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Fair Use Infrastructure for Rights Management Systems

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FAIR USE INFRASTRUCTURE FOR RIGHTS MANAGEMENT SYSTEMS

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I. INTRODUCTION

Rights management systems and laws designed to protect these systems from circumvention occupy an increasingly central role in increasingly heated discussions about online copyright enforcement. Proponents argue that without these systems and laws, there is no possibility of meaningful copyright enforcement online. Opponents contend that the emerging technical and legal regimes for digital rights management threaten copyright's traditional balance of rights and limitations and are inconsistent with the preservation and growth of a vibrant public domain. Without disclaiming the views we have previously stated on those matters,[1] we would like to ask some rather different questions. Thus far, the debate about rights management systems has taken them as given — that is, it has taken decisions about their design as variables exogenous to the policy process. We would like to question this assumption. Can rights management systems be designed and implemented in a way that preserves the traditional copyright balance? If so, how might the law encourage this? Should the law do so?

In this paper, we consider whether rights management systems can be supported by legal and institutional infrastructures that enable appropriate public access to the works secured by these technologies. We focus primarily on the design challenges posed by the fair use doctrine, which historically has played a central role in preserving such access. Throughout the paper, however, we also use the term "fair use" to refer more generally to the variety of limiting doctrines within copyright law that serve this goal. We begin in Part II by reviewing the contours of the fair use doctrine and the legal and policy requirements that mandate appropriate public access to copyrighted works and other publicly available informational works. Part III discusses the nature and

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1. Dan L. Burk, *Muddy Rules for Cyberspace*, 21 CARDOZO L. REV. 121, 168–76 (1999) [hereinafter *Muddy Rules*]; Dan L. Burk, Anticircumvention Misuse (manuscript on file with author) [hereinafter Anticircumvention Misuse]; Julie E. Cohen, *Copyright and the Perfect Curve*, 53 VAND. L. REV. 1799 (2000) [hereinafter *Perfect Curve*]; Julie E. Cohen, *Copyright and the Jurisprudence of Self-Help*, 13 BERKELEY TECH. L.J. 1089 (1998) [hereinafter *Self-Help*]; Julie E. Cohen, Lochner *in Cyberspace: The New Economic Orthodoxy of "Rights Management"*, 97 MICH. L. REV. 462 (1998) [hereinafter Lochner *in Cyberspace*]; Julie E. Cohen, *Some Reflections on Copyright Management Systems and Laws Designed to Protect Them*, 12 BERKELEY TECH. L.J. 161 (1997) [hereinafter *Reflections*]; Julie E. Cohen, *A Right to Read Anonymously: A Closer Look at "Copyright Management" in Cyberspace*, 28 CONN. L. REV. 981 (1996) [hereinafter Cohen, *Read Anonymously*].

purpose of rights management systems, their legal status under the current anti-circumvention provisions of U.S. law, and their likely effects on fair use. In Part IV, we consider the foreseeable technical and institutional options that might enable proper public access to secured works and offer a proposal combining minimum system flexibility requirements in exchange for copyright enforcement and "key escrow" in exchange for anti-circumvention protection. Part V assesses the legal feasibility of such a system and concludes that the proposal comports with the United States' obligations under international copyright agreements. Finally, Part VI considers whether implementation of the proposal would represent good policy and concludes that it may be the best realistic alternative for preserving fair use in the digital age.

II. THE SOCIAL FUNCTIONS OF FAIR USE

Fair use performs a variety of related functions within the policy framework of copyright law. First, the Supreme Court has identified fair use as a type of "safety valve" that mediates between the strictures of copyright and the demands of the First Amendment.[2] Copyright is a type of restraint on speech: The author's property right in an expressive work legally restrains others in their use of that expression. Such governmental restraints on speech are typically disfavored, yet in the case of copyrightable content, the Constitution both allows copyright restrictions and disallows governmental interference with free expression. Fair use partially reconciles these apparently contradictory constitutional provisions by allowing the use of otherwise protected material in criticism, comment, parody, news reporting, and similar uses in the public interest.[3] This arrangement preserves proprietary rights in creative works while accommodating the public interest in open dialogue, deliberation, and the advance of knowledge.[4] Other doctrines within copyright, most notably the so-called "idea-expression distinction," also perform this function.[5]

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2. *See* Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 560 (1985).

3. *See* 17 U.S.C. § 107 (1994).

4. *See Harper & Row*, 471 U.S. at 560.

5. *See id.* at 556; 17 U.S.C. § 102 (b) (1994). Courts and commentators disagree about whether the fair use doctrine and the idea-expression distinction are sufficient to reconcile copyright law with the demands of the First Amendment, or whether other constraints on copyright are necessary. *See, e.g.*, Eldred v. Reno, 239 F.3d 372, 375 (D.C. Cir. 2001); Yochai Benkler, *Free as the Air to Common Use: First Amendment*

Fair use also has been identified as a device for correcting two types of market failure that are likely to occur in the market for propertized information created by the Copyright Act. First, fair use facilitates worthwhile uses of copyrighted works in instances where the value of the use is exceeded by the transaction costs of negotiating a license.[6] Under such conditions, an unfettered right to exclude might deter such valuable uses. The potential user of the work is unlikely to spend more to locate the owner and negotiate a license than he can recover from the licensed use. The fair use doctrine allows the potential user to take the needed portion of the work and make use of it without seeking a license, thus enabling uses that would otherwise be frustrated.

But this first type of market failure theory cannot by itself explain or justify much of the jurisprudence of fair use. This theory would only justify finding fair use for unauthorized uses of relatively minor value only when transaction costs are low; conversely, it would justify finding more substantial unauthorized uses to be fair only when transaction costs are exceptionally high. Yet the Supreme Court has made clear that unauthorized use of a work may be fair even when the copyright owner can be located easily and licensing mechanisms are available. For example, in *Campbell v. Acuff-Rose Music, Inc.*,[7] the Court held that unauthorized adaptation of a copyrighted song for parody by the rap music group 2 Live Crew might qualify as fair use, even though 2 Live Crew had requested, and been refused, a license.[8] Additionally, the 2 Live Crew parody was marketed for profit, which suggests that the value of the use to the group outweighed the transaction costs of licensing.

The 2 Live Crew case thus is emblematic of a second type of market failure in which the value of socially beneficial uses of copyrighted works is not fully internalized.[9] Commentary, criticism,

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Constraints on the Enclosure of the Public Domain, 74 N.Y.U. L. REV. 354 (1999); Mark A. Lemley & Eugene Volokh, *Freedom of Speech and Injunctions in Intellectual Property Cases*, 48 DUKE L.J. 147 (1998); Neil Weinstock Netanel, *Market Hierarchy and Copyright in Our System of Free Expression*, 53 VAND. L. REV. 1879 (2000). We are not aware of anyone, however, who argues that copyright needs no First Amendment safety valve.

6. Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the* Betamax *Case and its Predecessors*, 82 COLUM. L. REV. 1600 (1982).

7. 510 U.S. 569 (1994).

8. *Id.* at 594.

9. *See* Robert P. Merges, *Are You Making Fun of Me?: Notes on Market Failure and the Parody Defense in Copyright*, 21 AIPLA Q.J. 305 (1993).

parody, and other unauthorized uses may be of significant value in stimulating public debate and fostering an informed populace, but this value is diffuse and accrues to recipients other than the user of the copyrighted work.[10] A certain amount of unregulated private noncommercial sharing and copying of works also generates substantial but diffuse value, by fueling serendipitous creation and facilitating the free flow of ideas within society.[11] Where such positive externalities are present, social welfare would be increased by use of the work, but the potential user may be deterred from use because he will not assess it at its full value. In such cases, fair use may again serve to bypass licensing that appears too costly from the perspective of the potential user.[12] Here too the fair use doctrine has constitutional roots; the language and history of the constitutional grant of authority to enact federal copyright protection manifests the intent to promote the progress of knowledge through precisely these sorts of uses.[13] Fair use accommodates the interest in "progress" both directly, by providing the content for such exchanges, and indirectly, by fostering an aware and educated populace better able to participate in both public debate and the creation of future works of authorship. Once again, other copyright limitations and exceptions also perform these functions.[14]

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10. *See* Lochner *in Cyberspace*, *supra* note 1; Lydia Pallas Loren, *Redefining the Market Failure Approach to Fair Use in an Era of Copyright Permission Systems*, 5 J. INTELL. PROP. L. 1 (1997). Alfred Yen has argued that society also may have "non-economic" interests in such uses. *See* Alfred C. Yen, *When Authors Won't Sell: Parody, Fair Use, and Efficiency in Copyright Law*, 62 U. COLO. L. REV. 79 (1991); *see also* Lochner *in Cyberspace*, *supra* note 1, at 551–59.

11. *See* Benkler, *supra* note 5; *Perfect Curve*, *supra* note 1; Neil Weinstock Netanel, *Copyright and a Democratic Civil Society*, 106 YALE L.J. 283 (1996). Although few litigated cases have involved private noncommercial defendants, the Supreme Court's decision in *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984), makes clear that even widespread private noncommercial copying may be fair. *Id.* at 447.

12. This problem is most acute for cases of critical review or parody that might damage the market for the underlying work. Society has a strong interest in the commentary or the burlesque, but the owner of copyright in the criticized work is likely to view production of such a derivative work as a direct threat to his or her (or its) interests. *See Campbell*, 510 U.S. at 590–92; Richard A. Posner, *When is Parody Fair Use?*, 21 J. LEGAL STUD. 67 (1992).

13. *See* L. Ray Patterson, *Understanding the Copyright Clause*, 47 J. COPYRIGHT SOC'Y U.S. 365 (2000).

14. *See, e.g.*, 17 U.S.C. § 108 (1998) (regarding library copying privileges); 17 U.S.C. § 109(a) (1997) (limiting exclusive distribution right to first sale of copy for most works); 17 U.S.C. § 110 (1999) (exempting public performance and display for nonprofit activities and organizations).

Finally, fair use adapts copyright to new technologies that pose challenges for the traditional copyright framework.[15] For example, courts have used fair use to provide "breathing room" for the reverse engineering of copyrighted computer programs. The creation of a new piece of software often requires examination of the structure of other programs to design an interoperable product. Unless patented, the utilitarian functions of computer programs lie in the public domain and may be freely copied by those developing competing or complementary programs. But the most efficient method of examining other software, decompilation of the operating code, necessarily creates a copy of the program being studied. This copying during the process of reverse engineering might be considered an infringement of copyright. However, courts have consistently held that making temporary or intermediate copies in order to study a program and extract public domain information is fair because it ensures the development of new markets in copyrightable works where copyright holders might otherwise dominate or impede such development by controlling access to uncopyrightable technical standards.[16]

In a related application, fair use catalyzes limitations on the reach of contributory liability, thereby allowing the development of markets ancillary to those for copyrighted works. Under U.S. law, provision of a technology or service that facilitates copyright infringement may itself constitute infringement. But such contributory infringement occurs only when the technology provided to enable direct infringement has no substantial noninfringing use — in other words, when the device supplied has essentially no use other than to infringe.[17] This shelter for "dual purpose" technologies prevents copyright holders from stunting the development of new markets tangential to their proprietary interests. Fair use frequently will provide the substantial noninfringing use needed to invoke this protection. Thus, in *Sony v. Universal City Studios*,[18] the Supreme Court held that sale of the Sony Betamax video recorder was

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15. *See* 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).

