert. denied*, 520 U.S. 1156 (1997).

351. *See* Jorge Reinbothe, *The Legal Framework for Digital Rights Management*, Digital Rights Management Workshop, Brussels, Feb. 28, 2002, at 2, *available at* http://ec.europa.eu/information_society/eeurope/2005/all_about/digital_rights_man/doc/workshop2002/drm_workshop_brx_rev.doc.

352. *See supra* Section III.D.1.

without judicial or administrative intervention. A failure to comply with the reverse notice and takedown request could then provide a user group with standing to seek the right to circumvent for the purposes of specified non-infringing uses.

If the user group was successful, the ability of similarly situated third parties to take advantage of the court's decision would depend upon the nature of the relief granted. In countries that recognize the doctrine of collateral estoppel, third parties could clearly rely on the court's determination whether the use in question was privileged. However, spreading the full benefits of the court's ruling might depend upon whether the court simply permitted the requesting party to circumvent, permitted the user group to employ a provider of circumvention services to unlock the TPM, or ordered the copyright owner to modify the TPM.[353]

The significance of the nature of the relief granted in this regard becomes clearer when one examines the deficiencies in one member State's implementation of Article 6(4). Under the provisions implementing Article 6(4) in the United Kingdom, users who are unable to engage in a privileged use due to the application of TPMs may petition the Secretary of State.[354] The Secretary of State can require the copyright owner to demonstrate a "voluntary measure or agreement" or face "directions" that enable the relevant beneficiary to take advantage of the copyright exemption.[355] If the copyright owner fails to follow those directions, it will be found in breach of a duty actionable by the user that complained.[356]

This procedure suffers from several deficiencies. In particular, it requires an application to the Secretary of State every time a user believes its right to engage in a privileged use is being impeded.[357] The reverse no-

353. It might also depend upon any conditions that the court placed on the exercise of the rights granted to the user. *See supra* text accompanying notes 283-284.

354. Copyright and Related Rights Regulations, 2003, S.I. 2003/2498, art. 24, §§ 296ZD(2), 296(2) (U.K.).

355. *See id.* at § 296ZE(3).

356. *See id.* at § 296ZE(6).

357. Other national laws employ different institutions to determine the claims of the users. For example, under Greek law, the matter is referred to mediators and, absent consent to the mediators' conclusion, to the Court of Appeal. But these institutions are still assessing whether a technological protection measure is impeding any particular privileged use, not whether an act of circumvention (or a device) will *ex post* be excused from liability because of that fact. *See* Law 3057/2002 (Official Gazette A/239/10 October 2002), art. 81, Implementation of the Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society and Other Provisions, *available at* http://portal.unesco.org/culture/en/file_download.php/3368a2bd0fffab9a5310a8e00abfb9

tice and takedown procedure may also suffer from a similar problem if applications must be made on a case-by-case approach and the relief contemplated simply authorizes a particular user to circumvent a particular technological protection measure and no more. However, this direct approach should prove much simpler than a formal referral to an administrative body, and practice under the proposal—as supplemented by judicial decisions, when necessary—should facilitate reliance on the mechanism over time, especially in common law jurisdictions.

If the "directions" from the Secretary of State required the copyright owner to modify the TPM, as a Recital of the Directive hints, one form of "appropriate measure" might be one that would have an across-the-board effect.[358] If the relief that a user could request under the reverse notice and takedown procedure could likewise take this form, a similar *erga omnes* effect could be achieved.[359]

The possibility of structural relief is important in ameliorating another weakness of the UK procedure (which might also, to some extent, be leveled at the reverse notice and takedown proposal). Requiring application by the beneficiary of the exemption fails to give adequate weight to those instances where creative acts covered by a privileged use are spontaneous in nature.[360] Copyright exemptions traditionally operated on the premise that the user would engage in the contested act and the legitimacy of that act would later be determined by application of the allegedly relevant exemption, a practice whose risks might also inhibit actual resort to spontaneous uses. The departure from this traditional assumption is in part simply a product of the application of TPMs, which of themselves establish an

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26Greek_law+.pdf (Greece). *See generally* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 67-68 (summarizing institutional choices made).