16. *See* Sony Computer Entm't, Inc. v. Connectix Corp., 203 F.3d 596, 602–08 (9th Cir. 2000); DSC Communications Corp. v. DGI Techs., 81 F.3d 597, 601 (5th Cir. 1996); Bateman v. Mnemonics, Inc., 79 F.3d 1532, 1539 n.18 (11th Cir. 1996); Sega Enters., Ltd. v. Accolade Inc., 977 F.2d 1510, 1520 (9th Cir. 1992); Atari Games Corp. v. Nintendo of Am. Inc., 975 F.2d 832, 843–44 (Fed. Cir. 1992).

17. *See* Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 442 (1984).

18. *See id.*

not contributory infringement, despite the device's capacity to facilitate infringing recording of broadcast audiovisual works. The necessary non-infringing use was found in the practice of "time shifting," that is, taping a televised show at one time to be viewed at a later time, which the court found to be a fair use. This holding cleared the path for a flourishing market not only for home video recorders, but also for sale and rental of the plaintiff industry's copyrighted films.[19]

In sum, fair use plays an important — and constitutionally required — role in the dissemination and production of cultural products. As we now describe, however, fair use is currently threatened by a combination of new distribution technologies and unreflective legislative action.

III. CURRENT TECHNICAL AND LEGAL INFRASTRUCTURES FOR RIGHTS MANAGEMENT

For copyright owners, digital networks represent both a promise and a threat. Computer networks eliminate or minimize many of the costs associated with the publication and distribution of information products but also substantially eliminate the costs of making and distributing unauthorized copies. Although scholars and industry commentators have disputed predictions that digital networks will destroy the market for authorized copies of works, copyright owners have stated a reluctance to experiment with digital distribution without additional technological and legal protection against unauthorized

19. Many commentators have noted the irony of a ruling that permitted content users to profit handsomely by losing their infringement claim. We suspect that if the Court had held provision of VCRs to be contributory infringement, a market for video recorders and video rentals still would have emerged. Under a Coasean theory of arbitrage, assuming manageable transaction costs, if there were money to be made from the sale of VCRs, one would expect home electronics manufacturers to negotiate a license from the copyright holders. *Cf.* Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977) (advancing a "prospect" theory of intellectual property rights, under which improvement rights are controlled by initial inventors). The VCRs developed and marketed under such an arrangement, however, most likely would have functioned rather differently than those available today. For example, they might have been designed only to play back prerecorded videotapes, or to incorporate built-in copy protection. Thus, the issue is not so much whether the technology and its associated market would have developed, but what the technology would have looked like, which is inescapably a function of who controlled (or did not control) the development of the market. *Cf.* Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989 (1997) (arguing that reserving control of improvements for initial inventors is detrimental to innovation).

copying.[20] Within the past few years, they have succeeded on both fronts. These new technological and legal protections confer a degree of control over access to and use of copyrighted content that goes well beyond the rights afforded by copyright law.

Together with technology experts, the copyright industries have developed secure packaging and delivery software designed to prevent purchasers and third parties from making unauthorized uses of digital works. As envisioned by the copyright industries, these "rights management systems" will be capable of controlling, monitoring, and metering almost every conceivable use of a digital work.[21] This increased control, however, will allow copyright owners to appropriate far more protection than copyright law now provides. Of particular significance for this paper, copyright law allows some copying of protected expression under the fair use doctrine (and also under a variety of other exceptions designed to serve the public interest) and

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20. *See, e.g., WIPO Copyright Treaties Implementation Act: Hearing on H.R. 2281 Before the Subcomm. on Telecommunications Trade & Consumer Protection of the House Comm. on Commerce*, 105th Cong. (1998) (statement of Robert W. Holleyman, II, President & CEO, The Business Software Alliance); *Copyright Legislation: Hearings on H.R. 2281 Before the Subcomm. on Cts. & Intell. Prop. of the House Comm. on the Judiciary*, 105th Cong. (1997) (statements of Robert W. Holleyman, II, President, The Business Software Alliance; Allee Willis, Songwriter, on behalf of Broadcast Music, Inc.; Tom Ryan, CEO, SciTech Software, Inc., on behalf of the Software Publishers' Association; Gail Markels, General Counsel and Senior Vice President, Interactive Digital Software Association; and Allan R. Adler, Vice President for Legal and Governmental Affairs, Association of American Publishers); *National Information Infrastructure: Hearing on S. 1284 Before the Senate Comm. on the Judiciary*, 104th Cong. (1996) (statement of Kenneth R. Kay, Executive Director, Creative Incentive Coalition); *Copyright Protection on the Internet: Hearings on H.R. 2441 Before the Subcomm. on Cts. & Intell. Prop. of the House Comm. on the Judiciary*, 104th Cong. (1996) (statements of Barbara A. Munder, Senior Vice President, The McGraw-Hill Companies, Inc.; Frances W. Preston, President and CEO, Broadcast Music, Inc.; Jack Valenti, Chairman and CEO, Motion Picture Association of America, Inc.; and the Association of American Publishers).

21. *See, e.g.*, Daniel J. Gervais, *Electronic Rights Management and Digital Identifier Systems*, J. ELECTRONIC PUBLISHING, March 1999, *at* http://www.press.umich.edu/ jep/0403/gervais.html (last visited Oct. 1, 2001); IPR Systems, *What is Rights Management: The Nature of Knowledge and Rights Management Systems*, *at* http://www.iprsystems.com/html/rights_management.html (last visited Oct. 1, 2001); Mark Stefik, *Shifting the Possible: How Digital Property Rights Challenge Us to Rethink Digital Publishing*, 12 BERKELEY TECH. L.J. 138 (1997). For useful directories of entities currently conducting rights management research and/or offering rights management services, see Gervais, *supra*; Lock-My-Doc, *Digital Rights Management (DRM)*, *at* http://www.lockmydoc.com/drm/drm.html (last visited Oct. 1, 2001).

allows any use after the term of copyright protection has expired.[22] Rights management systems, in contrast, can insist that permission be sought, and a fee paid, for any use. This is so, moreover, whether or not the underlying information is still (or was ever) protected by copyright.

The copyright industries also have succeeded in obtaining extremely broad legal protection for rights management systems. After nearly three years of lobbying, both in Congress and in international treaty proceedings, the copyright industries were rewarded with Title I of the Digital Millennium Copyright Act ("DMCA"), which prohibits tampering with or circumventing these systems and also prohibits the manufacture, distribution, and importation of circumvention tools.[23] The DMCA also authorizes the Librarian of Congress, in consultation with the Register of Copyrights, to assess the impact of the circumvention ban on traditional fair use practices and, if necessary, to issue rules exempting certain users of certain categories of works from the ban.[24] The statute clearly states, however, that any such exemptions will not afford a defense to the prohibition on circumvention technologies.[25] As a practical matter, therefore, any exemptions ultimately declared will have very limited utility; self-evidently, most

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22. *See, e.g.*, 17 U.S.C. § 108 (1998) (library copying privileges); 17 U.S.C. § 109(a) (1997) (limitation of exclusive distribution right to first sale of copy for most works); 17 U.S.C. § 110 (1999) (public performance and display exemptions for nonprofit activities and organizations); *see also* 17 U.S.C. § 302 (1998) (establishing duration of copyright protection).

23. Digital Millennium Copyright Act, Pub. L. No. 105-304, Title I, 112 Stat. 2860 (1998), *codified at* 17 U.S.C. § 1201(a)–(b) (1999). The DMCA's anti-device provisions exclude devices that have some other commercially significant purpose or use. 17 U.S.C. § 1201(a)(2), (b)(1) (1999). As a practical matter, however, enabling uses of the underlying work that would be permitted by the fair use doctrine or some other exception to copyright protection is unlikely to qualify as commercially significant. *See* 17 U.S.C. § 107 (1992) (directing court to consider, among other factors, "the effect of the use upon the potential market for or value of the copyrighted work"); Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 562 (1985); David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 U. PA. L. REV. 673, 712–14, 727–28 (2000). The 1996 WIPO Copyright Treaty and its requirements concerning legal protection for rights management systems are discussed in Part V, *infra*.

24. 17 U.S.C. § 1201(a)(1)(B)–(D) (1999).

25. 17 U.S.C. § 1201(a)(1)(E) (1999); *see also* Universal City Studios v. Reimerdes, 82 F. Supp. 211, 322–23 (S.D.N.Y. 2000) ("If Congress has meant the fair use defense to apply to such actions [brought under the DMCA's anti-device provisions], it would have said so."), *appeal pending sub nom.* Universal City Studios v. Corley, No. 00-9185 (2d Cir.).

users will be unable to exercise their circumvention rights unless they are provided with the tools to do so.

The development of rights management systems powerfully demonstrates the ability of technology to regulate behavior. Much as physical barriers and spatial relations constrain behavior in actual space, technical standards constrain behavior in cyberspace. In the physical world, people cannot walk through solid walls, occupy two spaces simultaneously, or carry skyscrapers away in their pockets.[26] Similarly, there are certain activities that simply cannot be performed on a particular computer system because the system is not built to accommodate the behavior — the system may be programmed to deny access without a password, prevent logging on simultaneously from two terminals, or prohibit alteration of a file that is designated "read-only." At first consideration, the observation that the technology will only do what the technology will do may seem blatantly obvious, even tautological. But as Larry Lessig and Joel Reidenberg have pointed out, technical standards are within the control of the designer and so confer upon the designer the power to govern behavior with regard to that system.[27] Once constraints on behavior are built into the technical standards governing a technology, the technical standards effectively become a new method for governing use of that technology — in essence, the technical standards become a type of law. Such technical rule sets may supplement or even supplant the legal rule sets designed to govern the same behavior. Thus, government may choose to employ or enforce technical standards to achieve goals that otherwise might be achieved by legal rulemaking. Reidenberg in particular has examined in detail the complex set of interactions through which governmental action can shape technological standards into a substitute for legal controls.[28]

The design of technological rule sets, however, is not the sole provenance of the state; indeed, it is more often left to private parties. In the case of rights management systems, copyright owners determine the rules that are embedded into the technological controls. By implementing technical constraints on access to and use of digital information, a copyright owner can effectively supersede the rules of intellectual property law. For example, as described above, the

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26. *See* Lawrence Lessig, *Constitution and Code*, 27 CUMBERLAND L. REV. 1 (1997).

27. LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE (1999); Joel R. Reidenberg, *Lex Informatica*, 76 TEX. L. REV. 553 (1998).

28. *See id.* at 568–76.

copyright owner may decide that the technological controls will not permit any copying of the controlled content, whether or not the copying would be fair use.[29] If the integrity of the controls is backed by the state, as it is under the DMCA's anti-circumvention provisions, the legal enforcement of rights also shifts its focus from penalties for unauthorized infringement to penalties for access unauthorized by the rightsholder.

The implications of these developments are stark: Where technological constraints substitute for legal constraints, control over the design of information rights is shifted into the hands of private parties, who may or may not honor the public policies that animate public access doctrines such as fair use. Rightsholders can effectively write their own intellectual property statute in computer code. Moreover, to the extent that the DMCA appears to legitimate technological controls over copyrighted works, without regard to their effect on public policy, the statute effectively grants rubber-stamp approval to such private legislation. Yet this result — allowing every copyright owner to custom-design its own version of copyright law — cannot conceivably have been what Congress intended.[30]

Of course, the promulgation of technologically embedded rule sets is not the first situation in which private allocation of rights to information has been encouraged and enforced by public institutions. Most notably, the coercive power of the state is routinely brought to bear in the case of contractual agreements, such as confidentiality agreements and intellectual property licenses. Since technical controls can impose conditions that formerly might have been the subject of a detailed license agreement, such controls might be viewed as equivalent to a sort of licensing regime. Then, extending the analogy, penalties for circumvention of the technological constraints simply stand in for the private law of contract, which penalizes breach of license.

But such a comparison to contract law by no means justifies employment of technical controls that contravene the established public policy of copyright. Where traditional contracts are at issue, carte blanche enforcement of private agreements has never been the rule in Anglo-American law. When such agreements are found illegal, unconscionable, or simply in violation of public policy, they are held unenforceable.[31] Because contract law is state law, a similar result also

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29. Stefik, *supra* note 21, at 147.

30. Other language in the DMCA indicates as much. *See* 17 U.S.C. § 1201(c)(1) (1994 & Supp. V 1999).

31. *See* RESTATEMENT (2D) OF CONTRACTS §§ 8, 178, 179, 208 (1979).

may be reached on grounds of federalism: Where enforcement of a state law contract would violate the public policy inherent in the federal intellectual property scheme, or that embedded in the Constitution itself, such contractual provisions are preempted.[32] An attempt to leverage the federal statutory right beyond the limits set by federal policy constitutes grounds for voiding the contract.

There is no reason to suppose that this result should differ for technological analogues to contracts. Where rights management systems attempt to impose restrictions on access to or use of informational content that would be improper in a contractual agreement, the restrictions should be viewed as equally repugnant to public policy and equally void. One of us has previously argued that the coercive power of the state should be extended in support of technological constraints no farther than it may be to enforce statutory or contractual constraints.[33] Put differently, where the Constitution imposes limits on the government's creation and recognition of property rights in intellectual goods, those limits apply equally to both legally and technologically delineated property. In some instances of overreaching via technological controls, the Constitution may even demand a limited self-help right, or "right to hack," to surmount privately erected technological barriers to information that the Constitution requires be publicly accessible.[34]

The familiar reply from the proponents of the anti-circumvention provisions appeals not to the language of contract but to the legitimate right to control access to private property. There is no right, it is said, to break into a dwelling to gain access to public domain information.[35]

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32. For detailed analysis of the preemption question, see *Self-Help*, *supra* note 1; David L. Lange, *The Intellectual Property Clause in Contemporary Trademark Law: An Appreciation of Two Recent Essays and Some Thoughts About Why We Ought to Care*, 59 LAW & CONTEMP. PROBS. 213 (1996); Mark A. Lemley, *Beyond Preemption: The Law and Policy of Intellectual Property Licensing*, 87 CAL. L. REV. 111 (1999); David Nimmer et al., *The Metamorphosis of Contract Into Expand*, 87 CAL. L. REV. 17 (1999); Malla Pollack, *Unconstitutional Incontestability? The Intersection of the Intellectual Property and Commerce Clauses of the Constitution: Beyond a Critique of* Shakespeare Co. v. Silstar Corp., 18 SEATTLE U. L. REV. 259 (1995); David A. Rice, *Public Goods, Private Contract, and Public Policy: Federal Preemption of Software License Prohibitions Against Reverse Engineering*, 53 U. PITT. L. REV. 543 (1992). Because federal intellectual property policy is constitutional as well as statutory, moreover, whether Congress now intends to institute a rule of deference to these new "contracts" is irrelevant.

33. *Self-Help*, *supra* note 1, at 1140–42.

34. *See id.* at 1140–42.

35. *See, e.g., NII Copyright Protection Act of 1995: Joint Hearing Before the*

This analogy to tangible property concludes that deployment of rights management systems to control access to intellectual property is no different than fencing or walling off privately held real estate. This analogy is highly problematic even in concept; both the economics of intangible information and the scope of state-granted rights in informational works differ markedly from the economic and legal bases for private rights in real property.[36] But even to the extent that an analogy to real property may hold true, the argument proves too much. The owner of private real estate cannot legitimately fence off easements or public rights of way, or extend the fence to encompass public thoroughfares.[37]

Indeed, if the real property analogy is to be followed, public rights of access have long trumped the private right to fence. Rights management "fencing" finds a close parallel in the nineteenth-century enclosure of private land using the newly developed fencing technology of barbed wire. The application of this technology to open lands led to the infamous "range wars," in which fencing of previously accessible parcels of privately owned range was countered by illegal fence-cutting tactics. But it is important to note that the development of this cheap and effective means of fencing prompted not only enclosure of legitimately held private lands, but also illegitimate and unauthorized enclosure of *public* lands. The end result was the enactment of statutes that penalized *both* the cutting of legitimate fences enclosing private property *and* the unauthorized enclosure of public lands.[38]

If the anti-circumvention provisions of the DMCA are viewed as responses to the threat of "fence-cutting," then one must recognize that the analogy is more complete. The use of technology to block public access to public domain elements of managed content and/or to block fair uses of such content is equivalent to the unauthorized fencing of

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Subcommittee on Courts and Intellectual Property of the House Committee on the Judiciary and the Senate Committee on the Judiciary, 104th Cong. (1995) (prepared statement of Marybeth Peters, Register of Copyrights) (analogizing copyright management protection to keeping a document locked in an office); David Friedman, *In Defense of Private Orderings*, 13 BERKELEY TECH. L.J. 1151 (1998); Raymond T. Nimmer, *The Relation Between Contract and Intellectual Property Law*, 13 BERKELEY TECH. L.J. 827 (1998).

36. *See Muddy Rules*, *supra* note 1, at 133–35.

37. *See* 43 U.S.C. §§ 1061, 1063; Camfield v. United States, 167 U.S. 528 (1897); Stoddard v. United States, 214 F. 566 (8th Cir. 1914); Hanley v. United States, 186 F. 711 (9th Cir. 1911).

38. *See* 43 U.S.C. §§ 1061, 1063; ERNEST STAPLES OSGOOD, THE DAY OF THE CATTLEMAN 191–95 (1929); Scott S. Smith, *The Wire that Won the West*, AM. HERITAGE INVENTION & TECH., Fall 1998, at 34, 38–40.

public lands. Unlike nineteenth-century fence-cutting laws, however, the anti-circumvention provisions do nothing to ensure that the public continues to enjoy the "easements" or "rights of way" that copyright holders have no legitimate right to withdraw from public access. This cannot be because such public rights no longer are recognized; the current text of the DMCA gives no indication of having repealed or annulled such public access rights. To the contrary, the statute explicitly states that fair use and other limitations on the scope of copyright continue to inure in digital media.[39] Yet the current language of the statute makes no provision for such access.

The question then, as one commentator has aptly observed, is whether the inclusion in the DMCA of language reaffirming fair use is simply an empty promise.[40] There is no need for it to be. As Reidenberg in particular has shown, Congress has at its disposal a variety of possible tools for directing technological development into channels that will further established public policy goals.[41] We suggest that in the case of rights management systems, this order has been disastrously inverted: perceived technological imperatives are improperly driving the enactment of legal prohibitions. The rapid development and spread of technologies for digital copying and distribution has prompted a rush legally to shore up technological safeguards against such copying, without proper consideration of the policy balance that should animate both legal and technical infrastructures. Instead, legal protection for rights management systems should be designed with the desired policy balance in mind. Part IV considers various possible mechanisms for achieving that result.

IV. OPTIONS FOR FAIR USE INFRASTRUCTURE

Currently, the DMCA's anti-circumvention provisions effectively sanction the use of private code to write the public law of fair use out of existence. But the legal regime governing rights management technologies need not be structured in such a fashion. Instead, law could be designed to shift technological development in a direction that balances the incentive structure of copyright protection with copyright's concern for the public domain and for the legitimate fair use

39. *See* 17 U.S.C. § 1201(c)(1) (1997).

40. *See* Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to Be Revised*, 14 BERKELEY TECH. L.J. 519, 546–47 (1999)

41. *See* Reidenberg, *supra* note 27, at 586–92.

privileges of the public. Here, we suggest modifications to the DMCA designed to create incentives for the preservation of fair use in digital media.

Realizing the promise of fair use in a digital rights management environment will require some technical mechanism to allow public access and reuse privileges equivalent to those deemed fair in previous media. In broad brush, there are two ways that such a system might be designed. First, the rights management system itself might be designed to detect and regulate fair use access. Second, a decisionmaker external to the rights management system might authorize would-be fair users to override rights management controls. We propose a fair use infrastructure that combines elements of both approaches.

A. Coding for Fair Use

The most direct method of accommodating fair use would be to mandate or prompt the development of rights management systems that directly allow purchasers of a work to make fair use of the content. Optimally, the "breathing space" required for fair uses would be programmed directly into the technical rule set that controls access to the work. The systems might, for example, include provisions allowing users to extract a certain number of bits, or display the work for certain periods of time, or partially perform the work a certain number of times. Depending on the characteristics of the desired use, users would be able to take these actions without having to seek additional permission or pay additional fees.

In reality, an algorithm-based approach to fair use is unlikely to accommodate even the shadow of fair use as formulated in current copyright law. We are not optimistic that system designers will be able to anticipate the range of access privileges that may be appropriate for fair uses to be made of a particular work. Neither are we optimistic that system designers will be able to anticipate the types of uses that would be considered fair by a court. Fair use is irreducibly a situation-specific determination. In some instances, a user may fairly take a work in its entirety — say, for example, where the work is entitled to only thin protection, the use is for a protected purpose such as scholarship, criticism, or software reverse engineering, and/or the use is expected to have no appreciable impact on the market for the work.[42]

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42. *See, e.g.*, Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569 (1994); Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417 (1984); Sega Enters. v. Accolade,

Indeed, some uses, such as software reverse engineering or automatically searching text, music, or video files for particular words, themes, or images (a process essential for some types of academic research), are impossible if the user cannot gain access to the entire work.[43] In other situations, where three or four of the factors weigh heavily against a particular use, taking much less might exceed fair use.[44]

Building the range of possible uses and outcomes into computer code would require both a bewildering degree of complexity and an impossible level of prescience. There is currently no good algorithm that is capable of producing such an analysis. Relatedly, fair use is a dynamic, equitable doctrine designed to respond to changing conditions of use. Programmed fair use functionality, in contrast, is relatively static. At least for now, there is no feasible way to build rights management code that approximates both the individual results of judicial determinations and the overall dynamism of fair use jurisprudence.

An alternative might be for copyright holders to build into rights management systems some level of discretionary access for users that would fall within a range that would almost always constitute fair use, or that at least would fall within a range of use that the copyright holder would be unwilling to contest was fair. In the past, some attempts have been made to set similar standards, as for example in the case of the so-called "safe harbor" provisions for educational photocopying negotiated by educators, librarians, and the copyright industries during the 1976 revisions to the Copyright Act, or in the case of the aborted "Conference on Fair Use" ("CONFU"), which attempted to negotiate fair use standards for digital and multimedia works.[45] Such default

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977 F.2d 1510 (9th Cir. 1992); Higgins v. Detroit Educ. Television Found., 4 F. Supp. 2d 701, 707 (E.D. Mich. 1998).

43. *See* Sega Enters. v. Accolade, 977 F.2d at 1526–28; Andrew W. Appel & Edward W. Felten, *Technological Access Control Interferes with Noninfringing Scholarship* (Feb. 17, 2000) (public comment filed with Copyright Office).

44. *See, e.g.*, Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 564 (1985); Nihon Keizai Shimbun, Inc. v. Comline Business Data, Inc., 166 F.3d 65, 72–73 (2d Cir. 1999).