358. *See* Copyright Directive, *supra* note 10, recital 51 (providing example of "modifying an implemented technological measure").

359. The recital expressly mentions "other means" of ensuring the ability to engage in privileged uses. One of the responsible Commission officials suggested at the time the Directive was adopted that these means might include "handing out locking keys." *See* Reinbothe, *supra* note 351, at 2. Certainly, the language of "right holders making available to the beneficiary" seems to suggest affirmative conduct, beyond merely enacting an exemption to allow the beneficiary to engage in an act of circumvention (though that would also be a possible measure).

360. Requiring an application to a government official in order to engage in creative activity also devalues the importance of privacy or anonymity as an aspect of the creative environment. *See supra* note 290 (admitting this defect). In the notice and takedown procedure established by section 512, the copyrighted works at issue are created prior to the joining of dispute. Thus, the procedure does not interfere with the spontaneity of creative acts, or the potential importance of anonymity in the creative process.

inverted default of "ask first, act later." Nevertheless, requiring individualized applications in order to engage in privileged uses does not help.

Here again, if structural relief could be requested by a user seeking to engage in privileged uses, the costs of such a procedure and the repressive effect of having to seek permission would more often become a one-time occurrence. This supports the suggestion above that the reverse notice and takedown procedure should permit the *demandeur* to seek broader relief than merely obtaining immunity to circumvent.

While such structural relief as requiring the modification or elimination of technological protection measures may, at first blush, seem quite radical, it is fully consistent with Article 6(4), which contemplates that copyright owners have an affirmative role to play in ensuring the preservation of the balance of rights between owners and users of works.[361] To be sure, the relief that would be secured through the mechanisms implementing Article 6(4) is not detailed in the Directive, and some commentators have argued that it cannot require the copyright owner to reveal the digital lock.[362] But a per se rule foreclosing such relief is inconsistent with the open-ended nature of the Directive, and indeed with statements by Commission officials after its adoption.[363]

Whether such relief could undermine the efforts of copyright owners to protect against even infringing uses[364] would depend upon the terms under which such disclosure was made. For example, if a handover of the digital lock were conditioned on the manner in which the information was used or disclosed, it might enable the privileged uses without undermining the copyright owner's legitimate rights to protect against infringement. This possibility should make the reverse notice and takedown procedure attractive to industry. To the extent that the information is disclosed to third parties who will facilitate the privileged use by a particular *demandeur*, the provision of circumvention services as opposed to the manufac-

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361. *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 68-69 (noting affirmative nature of obligations).

362. *See* Braun, *supra* note 346, at 502 (arguing that "handing over the 'key' to circumvent the technological measure to users is inappropriate and would endanger the whole system of technological measures").

363. *See* Reinbothe, *supra* note 351, at 2; BENTLY & SHERMAN, *supra* note 299, at 311.

364. Some might argue that our entire proposal will cause more infringement. But every time you legitimate any dual-use technology, there is a risk of infringement. On the other hand, if you lock up all works in technological fences, there is a risk of fewer public interest uses. For the reasons explained in Part II, we think that the balance between these two risks needs to be better calibrated, and can be done so without jeopardizing the ability to enforce copyrights effectively against bad actors.

ture of devices is less likely to implicate the copyright owners' nightmare scenario.

Likewise, under the original Australian implementation of the WCT, the statute allowed circumvention devices to be supplied to a beneficiary of an exception for a permitted use if the person making the privileged use provided the supplier with a signed declaration to that effect.[365] In any event, allowing a circumvention service provider to assist a particular user should be less problematic.[366]

No predetermined single form of relief should be established. One size will likely not fit all, given the wide range of uses that should be privileged. Yet, there may be circumstances when, under defined conditions, even the disclosure of the digital lock might be appropriate. One of the benefits of the fair use doctrine has been its flexibility and its ability to adapt to changing circumstances. The capacity of technology to effectuate a balance of rights, and what that balance should be, may well be very different in five years time. Bodies established under Article 6(4) in the European Union, and courts in the United States under a reverse notice and takedown procedure, should remain free to develop appropriate means to ensure the continued ability to engage in privileged uses.