45. *See* H.R. REP. NO. 94-1476, 94th Cong., at 68–74 (1976) (setting forth Agreement on Guidelines for Classroom Copying in Not-for-Profit Educational Institutions With Respect to Books and Periodicals), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5681–88; INFORMATION INFRASTRUCTURE TASK FORCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS 83–84 (1995) [hereinafter NII WHITE PAPER] (discussing establishment and progress of CONFU).

parameters for fair use represent private agreements by stakeholders to treat the designated level of usage as fair without a prior judicial determination. Such agreed-upon standards might be built into the access permitted by rights management systems.

We are again skeptical, however, about the ability of negotiated defaults to capture the full range of social benefit that more flexible legal standards allow. While these defaults sometimes might allow access that would exceed fair use under a judicial determination, the "safe harbor" concept is more likely to tend toward a minimalist view of fair use. We suspect that copyright holders would be willing to concede fair use in only a small fraction of the situations that would constitute fair use — indeed, it was just such insistence upon minimalist guidelines by rights holders that led to the collapse of the CONFU discussions.[46] Moreover, in the case of the 1976 "safe harbor" guidelines for educational copying, rights holders, content users, and even courts have shown a deplorable tendency to act as though the guidelines defined the outer limits of fair use.[47] To the contrary, such guidelines were intended to delineate fair use minima: a floor rather than a ceiling.[48] We are consequently reluctant to recommend an infrastructure based solely on the design of similar defaults into self-enforcing "lock-out" systems for fear that the "ceiling" effect could be even more pernicious.

A variant on the concept of directly designed fair use "defaults" would look to a different source for the substance of the defaults. Judicial determinations and negotiated minimum standards are not the only possible measures of current fair use practice; arguably, the more

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46. *See Final Report to the Commissioner on the Conclusion of the Conference on Fair Use* (Nov. 1998), *at* http://www.uspto.gov/web/offices/dcom/olia/confu/confurep.htm (last visited Oct. 1, 2001).

47. *See, e.g.*, Princeton Univ. Press v. Michigan Document Servs., Inc., 99 F.3d 1381 (6th Cir. 1996) (en banc), *cert. denied*, 520 U.S. 1156 (1997); Marcus v. Rowley, 695 F.2d 1171 (9th Cir. 1983); Basic Books, Inc. v. Kinko's Graphics Corp., 758 F. Supp. 1522 (S.D.N.Y. 1991); Harper & Row, Publishers, Inc. v. Tyco Copy Service, Inc., Copyright L. Rep. (CCH) ¶ 25,230 (D. Conn. 1981); Basic Books, Inc. v. Gnomon Corp., Copyright L. Rep. (CCH) ¶ 25,145 (D. Conn. 1980); NII WHITE PAPER, *supra* note 45, at 82–83 ("Educational uses that serve the same ends and are constrained in the same manner as the copying permitted under the Classroom Guidelines will likely be fair . . . ."); Robert Kasunic, *Fair Use and the Educator's Right to Photocopy Copyrighted Material for Classroom Use*, 19 J.C. & U.L. 271, 281, 284–85 (1993); Albert D. Spaulding, *Fair Use of Research and Course Packets in the Classroom*, 31 AM. BUS. L.J. 447, 448 (1993).

48. *See* H.R. REP. NO. 94-1476, 94th Cong., 2d Sess., at 68–74 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5681–88.

accurate measure of fair use is the daily behavior of ordinary users.[49] Rather than approximating the results of fair use jurisprudence or the products of interest-group bargaining, rights management systems might be designed to approximate fair use norms. For this to work, copyright management systems would need to sanction a large amount of unauthorized copying, but on a relatively small scale.[50] A precedent for this sort of rule is the Audio Home Recording Act, which requires that digital audio tape recordings and recording devices be designed to accommodate serial copy management technology that allows the production of only one generation of perfect copies.[51] Another example is section 1201(k) of the DMCA, which requires that copy-control technologies for videocassette recorders preserve the ability to time-shift broadcast and some cable television programming.[52] We do not mean to suggest that the scope of either statutory provision is optimal, but simply that the provisions are illustrative of this type of functionality.

Norm-based fair use defaults, however, are subject to many of the same criticisms as negotiated fair use defaults. Such defaults still would be inflexible at the margin, and still would not encompass the full range of uses that a court would hold fair. Thus, if norm-based controls were regarded as implementing a fair use ceiling rather than a fair use floor, users of digital works would enjoy far less fair use than they have enjoyed in traditional media. Once again, we cannot recommend a fair use infrastructure based solely on this sort of fair use default.

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49. *Cf.* Jessica Litman, *The Exclusive Right to Read*, 13 CARDOZO ARTS & ENT. L.J. 29, 35–37 (1994) [hereinafter Litman, *Exclusive Right*]; Jessica Litman, *Copyright Noncompliance (or Why We Can't "Just Say Yes" to Licensing)*, 29 N.Y.U. J. INT'L L. & POL. 237 (1997).

50. We note that the norm regarding personal copying of music has shifted somewhat with the advent of MP3 compression technology. Whether the law should sanction this shift, and under what circumstances, are hotly contested questions. *See* A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir. 2001); UMG Recordings, Inc. v. MP3.com, Inc., 92 F. Supp. 2d 349 (S.D.N.Y. 2000). In any process to specify automatic fair use defaults, questions like this will require careful consideration.

51. *See* 17 U.S.C. § 1002 (2001).

52. *See* 17 U.S.C. § 1201(k)(2) (2001); *see also* Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417 (1984) (holding that this customary practice is a fair use).

B. Key Access for Fair Use

The second option for the design of fair use infrastructure involves the introduction of an external decisionmaker into the process for obtaining access to technologically secured works. At present, only human intelligence, reviewing the unique circumstances of a particular use, can determine whether it is likely to be fair. Thus, we might require users to apply for keys to access the encrypted work. This option would allow case-by-case determination of the need for access, building in judgment capabilities that cannot practically be emulated by technical defaults.

One such method might be to place the fair use determination in the rights holder's hands. We cannot, however, recommend a legal rule that would fundamentally shift the decisionmaking authority about whether to proceed with a use from users to owners. As we have described above, fair use frequently condones public access in situations where the collective public interest runs contrary to the rights holder's individual interest. Thus, there may be a strong incentive for the rights holder to deny access just when the public interest most demands access. Currently, users do not need to apply to anyone to engage in a use the user deems fair. The user simply must be willing to pay infringement damages should her determination be erroneous. Placing the burden of application on the user would drastically change the dynamics of fair use and would create unacceptable social costs.[53]

In addition, a preauthorization system for fair use is vulnerable to three more general objections. The first and second, closely related, are that a preauthorization requirement would be costly and would chill spontaneous uses. Case by case determination of the fairness of the intended use would require a lengthy and complicated approval process.

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53. An example of this sort of burden-shifting is Title II of the DMCA, which establishes a procedure for copyright owners to demand that online service providers remove allegedly infringing material from their systems. *See* 17 U.S.C. § 512(c) (2001). In several high-profile disputes, copyright owners have invoked this extrajudicial "notice and takedown" procedure against uses of copyrighted material that lie at the core of protected First Amendment activity. *See* Universal City Studios, Inc. v. Reimerdes, 82 F. Supp. 2d 211 (S.D.N.Y. 2000), *appeal pending sub nom.* Universal City Studios v. Corley, No. 00-9185 (2d Cir.); Felten v. Recording Industry Ass'n of America, Inc., No. CV-01-2660 (GEB) (D.N.J.); Julie E. Cohen, *Call it the Digital Millennium* Censorship *Act: Unfair Use*, THE NEW REPUBLIC ONLINE, May 23, 2000, *at* http://www.tnr.com/ online/cohen052300.html (last visited Oct. 1, 2001) (describing Microsoft's attempt to use the notice and takedown procedure to silence critics of its specification for implementation of the Kerberos Web security standard).

Even a quick and inexpensive pre-screening procedure, however, will impose some transaction costs and will deter some uses that otherwise would have been made. As noted above, considerable social benefit accrues from this sort of unplanned use. Research and teaching, in particular, are processes that contain an irreducible element of ad hoc adjustment.

The third objection is that application to a third party is likely to compromise the sort of anonymity that users presently enjoy. Anonymity is the current default for fair use access (and indeed for access generally) in traditional media — a copyright holder does not know who has made use of the work, or at what time, or in what manner. Even if the fair use results in publication or dissemination of a subsidiary work, the author need not reveal her name. For reasons already discussed, we are particularly reluctant to recommend that this situation be inverted by requiring revelation to the rights holder of a user's identity and use for every fair use. More generally, there exists a wide range of situations — for example, those involving parodies or other negative critiques — in which the user may prefer to remain anonymous. Requiring parodists and other fair users to apply to a third party for access may chill such uses. As one of us has outlined in detail elsewhere, there is a strong case for a constitutional right to receive information anonymously.[54] Creation of a statutory scheme that requires users to identify themselves would seem to run contrary to this right and thus risks constitutional infirmity.[55]

To avoid the risk of private censorship by rights holders, it seems that any externally-mediated mechanism for preserving fair use in digital works will require the participation of some third party. In some cases, existing institutions might be conscripted into mediating access. For example, one could envision a procedure by which, if the owner had refused access, the needed access could be judicially compelled upon determination that the proposed use was likely to be fair. In the patent system, declaratory judgments of non-infringement are routinely requested of courts before a plaintiff engages in potentially infringing activity. A legal procedure of this type would place the fair use

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54. See *Read Anonymously*, *supra* note 1.

55. For this reason, we do not support the solution recently adopted by Australia, which allows distribution of a circumvention device only if the recipient provides a signed declaration that the device will be used only for permitted purposes. *See* Copyright Amendment (Digital Agenda) Act 2000, Schedule 1, § 116A(3) (Aus.) (amending Copyright Act (1968)).

determination back into the hands of a neutral decisionmaker, rather than putting it at the mercy of the copyright holder.

A judicially-administered procedure, however, does not seem well calculated to cure cost, spontaneity, or anonymity objections. Any procedure requiring an ex ante judicial evaluation of fairness would dramatically raise the cost of fair use and would essentially transform the fair use right from a liability rule to a property rule.[56] Under the current conception of fair use, the decision whether or not to use a work is made ex ante by the user — if an infringement suit is brought later, the court may or may not validate the user's calculus, but penalties, if any, are imposed after the use has been undertaken. Requiring prior judicial determination unquestionably would deter many uses. Spontaneous uses likely would disappear altogether. Indeed, under this system, fair use might become the sole provenance of well-capitalized firms with the resources to engage in the process. Such firms would do so only where the likely reward of gaining access exceeded the cost of the procedure. We suspect that this, in turn, would undermine one of the fair use doctrine's great strengths: its ability to recognize and legitimize changing norms of access and use.[57] Moreover, the possibility of anonymous use again would be endangered, absent some procedural device to conceal the identity of the fair use plaintiff during the court proceeding.

External mediation of fair use access thus requires third party intervention at a relatively low cost, with modifications designed to protect anonymity to the greatest extent possible. In this capacity, the mediating party will need to perform functions not currently performed by existing institutions, and the mediating party still must command the trust of both the owner and the user of the work. For example, Mark Stefik and Alex Silverman have proposed the idea of a Digital Property

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56. *See generally* Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972) (categorizing entitlements as property rules, liability rules, and inalienability rules). As a liability rule, fair use is essentially a compulsory license at a zero royalty. *See* Dan L. Burk, *The Trouble With Trespass*, 4 J. SMALL & EMERGING BUS. L. 27, 50 (2000).

57. *Cf.* Jessica Litman, *Copyright Noncompliance (Or Why We Can't "Just Say Yes" to Licensing)*, 29 N.Y.U. J. INT'L L. & POL. 237 (1997) (arguing that the substance of copyright law must reasonably approximate ordinary people's understanding of what is and is not infringement); Michael Madison, *Legal-Ware: Contract and Copyright in the Digital Age*, 67 FORDHAM L. REV. 1025 (1998) (arguing that courts hearing copyright cases should make affirmative efforts to articulate and preserve norms of "open space" within copyright law).

Trust, composed of representatives from both the copyright industries and consumer groups, that would administer fair use access.[58]

A concept developed in the context of electronic commerce supplies a more detailed model for such a third-party institution. Innovators in electronic commerce determined early on that encryption technology

alone could not provide the needed security and authentication for online transactions.[59] Public key cryptography can provide technologically unbreakable security and technologically unfalsifiable user identification but cannot ensure that the humans who employ the cryptographic keys to the technological systems have kept those keys secure; rather, this technological retrofit of open networks must be supported by institutional infrastructure. The intervention of a "trusted third party" that associates keys with particular users is one way to verify the security of electronic transactions.[60]

Thus far, the notion of a network of trusted third party intermediaries for electronic commerce has not fulfilled its initial promise. A lack of consensus on the appropriate set of legal rights and responsibilities for these entities seems partly to blame. The early legal literature on trusted third parties outlined a spectrum of legal theories for holding them liable to their clients or to reliance parties.[61] Meanwhile, early ventures attempted to avoid such liability with a set of boilerplate disclaimers poorly designed to inspire trust.[62] While the

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58. *See* Mark Stefik & Alex Silverman, *The Bit and the Pendulum: Balancing the Interests of Stakeholders in Digital Publishing*, 7 AM. PROGRAMMER 1, 13–14 (1997).

59. Cryptographic applications have become important to electronic commerce because of the essentially insecure nature of the protocols governing the Internet. This open architecture provides for wide interoperability and sharing of resources, but does not lend itself to robust security or user authentication. *See* Dan L. Burk, *Cyberlaw and the Norms of Science*, 1999 B.C. INT. PROP. & TECH. F. (1999), *available at* http://infoeagle.bc.edu/bc_org/avp/law/st_org/iptf/commentary/content/burk.html (last visited Oct. 1, 2001). However, with the growth of electronic commerce, the network is increasingly used for purposes that require secure communications and user authentication. To facilitate these new uses, cryptographic technologies and protocols must be overlaid on the network to provide security and authentication. *See Public Key Infrastructure Symposium*, 38 JURIMETRICS J. 241 (1998).

60. *See* A. Michael Froomkin, *The Essential Role of Trusted Third Parties in Electronic Commerce*, 75 OR. L. REV. 49, 52–53 (1996).

61. *See id.*; Jane Kaufman Winn, *Couriers Without Luggage: Negotiable Instruments and Digital Signatures*, 49 S.C. L. REV. 739 (1998) [hereinafter Winn, *Couriers*]; Jane Kaufman Winn, *Open Systems, Free Markets, and Regulation of Internet Commerce*, 72 TUL. L. REV. 1177 (1998) [hereinafter Winn, *Open Systems*].

62. *See* Froomkin, *supra* note 60, at 105–07 (discussing VeriSign's standard form agreement for users); Winn, *Couriers*, *supra* note 61, at 773–79 (same); Winn, *Open*

debate about liability was raging, better alternatives emerged. Other technological innovators joined forces with existing major players in automated transactions claiming to establish secure Internet transaction protocols that did not directly involve users in the cumbersome exchange and authentication of keys.[63]

In the digital rights management arena, however, we think that the case for the development of trusted third parties is clearer, and that the legal obstacles that have prevented the development of a trusted third party key infrastructure for electronic commerce may be more easily avoided. As already discussed, prospects for an adequate fair use infrastructure that is fully automated and operates invisibly to users seem poor. Thus far, the content industries have shown no inclination to develop a rights management infrastructure that will ensure the proper balance of access and security previously achieved in nondigital media. The system we propose, however, relies on law to change the incentives in the existing market for digital rights management systems.

Our proposal hinges upon the concept of key escrow, that is, management of rights management keys by a trusted third party, rather than by the owner of a work. Keys to technologically protected works would be held by the trusted third party, who would release them to users applying for access to make fair use. The trusted third party would be a publicly funded institution that would be statutorily insulated from both direct and indirect copyright infringement liability and subject to regulatory oversight for compliance with its escrow and privacy obligations.

Although, as we have noted, any preauthorization requirement would impinge upon spontaneous uses and thereby threaten the overall flexibility and adaptability of the fair use system, the trusted third party's approval procedure could be designed to minimize this impact. In order to avoid difficult ex ante judgments about particular uses, and to approximate as nearly as possible the cost and incentive structure of traditional fair uses, the third party would not be required, and would not attempt, to make a determination about the bona fides of the access application. Rather, the third party would simply issue keys to applicants via a simple online procedure.

Solving the anonymity problem is far more difficult. The concept of key escrow has been vilified in the past, with good reason, when it

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Systems, *supra* note 61, at 1245–49 (same).

63. *See* Jane Kaufman Winn, *Clash of the Titans: Regulating the Competition Between Established and Emerging Payment Systems*, 14 BERKELEY TECH. L.J. 675 (1999).

constituted the core of a governmental plan that would have systematically undermined the integrity of private communications.[64] But a different sort of privacy interest is at stake here, where the issue is public access to publicly distributed works of authorship, rather than governmental access to private communications. In this instance, the concept of third-party escrow works toward the public interest and could be made to work in favor of preserving privacy, rather than against both goals.

As one alternative, a trusted third party system could be designed for true anonymity. Under such a system, the escrow agent would release keys to applicants without retaining or even generating identifying records. Such a system would replicate the anonymity that fair users enjoy in traditional media. In some cases, it might even provide stronger anonymity — as, for example, where anonymous access via escrowed keys might substitute for checking a work out of the library. For exactly this reason, though, we suspect that this sort of arrangement is likely to be politically unacceptable.

A second-best alternative would require that the agent keep records of the applications and keys issued, but would subject the records to stringent privacy protections similar to those that now protect many library patron records. We think it likely that the copyright industries would demand the ability to match keys with identities so that the subsequent appearance of pirated materials could be linked to particular applicants for access.[65] However, we would recommend that identifying information be released only pursuant to a court order, and only on a showing of *actual* piracy, as distinct from garden-variety infringement or arguable fair use. This places some evidentiary burden on the copyright holder, but we note that this mechanism nonetheless would give rights owners a substantial advantage that they do not enjoy for works distributed in traditional media. In addition, regulations governing the privacy practices of trusted third parties should prohibit sale or other transfer of key access information and should require that access and usage records be destroyed after some period of time. At the same time, however, we would accept a requirement that the keys

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64. *See* A. Michael Froomkin, *It Came From Planet Clipper: The Battle Over Cryptographic Key "Escrow"*, 1996 U. CHI. LEGAL F. 15 (1996); Hal Abelson et al., *The Risks of Key Recovery, Key Escrow, and Trusted Third Party Encryption* (1998), *at* http://www.cdt.org/crypto/risks98 (last visited Oct. 1, 2001).

65. Tying pirated materials to fair use applicants would require either issuing unique keys to each applicant or using "digital watermarks" to identify individual copies of the work; both methods appear to be within the capabilities of current technology.

themselves be copy-protected and would support some penalties for unauthorized duplication of keys.[66]

We are cautiously optimistic that this combination of controlled key access plus rigorous privacy protections could prevent the use of key access information to intimidate critics, parodists, and the like, while simultaneously minimizing abuse of the system for large-scale piracy. Nonetheless, we label this arrangement "second-best" because even the most stringent system of privacy protections for fair users is likely to chill some lawful uses.

C. Mixed Fair Use Infrastructure

Each of the two possible mechanisms for preserving fair use in a digital rights management environment has advantages and drawbacks. Automatic fair use functionality does not require human intervention but is unlikely to afford the full spectrum of fair uses allowed by law. The use of a trusted third party intermediary to mediate access, in contrast, potentially allows the full spectrum of uses but is less responsive to anonymity and spontaneity concerns. The optimal result, we suggest, is an infrastructure that combines the two.

The first layer of our proposed fair use infrastructure would involve the design of rights management technologies that incorporate automatic fair use defaults based on customary norms of personal noncommercial use. The legal rule for facilitating this part of the proposal would operate in a fashion similar to current provisions of the Copyright Act designed to encourage copyright registration and deposit, by conditioning copyright enforcement for United States works on implementation of the automatic fair use defaults.[67] To guard against a "race to the bottom" in fair use law, the law would clearly state that the level of copying permitted by the automatic defaults does not define the full extent of permitted fair use.

Those who desire greater fair use access, meanwhile, would turn to the trusted third party intermediary. Under the system, deposit of

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66. We would not, however, support penalties for the manufacture or distribution of technologies capable of copying keys. *Cf.* 17 U.S.C. § 1201(a)(2), (b)(1) (1999); *supra* text accompanying notes 25–41.

67. *See* 17 U.S.C. § 411(a) (1999); *see also infra* Part V (discussing treaty compliance issues). A "United States work" is a work first published in the United States, first published simultaneously in the United States and a foreign nation, or first published in a foreign nation that is not a treaty party if all of the authors are nationals or domiciliaries of the United States or legal entities headquartered within the United States. *See* 17 U.S.C.A. § 101 (2001).

access keys into key escrow would be facilitated by conditioning anti-circumvention protection for both United States and non-United States works on such deposit.[68] Users who failed to obtain access via the escrow agent would be subject to suit for circumventing technical measures. Those users, however, still might escape liability by successful invocation of a statutory or constitutional defense to circumvention liability. Rights holders that opt not to deposit keys with the escrow agent would be unable to invoke legal protection against circumvention. For such unescrowed works, a "right to hack" would effectively substitute for access via the escrowed keys. As noted in Part III, the DMCA's ban on the manufacture and distribution of circumvention technologies also would need to be modified to make this defense a realistic possibility.[69] Finally, to preserve the relative anonymity of the key escrow system, the records of applicants and keys issued would need to be guarded by stringent legal protections along the lines described above.

The most likely and appropriate escrow agent would be a publicly funded institution, such as the Library of Congress. As indicated above, we see little prospect for development of private escrow agents. Content owners are unlikely to pay voluntarily for an institution that facilitates low cost or free access to their works.[70] Fair users are almost by definition poor candidates to fund an escrow institution. In any case, the point of fair use is to provide low cost or free access to content; assessing fair use fees to fund escrow agents would run counter to this purpose. Even were content owners to fund a private key escrow institution, however, we think that a publicly funded institution would be the preferred choice because the public policies underlying fair use require some guarantees of public accountability and institutional longevity.

The Library of Congress's long experience with copyright matters and with the deposit and archival preservation of copyrighted works

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68. *See* 17 U.S.C. § 405(b) (1999); 17 U.S.C. § 412 (1994); *see also infra* Part V (discussing treaty compliance issues).

69. For this and other reasons, although the Copyright Office might be charged with establishing the escrow facility, it could not effectively do so on its own authority within the current statutory framework established by the DMCA. In addition, we think that establishing a comprehensive system of key escrow for fair use probably would be inconsistent with the DMCA's more limited grant of authority to the Copyright Office to declare certain exemptions to the ban on circumvention of rights management protection. *See* 17 U.S.C. § 1201(a)(1) (1999).