D. Broader Perspectives and the Role of the Commission

The reverse notice and takedown procedure is precisely the type of conceptual approach that is mandated, albeit in a narrow form, by Article 6(4). A member state could implement the reverse notice and takedown procedure as a means of fulfilling the obligations imposed by Article 6(4). As a result of the Directive's inadequate harmonization of exceptions and the opaque language of Article 6(4) itself, it is unclear how many privileged uses are protected by Article 6(4).[367] Some countries have implemented Article 6(4) without clear reference to specific limitations; others have explicitly singled out specific limitations as preserved by Article 6(4) despite the application of TPMs.

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365. *See* Jeffrey Cunard et al., WIPO Standing Comm. on Copyright and Related Rights, *Current Developments in the Field of Digital Rights Management*, WIPO Doc. No. SCCR/10/2 (Aug. 1, 2003), *available at* http://www.wipo.int/documents/en/meetings/2003/sccr/pdf/sccr_10_2.pdf.

366. *See* Ginsburg, *supra* note 14, at 17.

367. *See* COPYRIGHT DIRECTIVE IMPLEMENTATION STUDY, *supra* note 11, at 169 (suggesting revision of Article 6(4) to "give protected status to those limitations that . . . reflect the fundamental rights and freedoms enshrined in the European Convention on Human Rights, [and] those that have a noticeable impact on the Internal Market or concern the rights of European consumers").

The most that can be said with any confidence is that implementation in member states has been inconsistent.[368] But, even absent any further harmonization of different national choices, each member state could adopt the reverse notice and takedown procedure as a mechanism to preserve the precise range of privileged uses that the member state reads as permitted by the Directive.[369]

Even if the Commission might not look favorably on any effort to expand the general norm of Article 6(4) beyond the narrow context in which the Directive currently requires it, this would not preclude other countries from introducing a reverse notice and takedown procedure. To the extent that the US or the EU might seek to repress such efforts through bilateral trade negotiations, Article 6(4) shows that acting within the regime of DRM to protect uses privileged by traditional copyright law is fully consistent with the WCT. If the EU can limit copyright owners' control as to some undefined exceptions, why could another country not do so with respect to all exceptions traditionally protected by copyright law and consistent with international copyright obligations?

Moreover, even within the EU, the Commission's recently solicited review of the copyright *acquis* might provide an opening for some reform of existing law, including the expansion of the general principle contained in Article 6(4). The reverse notice and takedown procedure discussed in this Article should be given serious attention during the Commission's review. At least, a Policy Statement from the Commission acknowledging the ability of member states to build upon the underlying norm of Article 6(4), even beyond a strict reading of the text, might provide room for important procedural innovations in ways that truly effectuate the values not only of the Directive but of the WCT that it claims to implement.

V. CONCLUSION

By the end of the multilateral negotiations held at Geneva in 1996, the intense struggle among stakeholders representing content providers, the telecommunications industry, online service providers, and the educational and scientific communities produced a workable compromise in the WCT.

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368. *See* Marcella Favale, *Technological Protection Measures and Copyright Exceptions in EU27: Towards The Harmonization*, at 22, August 10, 2007, http://www.law.depaul.edu/institutes_centers/ciplit/ipsc/paper/Marcella_FavalePaper.pdf, at 22 (draft paper presented at Intellectual Property Scholars Conference) ("Every country that decided to single out only some exceptions, picked from the list a different selection from that [in Article 6(4)] of the directive, and from that of the other countries.").

369. *See supra* note 319 and accompanying text (making this point).