70. It is worth nothing, however, that the data processing industry has made efforts to "self regulate" in the face of threatened privacy legislation.

makes it the ideal candidate to fill the escrow role.[71] In our view, moreover, the deposit requirement that currently applies to published or registered works would require copyright owners to provide the Library of Congress with the unrestricted ability to read, view, or listen to the work and to subject the work to any digital storage and search tools that the Library might develop or acquire.[72] Our proposal offers a means of administering fair use access to these deposited works. Finally, the tradition of strong privacy protection by libraries, including the Library of Congress, makes such an institution best suited to maintaining the privacy of fair users.[73] Funding for the fair use infrastructure could be provided either through general taxation, by a small administrative fee levied on copyright owners, or by some combination of the two.

Additionally, the system would need to include an exemption for trade secret works.[74] Special care must be taken, however, lest this exemption swallow the rules mandating fair use access. As in the world of copyrighted works distributed before the advent of technical protection, we anticipate that for the majority of creative works — poems, plays, novels, films, sound recordings — no credible question of trade secrecy should ever arise. A work should not be deemed to contain trade secrets simply because the copyright owner has elected to shroud it with technological protection. No work held out to the general public, or to anyone belonging to a particular subset (e.g., materials scientists, interior decorators, Fortune 500 corporate librarians, or individuals making more than $100,000 a year) should be eligible for a trade secrecy exemption. More particularly, computer

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71. The archival preservation of digital works raises complex problems concerning the degradation of storage media and the obsolescence of storage, retrieval, and display formats. *See The Internet Archive: Building an 'Internet Library' Storage and Preservation of the Collections* (2001), *at* http://www.archive.org/about/storage.html (last visited Oct. 1, 2001); Brewster Kahle et al., *Public Access to Digital Materials* (2001), *at* http://www.archive.org/news/colloquia/2001/PublicAccess0309.doc (last visited Oct. 1, 2001). Designating the Library of Congress as the key escrow custodian likely would improve the Library's ability to study these issues and to optimize its preservation capabilities.

72. *See* 17 U.S.C. § 407 (1999); 17 U.S.C. § 408(b) (1994).

73. *See* Library of Congress Regulation 1917-3, § 5(B)(13) (1997); *Read Anonymously*, *supra* note 1, at 1031 & n.213.

74. Other federal statutes requiring agencies to disclose information contain similar exemptions. *See, e.g.*, 5 U.S.C. § 552(b)(4) (1994) (exempting trade secrets from the Freedom of Information Act); 10 C.F.R. § 207.4 (providing that trade secrets conveyed under ESECA are exempted from public disclosure); 21 C.F.R. §§ 20.20(a), 20.61(c) (exempting trade secrets conveyed to FDA from public disclosure).

software marketed to the general public or to a specific subset (e.g., small businesses or graphic designers) also should not be eligible for a "trade secret" designation because a rule exempting software from the system would negate fair use jurisprudence allowing decompilation of software to discover its unprotected functional elements.[75] We note, finally, that in the case of computer programs, keys provided for fair use access will need to have the ability to override technological restraints on decompilation.[76]

Finally, we note that there may be some concern under this system regarding the access of foreign nationals to keys, allowing offshore competitors to bypass technical protections on American products. Given that we have proposed an exemption for legitimate trade secrets, we believe that there should be little concern about this scenario. First, under our proposal, as under the law of copyright prior to the DMCA, foreign nationals would be at perfect liberty to travel to the United States to acquire and make fair use of copyrighted works, including the reverse engineering of software. With regard to offshore activity, requisitioning of keys would be largely immaterial for those nations that lack anti-circumvention laws; they could otherwise simply obtain the work and legally hack around its technical protections. Moreover, in countries that have their own anti-circumvention prohibitions, use of the keys would still be constrained by the requirement to conform with local copyright law.

The presence of other national laws regarding anti-circumvention highlights the fact that the balance between access and protection must be struck in a global milieu, where the U.S. approach to technical protection is not insular and where our suggestion may find broader application than the American DMCA. Although we have focused on the implementation of a fair use infrastructure within U.S. copyright law, the escrow principles we have outlined here also might find application under the European Union's ("E.U.") new copyright

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75. The DMCA's current exception to the circumvention and device bans for software reverse engineering permits only a subset of the conduct that would be considered fair use under copyright law. *See infra* text accompanying notes 106–07.

76. We do not, however, advocate direct release of source code to would-be reverse engineers. As Pamela Samuelson and Suzanne Scotchmer explain, requiring competitors to do the work of reverse engineering preserves important first-mover incentives. *See* Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 101 YALE L.J. (forthcoming 2002); *see also* Pamela Samuelson et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308 (1994) (arguing that software innovation requires a limited amount of artificial lead time to avoid market failure).

directive, which in some respects reflects greater cognizance of the user access problem than does its American counterpart.[77] Like the DMCA, the E.U. Copyright Directive requires member states to provide legal protection for rights management systems.[78] Unlike its U.S. analogue, however, the E.U. Copyright Directive allows member states to enact legislation requiring that copyright holders provide users with the means to take advantage of exceptions or limitations to the exclusive rights granted under copyright law.[79] These limitations and exceptions, which are enumerated in the directive, specifically include private reproduction, criticism and parody, and news reporting.[80] To prevent user rights from being nullified by technical controls, moreover, the directive creates an incentive for content owners to design technical measures capable of facilitating permitted uses; member states may legislate to compel the provision of means for access only if content owners have not already provided such means voluntarily.[81] The key

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77. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, 2001 O.J. (L. 167) 10 [hereinafter E.U. Copyright Directive].

78. *See id.* arts. 6(1)–(2). Although the directive employs some language that is reminiscent of the DMCA, it adheres more closely than the DMCA to the language of the WIPO Copyright Treaty, discussed *infra* text accompanying notes 84–86. Like the treaty, the E.U. Copyright Directive merely requires member states to provide "adequate legal protection" against acts of knowing circumvention and against the manufacture and distribution of circumvention devices. E.U. Copyright Directive, *supra* note 77, arts. 6(1)–(2). It lacks the convoluted and contradictory DMCA language distinguishing access and use controls, as well as the DMCA's lengthy list of complex exceptions.

79. *See* E.U. Copyright Directive, *supra* note 77, art. 6(4).

80. *See id.* art. 5.

81. We note that the E.U. Copyright Directive contains a troubling provision that recognizes "agreements between rightsholders and other parties" as one of the "voluntary measures" that content owners can adopt in order to provide users with the means of benefitting from an exception or limitation. E.U. Copyright Directive, *supra* note 77, art. 6(4). Under one reading, this provision might permit content owners to require users to waive their rights to the benefit of exceptions or limitations as a condition of access. Given the recent history in the United States of mass market licenses that purport to abrogate fair use and other user privileges, this European provision might seem an invitation to the proliferation of similar "shrinkwrap" or "clickwrap" license provisions. *See generally* Mark A. Lemley, *Intellectual Property and Shrinkwrap Licenses*, 68 S. CAL. L. REV. 1239 (1995); Madison, *supra* note 57; J.H. Reichman & Jonathan A. Franklin, *Privately Legislated Intellectual Property Rights: Reconciling Freedom of Contract with Public Good Uses of Information*, 47 U. PA. L. REV. 875 (1999). We suggest, however, that such provisions would *not* give consumers the intended benefits of copyright exemptions and limitations that the directive requires, and that use of boilerplate waivers instead should trigger the enactment of a key escrow requirement or a similar legislatively mandated means of fair use access.

escrow system that we propose here might be an appropriate means by which member states could ensure user access, or promote voluntary provision of access by copyright owners.

It is worth noting that the E.U. Copyright Directive contemplates nothing so broad, flexible, or indeterminate as the U.S. concept of fair use. Rather, in the European tradition of "fair dealing," the directive lists specific circumstances under which member states may allow a user to make unauthorized use of a copyrighted work.[82] The exceptions and limitations enumerated in the directive are discrete and relatively narrow. Design of a rights management infrastructure that would allow users access commensurate with such exceptions may be less challenging than design of an infrastructure to accommodate U.S.-style fair use. Nonetheless, we expect that it would still be difficult to design an algorithm that could take into account whether, for example, a reproduction is "for private use and for ends that are neither directly nor indirectly commercial," as the directive requires.[83] Thus, the key escrow option discussed here may remain an attractive method of providing user access.

Our proposal will not exactly reproduce the conditions of fair use in traditional media. Although code is malleable, digital media work differently than traditional media in too many ways. Nonetheless, we think that a mixed fair use infrastructure based on both automatic default and key escrow elements would go a long way toward approximating traditional fair use conditions. We note, as well, that development of a mixed infrastructure for digital fair use might lead to recognition of "new" fair uses never needed for works in nondigital media — for example, a right to access a work for certain purposes after expiration of a time-limited subscription agreement. Thus, our proposal would enable the continued evolution of fair use practices and norms. We turn now to consideration of whether the proposal is feasible as a matter of international law and desirable as a matter of policy.

V. TREATY CONSTRAINTS

A critical consideration in evaluating the feasibility of the system proposed here is whether legally-induced, automatic fair use defaults and legally induced escrow of rights management keys would comport

82. *See* E.U. Copyright Directive, *supra* note 77, art. 5.

83. *Id.* art. (5)(2)(b).

with the obligations imposed on the United States by international copyright treaties. Here, we consider the proposal's compatibility with the World Intellectual Property Organization ("WIPO") Copyright Treaty, the Berne Convention for the Protection of Literary and Artistic Works ("Berne Convention"), and the Agreement on Trade Related Aspects of Intellectual Property Rights ("TRIPs"). We conclude that the proposal passes muster under all these agreements.

As an initial matter it might seem that our proposal would be most likely to run afoul of the provisions of the WIPO Copyright Treaty. After all, the passage of the current DMCA was purported to be necessary to bring United States copyright law into line with its obligations under that treaty.[84] As Pamela Samuelson has explained, however, prior to the enactment of the DMCA, United States copyright law already satisfied the treaty's requirement of "adequate legal protection and effective legal remedies" against circumvention of technological measures.[85] Even amended as we propose, the DMCA's anti-circumvention measures still would go well beyond what the treaty requires. Moreover, the "Agreed Statements" accompanying the treaty include a declaration that signatory countries may continue to recognize existing limitations and exceptions to copyright, including fair use, as appropriate in the digital environment and also may create new exceptions and limitations as appropriate.[86] This intepretative provision expressly contemplates the continued viability of fair use under the treaty. Our proposal simply would implement the contemplated fair use

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84. As of this writing, the WIPO Copyright Treaty has not entered into force. We expect that it will do so soon, however, since the promulgation of the E.U. Copyright Directive clears the way for ratification and adoption of implementing legislation by the E.U. member countries. *See* World Intellectual Property Organization: Copyright Treaty, December 20, 1996, art. 21(iii), 36 I.L.M. 65 [hereinafter WIPO Copyright Treaty] (providing that the treaty will bind the European Community upon deposit of an instrument of ratification by the Community).

85. *See id.* art. 11; Samuelson, *supra* note 40, at 530–32. Protections already established within U.S. law included the doctrines of contributory infringement and vicarious liability, as well as additional, special-purpose protections against circumvention, such as the rule prohibiting descrambling of satellite transmissions, 47 U.S.C. § 605 (1994 & Supp. V 1999), and the serial copy management requirements of the Audio Home Recording Act, 17 U.S.C. § 1002 (1994). Both of the latter provisions are far less restrictive of user conduct than the combination of rights management systems and legal protection under the DMCA.

86. *See* Agreed Statement Concerning the WIPO Copyright Treaty, Dec. 20, 1996, *available at* http://www.wipo.org/eng/diplconf/distrib/96dc.htm (last visited Oct. 1, 2001).

norm — and would do so in a way that largely preserves the ample anti-circumvention protections that Congress created.

We turn next to consideration of the key escrow proposal in light of the older Berne Convention, which the WIPO treaty was intended to update. Under Article 5(2) of Berne, "[t]he enjoyment and the exercise of [copyright] shall not be subject to any formality."[87] We consider it unlikely that the fair use infrastructure proposed here would run afoul of this requirement. To understand why, it is important to distinguish conditions on copyright protection from conditions on anti-circumvention protection and to consider the two halves of our proposal separately.

With respect to our proposal for a first tier of fair use guarantees embodied in programmed defaults, we believe that a rule conditioning copyright enforcement for United States works on the adoption of such defaults clearly comports with the requirements of Berne. The proposal is patterned on section 411 of the current Copyright Act, which provides that the copyright in a work of United States origin cannot be enforced in court until the work has been registered.[88] Subjecting United States works to more stringent standards than those applied to foreign works does not violate treaty obligations. Moreover, we think that copyright owners of foreign works would have some incentive to comply with these standards because doing so would reduce the number of users seeking to obtain fair use keys under the key escrow system.

The key escrow system we propose here, in contrast to our programmed default proposal, would set conditions only on anti-circumvention protection. This provision is patterned after two other provisions of the U.S. Copyright Act. Under section 412, if a work of any nationality is not registered promptly after creation, the copyright owner forfeits any future right to statutory damages or attorneys' fees.[89] Under section 405, although notice is no longer a requirement for copyright protection, failure to place a copyright notice on a work may allow defendants to raise an "innocent infringer" defense to

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87. Berne Convention for the Protection of Literary and Artistic Works, July 24, 1971, art. 5(2), S. TREATY DOC. NO. 99-27 (1986), 828 U.N.T.S. 221, 273 [hereinafter Berne Convention].

88. *See* 17 U.S.C. § 411(a) (1999) (requiring registration of copyright as a prerequisite for an infringement action for United States works).

89. *See* 17 U.S.C. § 412 (1994) (prohibiting awards of statutory damages or attorneys' fees for infringement occurring after publication but before registration, unless registration is made within three months after first publication).

monetary liability in an enforcement action.[90] Like these provisions, our proposal affects remedies rather than rights; unlike them, it does not even affect infringement remedies. The deposit requirement is not addressed to the work, nor to the copyright in the work, but only to the rights management system protecting a work. Deposit would be required only for the copyright holder to enjoy statutory anti-circumvention protection. Even absent a deposit, the copyright holder still would be fully protected by copyright law against unauthorized copying if the work's rights management system is circumvented. Copyright owners will enjoy all the rights required under the Berne Convention whether or not they choose to take advantage of the opportunity for special statutory anti-circumvention protection.

With regard to anti-circumvention protection proper, the WIPO Copyright Treaty provides in Article 3 that the treaty "shall apply *mutatis mutandis* the provisions of Articles 2 to 6 of the Berne Convention in respect of the protection provided for in the Treaty."[91] This article could be read to apply the Berne Convention's no-formalities provision to the requirement for "adequate legal protection" of technical measures. But, as we have noted previously, the United States already offered such protection prior to the passage of the DMCA. The modifications we suggest here affect only the statutory protection offered by the DMCA, and not the doctrine of contributory infringement or the other preexisting protections, all of which would continue to be cognizable without deposit or other formality. Consequently, we view this portion of our proposal as a legitimate and entirely defensible effort to balance two sets of obligations that must both be honored: the United States' obligations under the Berne Convention and the constitutional policies underlying fair use.

In addition to the matter of formalities, we must consider whether our proposal for programmed fair use defaults plus key escrow comports with the United States' substantive obligations under the Berne Convention and its related obligations under TRIPs.[92] This analysis is complicated by the incorporation of the Berne Convention within TRIPs; to analyze TRIPs, one must both consider the Berne

90. *See* 17 U.S.C. § 405(b) (1999) (exempting from infringement liability innocent infringers who prove reliance on lack of notice).

91. WIPO Copyright Treaty, *supra* note 84, art. 3.

92. *See* Agreement on Trade Related Aspects of Intellectual Property Rights, April 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 33 I.L.M. 1125 (1994) [hereinafter TRIPs Agreement].

Convention requirements within TRIPs and the separate requirements of TRIPs proper.[93]

The Berne Convention subjects exceptions to the copyright owner's exclusive right of reproduction to a three-part test: exceptions may apply "in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author."[94] The TRIPs agreement incorporates this requirement and extends it to cover limitations or exceptions to any of the exclusive rights of a copyright owner.[95] Several scholars have noted the potential for incompatibility between this language and the American doctrine of fair use.[96] To be sure, both the Berne Convention and TRIPs proper contain a number of exceptions and limitations, for news reporting, research, and other activities, that may well cover many applications of fair use. However, the fair use doctrine potentially applies more broadly to many other unauthorized uses that are not enumerated in the treaties and could well be perceived as conflicting with both normal exploitation of a work and with the author's legitimate interests.

A dispute resolution panel of the World Trade Organization, which administers the TRIPs Agreement, recently ruled that a different exception provided in the U.S. Copyright Act violated the TRIPs three-part test. The panel ruled that section 110(5), a recently enacted provision that permits certain small business owners to play radio and television broadcasts without remitting an (additional) royalty to the copyright owner, conflicted with normal exploitation of the works and prejudiced the legitimate interests of the rights holders.[97] Observers

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93. *See id.* part II, § 1, art. 9(1).

94. Berne Convention, *supra* note 87, art. 9(2).

95. TRIPs Agreement, *supra* note 92, art. 13.

96. *See, e.g.*, Neil W. Netanel, *The Next Round: The Impact of the WIPO Copyright Treaty on TRIPS Dispute Settlement*, 37 VA. J. INT'L L. 441 (1997); Ruth Okediji, *Toward an International Fair Use Doctrine*, 39 COLUM. J. TRANSNAT'L L. 75 (2000); Marshall Leaffer, *The Uncertain Future of Fair Use in a Global Information Marketplace*, 62 OHIO ST. L.J. 849 (2001). Other U.S. limitations and exceptions to copyright owners' rights pose similar problems. *See, e.g.*, Lydia Pallas Loren, *Paying the Piper*, 3 J. SMALL & EMERGING BUS. L. 231 (1999) (discussing the blanket exception allowing small business owners to play radio programming added to § 110(5) of the Copyright Act in 1998 by the Fairness in Music Licensing Act); Laurence R. Helfer, *World Music on a U.S. Stage: A Berne/TRIPS and Economic Analysis of the Fairness in Music Licensing Act*, 80 B.U. L. REV. 93 (2000) (same).

97. Report of the Panel, United States – Section 110(5) of the U.S. Copyright Act, WT/DS160/R (June 15, 2000), *available at* http://www.wto.org (last visited Oct. 1, 2001).

have speculated that the fair use doctrine would not survive a similar challenge.[98]

Fair use, however, is different than section 110(5) in two important ways. First, the fair use doctrine expressly incorporates many of the same concerns as the Berne/TRIPs three-part test. A court applying the doctrine must consider "the effect of the use upon the potential market for or value of the copyrighted work," and cases applying the doctrine to new copying and distribution technologies make clear that this consideration is not an empty one.[99] Arguably, the fair use doctrine simply provides the means by which the United States applies the Berne/TRIPs three-part test to exceptions allowed under its own law. Second, fair use is different than section 110(5) precisely because it has such a wide range of application. Assuming that specific applications of fair use might be perceived to violate the Berne/TRIPs three-part test, the doctrine taken as a whole could not possibly do so — indeed, as noted above, the doctrine taken as a whole enables many uses that the Berne/TRIPs framework expressly permits.[100]

Other language in TRIPs lends support to this conclusion. In particular, as Professor Okediji reminds us, Article 7 states that protection of intellectual property should be designed to "the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations."[101] As we have described above, fair use is designed to accommodate precisely such a social balance, and our proposal is designed to preserve that balance.

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98. *See* Okediji, *supra* note 96; Leaffer, *supra* note 96; *see also* Tyler G. Newby, *What's Fair Here is Not Fair Everywhere: Does the American Fair Use Doctrine Violate International Copyright Law?*, 51 STAN. L. REV. 1633, 1648–50 (1999).

99. 17 U.S.C. § 107 (1994); *see, e.g.*, Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539 (1985); A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir. 2001); Princeton Univ. Press v. Michigan Document Servs., Inc., 99 F.3d 1381 (6th Cir. 1996) (en banc), *cert. denied*, 520 U.S. 1156 (1997); Am. Geophysical Union v. Texaco, Inc., 60 F.3d 913 (2d Cir. 1994); Los Angeles Times v. Free Republic, 56 U.S.P.Q.2d 1862 (C.D. Cal. 2000).

100. In this context, it is noteworthy that the WTO Panel did not disturb the older "homestyle" provisions of section 110(5) that permit small business owners to play broadcasts "on a single receiving apparatus of a kind commonly used in private homes." 17 U.S.C. § 110(5)(a) (1999); *see also* Report of the Panel, United States — Sections 301–310 of the Trade Act of 1974, WT/DS152/R (Dec. 22, 1999), *available at* http://www.wto.org (last visited Nov. 1, 2001) ("Conformity can be ensured in different ways in different legal systems. It is the end result that counts, not the manner in which it is achieved. Only by understanding and respecting the specificities of each member's legal system, can a correct evaluation of conformity be established.").

101. TRIPs Agreement, *supra* note 92, art. 7; *see* Okediji, *supra* note 96.

In addition, Article 40 specifically acknowledges that "some licensing practices or conditions pertaining to intellectual property rights . . . restrain competition" and "may have adverse effects on trade and may impede the transfer and dissemination of technology."[102] Article 40(2) authorizes member states to enact legislation regulating "licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market."[103] Specific examples of competitive restraints that states may individually address include "conditions preventing challenges to validity and coercive package licensing."[104]

In the context of digital rights management, we must consider as an initial matter whether the language of Article 40 may be applied to technological restraints on access to or use of intellectual property. We think that it may. As we have noted above, by instantiating terms that otherwise might be conveyed by written licenses, technological controls will in many instances constitute the equivalent of such licenses and thus also constitute a "licensing practice or condition" that is covered by the TRIPs language. Even if the controls are not themselves considered to be the equivalent of licenses, they frequently will be accompanied by written licenses and so again would constitute a "licensing practice or condition."

Article 40 appears primarily directed toward particularized regulation of unfair competition, including anticompetitive practices that in the United States are considered matters for antitrust law. Within the U.S. copyright system, however, fair use plays an essential role in mediating between proprietary rights and unfair competition concerns.[105] To take just one example, as discussed above, courts have recognized fair use as a legal vehicle to ensure access to copyrighted computer programs for purposes of reverse engineering to create interoperable or competing products.[106] Although the DMCA includes a provision allowing circumvention of rights management systems for reverse engineering purposes, the provision is quite narrow and does not cover the range of reverse engineering activities that would be legitimate under current judicial formulations of fair use.[107] Additionally,

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102. TRIPs Agreement, *supra* note 92, art. 40(1).

103. *Id.* art. 40(2).

104. *Id.*

105. *See* Anticircumvention Misuse, *supra* note 1.

106. *See supra* text accompanying notes 40–41.

107. *See* 17 U.S.C. § 1201(f) (1999); Julie E. Cohen, *WIPO Treaty Implementation in the United States: Will Fair Use Survive?*, 21 EUR. INTELL. PROP. REV. 236, 239 (1999).

software shrinkwrap licenses now routinely include provisions that purport to require surrender of a purchaser's fair use reverse engineering rights as a condition of access to the program. These technological and contractual restrictions surely constitute a condition "impeding transfer and dissemination of technology." The system proposed here is permissibly directed toward remedying this problem.