The importance of preserving access to the copyrighted culture protected in cyberspace under the new Treaty was expressly recognized in at least three important places:

1) The broad preambular recognition of "the need to maintain a balance between the rights of authors and the larger public interest, particularly education, research and access to information;"[370]

2) The further express recognition, in Article 11, that the international standard for reinforcing TPMs was not meant to entitle authors to "restrict acts, in respect of their works, which are . . . permitted by law;"[371]

3) And the express understanding in the Agreed Statement concerning Article 10, which permitted contracting parties "to carry forward and appropriately extend into the digital environment" existing limitations and exceptions in their national laws and "to devise new exceptions and limitations that are appropriate to the digital network environment."[372]

This historic compromise made it possible to establish a balanced legal infrastructure for worldwide networked communications of copyrighted works in the digital environment.

Unfortunately, at the national implementation phase, the balance struck at Geneva gave way, in the United States, to the one-sided provisions of the DMCA and, in the European Union, to the only slightly less unbalanced approach of the EU Directive. While the DMCA formally acknowledged the need to preserve privileged uses in section 1201(c), sections 1201(a) and (b) have arguably separated access from privileged use and made it difficult, and under some interpretations impossible, to raise questions of privileged use once TPMs control access to copyrighted works. The EU Copyright Directive took an equally tough approach to restricting access through TPMs. Although the Directive generally invoked a need to respect exceptions and limitations in local law, it simultaneously limited the scope of the provision enabling such privileged uses.

The end result on both sides of the Atlantic has been the emergence of a distorted, unbalanced copyright regime in cyberspace with a growing chorus of complaints from educational, scientific, and other public interest users, among others, and a growing revolt against the legal restraints on

370. WCT, *supra* note 1, Preamble.
371. *Id.*, art. 11.
372. Agreed Statements, *supra* note 2, statement concerning art. 10.

legitimate uses of the copyrighted culture in some quarters. The abusive possibilities inherent in the DMCA's access control provisions became dramatically visible in the recent lock-out cases, where TPMs were used to perpetuate the kind of "fraud on the patent law" that the Supreme Court had struck down in its 1880 decision in *Baker v. Selden*.[373]

Moreover, these extreme distortions of basic copyright principles mask the much greater daily pressures that the DMCA puts upon the public interest user community, which depends upon easy and continuous access to ideas, facts and other inputs to knowledge that copyright laws have never been allowed to protect. Unless these distortions are remedied, a copyright system that was designed to promote progress by expanding the outputs of literary and artistic works could end by choking off access to essential inputs to the production of knowledge as a global public good in the digital environment.

Our proposal for a reverse notice and takedown procedure—designed to reduce the tensions between access protection measures and privileged uses—attempts to rebalance the copyright equation in cyberspace before the damaging effects of overprotection give rise to systematic failure or breakdown. Among its many advantages in the U.S. is the fact that it can be judicially developed and applied on a case-by-case basis, with low transaction costs and relatively few risks to either side. It allows bona fide public interest users to continue their work without undue interference from TPMs and with the support of the content-providing industries themselves, who may verify the legitimate uses being enabled and contest uses that seem to stretch the boundaries of legally defined privilege. It builds on workable procedures that have already proved their usefulness in the context of ISP liability, while enabling pinpoint litigation on borderline issues that all sides will want clarified. There is good reason to believe that industry itself might prefer a gradualist mechanism of this kind to more intrusive legislative measures with unknown future consequences.

If judicial experimentation with a reverse notice and takedown procedure proved unsuccessful for reasons we cannot foresee, it could be judicially abandoned as easily as it had been adopted. If, instead, it proved effective, the end results could eventually be codified both in the United States and abroad on the basis of the experience gained in the meantime. In that event, our proposal would have helped copyright law to regain its traditional balance in the digital environment while implementing the true spirit of the historic compromise originally embodied in the WIPO Copyright Treaty of 1996.

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373. 101 U.S. 99 (1880).