Finally, regardless of its fit with specific provisions of the Berne Convention and TRIPs, fair use might be viewed under principles of international law as an area of reserved sovereignty under the treaty. Under general principles of public international law, nations may, under certain circumstances, reserve to themselves sovereign authority over some treaty-related matters.[108] Neither the Berne Convention nor TRIPs was considered by Congress to be self-executing, and the application of each to the United States was limited to that in the implementing legislation for each treaty.[109] In neither case has the United States' implementing legislation altered fair use — nor, to the extent that fair use is a constitutional principle, could it do so. Thus, the implementing legislation could be viewed as an attempt to reserve matters relating to fair use to the sovereign control of the United States.

This view of fair use as an area of reserved sovereignty is complicated by Berne Convention provisions stating that ratification of or accession to the Convention constitutes acceptance of all of its requirements unless the ratifying country expressly declares its reservations at the time of accession.[110] The United States did not expressly declare any reservations when it deposited its instrument of ratification, and arguably the Berne Convention would not permit derogation from the three-part test.[111] Yet clearly the United States did not accept all of the Berne Convention requirements upon accession, and this position has been largely accepted by other signatory nations. Here again we agree with Professor Okediji that the silence of other signatories should be deemed to indicate their acquiescence under international law.[112] The international community was well aware of

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108. *See* Vienna Convention on the Law of Treaties, *opened for signature* May 23, 1969, art. 19, 1155 U.N.T.S. 331; Okediji, *supra* note 96, at 144–48 (discussing rules governing reservation of sovereignty and their application in the context of international copyright law).

109. *See* Uruguay Round Agreements Act, Pub. L. No. 103-465, 108 Stat. 4809 (1994); Berne Convention Implementation Act, Pub. L. No. 100-568, 102 Stat. 2853 (1988).

110. *See* Berne Convention, *supra* note 87, art. 30.

111. *See* Okediji, *supra* note 96, at 146.

112. *See id.* at 121, 147–48.

American fair use and of the U.S. approach to the Berne Convention. After more than a decade of U.S. reliance upon their acquiescence, other signatories to the treaties cannot now complain about a doctrine that they were willing to overlook.

With regard to anti-circumvention protection proper, TRIPs imposes no requirement of anti-circumvention protection at all. The anti-circumvention provisions of the WIPO Copyright Treaty were drafted three years after TRIPs was opened for signature. By its own terms, the WIPO Copyright Treaty "shall not have any connection with treaties other than the Berne Convention, nor shall it prejudice any rights and obligations under any other treaty."[113] Thus, TRIPs is at worst silent on the question of circumvention and arguably amenable to the policy and practices that the proposal would further.

We conclude that a statute such as we propose, accommodating fair use, should lie within the permissible range of legislation under the Berne/TRIPs framework. The proposed fair use infrastructure does not violate any treaty obligations concerning the protection of copyrighted works, and it arguably advances other treaty goals. Thus, neither technology nor law stands as an obstacle to implementation of the proposed fair use infrastructure. We turn, finally, to consideration of whether other factors might do so.

VI. COUNTERARGUMENTS (OR, THE RISKS OF SOCIAL ENGINEERING)

Here, we step back and consider whether our proposal for a mixed rights management infrastructure is wise. We have argued that legislative action can alter the direction of technological change. This proposal may make things better — think, for example, of federal regulations mandating first seatbelts and later airbags in passenger cars — but it can also make them worse. For example, the congressionally mandated adoption of "wiretap ready" telephone switching equipment has led to weakened protection for many important attributes of private communications.[114] The DMCA itself is a sobering example of an ill-conceived legislative decision to favor one technological trajectory over others. Legislative changes also may

113. In fact, it appears that the WIPO Copyright Treaty will not automatically bind all signatories to the Berne Convention, but only those nations that actually ratify the new treaty. *See* WIPO Copyright Treaty, *supra* note 84, art. 21.

114. *See* Susan Freiwald, *Uncertain Privacy: Communication Attributes After the Digital Telephony Act*, 69 S. CAL. L. REV. 949 (1996); *see also* 47 U.S.C. § 1002 (1994).

trigger undesirable technological responses that Congress did not intend or foresee. Larry Lessig, for example, has persuasively argued that the development of anti-pornography filterware that permits targeted censorship is a technological development far worse than the cyber-zoning legislation it was designed to forestall.[115] Might our proposal have a similar effect? Are our proposed changes more like airbags, or more like "censorware"? Is our insistence on the possibility of productive congressional action naïve? As Jessica Litman reminds us, copyright-related legislation has repeatedly proved itself especially vulnerable to capture by special interests.[116] Might a different sort of legal response to copyright management systems be better?

Our proposal for a mixed fair use infrastructure is inferior to traditional fair use rights in two respects. First, it would not foster the full degree of spontaneity enjoyed by fair users in non-digital media. Even a well-designed set of automatic defaults will not permit every use that a court might deem fair. Even a streamlined Internet-based procedure for obtaining keys will inhibit spontaneity and will impose transaction costs that users of non-digital media need not incur.[117] Realistically, too, there will be server outages and other technical difficulties that prevent fair users from obtaining keys.

Second, and more important, the proposal in its second-best incarnation protects privacy, not anonymity. Traditional fair users have enjoyed both. There is no central (or distributed) database containing their names and contact information. We suspect that many who rely on fair use to produce and distribute their own information goods — academic works of critical commentary, software created through reverse engineering, and the like — do not desire anonymity in the long run. Yet anonymity is an indispensable facilitator for other, less "official" types of criticism and other types of exploration. Many social critics and dissenters function outside the ivory tower and cannot invoke norms of intellectual inquiry to deflect the scorn directed at them by their communities.[118] Furthermore, arguing that anonymity is the

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115. *See* Lawrence Lessig, *What Things Regulate Speech*, 38 JURIMETRICS J. 629 (1998).

116. *See* Jessica Litman, *Revising Copyright Law for the Information Age*, 75 OR. L. REV. 19 (1996); Litman, *Exclusive Right*, *supra* note 49; Jessica Litman, *Copyright Legislation and Technological Change*, 68 OR. L. REV. 275 (1989).

117. As one supporter of rights management has argued, however, users of nondigital works incur other sorts of transaction costs. *See* Tom W. Bell, *Fair Use vs. Fared Use: The Impact of Automated Rights Management on Copyright's Fair Use Doctrine*, 76 N.C. L. REV. 557 (1998).

118. *See* Seth F. Kreimer, *Sunlight, Secrets, and Scarlet Letters: The Tension*

special province of "pirates" rather than legitimate fair users seems akin to arguing that wiretaps do not threaten innocents who have nothing to hide. In our view, both arguments are equally specious. Thus, we think that for our "second-best" system to be tenable, the privacy protections for fair users who access escrowed keys must be extraordinarily robust. Indeed, we wish to stress that this paper should not be construed as support for any version of our proposal that incorporates weaker privacy protection.[119]

In sum, the proposal is a second-best solution designed to make the best of a bad situation. Rights management systems threaten to destroy fair use of digital materials, and to eliminate spontaneity and anonymity for would-be fair users and for readers generally. Our proposal accepts that these systems will be implemented and strives to minimize their ill effects on socially-valued uses. This characterization, however, raises the question whether we, too, are taking rights management systems as a given and thereby foreclosing a better solution to the problem of preserving fair use in the digital environment.

What might another solution look like? First, the Copyright Office might use its rulemaking authority under the DMCA to establish a set of exemptions to the ban on circumvention of rights management technologies that preserves the traditional spectrum of fair uses.[120] Based on the results of the first such rulemaking proceeding, we think this result unlikely.[121] Instead, the Copyright Office has interpreted the

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Between Privacy and Disclosure in Constitutional Law, 140 U. PA. L. REV. 1, 59–71 (1991).

119. Adoption of the proposal also should not foreclose other measures to preserve anonymity. As we have noted, a key escrow system for fair use beyond that allowed by the programmed defaults would not preclude individuals who elect to hack copyright management systems from raising constitutional defenses to a lawsuit or prosecution under the DMCA's anti-circumvention provisions. In addition, it is worth repeating that anonymity and privacy are concerns not only of fair users, but also of users generally. *See Read Anonymously, supra* note 1. Fashioning anonymity and privacy protections for readers in the era of digital rights management is a subject beyond the scope of this paper. That said, Congress could and should direct that copyright management systems be designed, insofar as possible, to honor anonymous payment systems.

120. *See* Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 64 Fed. Reg. 66,139 (proposed Nov. 24, 1999); U.S. Copyright Office, *Rulemaking on Exemptions from Prohibition on Circumvention of Technological Measures that Control Access to Copyrighted Works*, *available at* http://www.loc.gov/copyright/1201/anticirc.html (last visited Oct. 2, 2001).

121. *See* Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. 64,556, 64,564–66 (2000) (codified at 37 C.F.R. § 201.40) (establishing exemptions for literary works whose

scope of the DMCA's grant of rulemaking authority as narrowly as possible.[122] But even if the Copyright Office were to declare meaningful exemptions to the ban on circumvention, the separate statutory ban on the manufacture and distribution of circumvention technologies would render the exemptions meaningless and would necessitate a court challenge to the statute itself.[123]

Next, following such a challenge, a court might declare the DMCA's anti-circumvention provisions unconstitutional in their present form. Afterward, individuals seeking to make fair use of protected works would enjoy a right to hack the protective technologies without fear of civil suit or criminal prosecution. As a result, protection-defeating technologies would become more readily available and simpler to use. Our proposal expressly provides for this result, of course, but it is likely that the availability of the programmed-default and key-escrow alternatives for fair use would decrease the incentives to mount such a challenge.[124]

We note, first, that the DMCA's early airings in the federal district courts do not inspire faith in these predictions.[125] Assuming, however, that the courts of appeal show more backbone, we think that under a fair use regime defined by constitutional litigation, individuals seeking access to encrypted or otherwise protected digital works still will enjoy materially less fair use, and less spontaneity and anonymity in fair use, than they do now. Although a court might (and, in our view, should) declare the anti-circumvention provisions facially invalid, a far likelier result is that decisions as to constitutionality would be made on a

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access control mechanisms have malfunctioned or become obsolete and for lists of websites blocked by digital censorware).

122. *See id.* at 64,559–60.

123. *See* 17 U.S.C. § 1201(a)(1)(E) (1999) (stating that exemptions to ban on act of circumvention shall not serve as defenses to other provisions); *id.* § 1201(a)(2), (b) (1999) (prohibiting the manufacture, distribution, or importation of circumvention technologies).

124. The legal regime we propose also might be more likely to survive constitutional challenge, since it would be considerably less restrictive than the current regime.

125. *See* Microsystems Software, Inc. v. Scandinavia Online AB, 98 F. Supp. 2d 74 (D. Mass. 2000); Universal City Studios, Inc. v. Reimerdes, 82 F. Supp. 2d 211 (S.D.N.Y. 2000), *appeal pending sub nom.* Universal City Studios v. Corley, No. 00-9185 (2d Cir.). It is possible that Felten v. Recording Industry Ass'n of Am., Inc., No. CV-01-2660 (GEB) (D.N.J.), will prove a better vehicle for constitutional challenges to the DMCA. Felten and his co-plaintiffs, researchers in computer science at Princeton University, seek declaratory and injunctive relief prohibiting enforcement of the DMCA's anti-device provisions to prevent them from discussing and publishing their research findings on the efficacy of certain anti-circumvention technologies.

piecemeal, as-applied basis.[126] Thus, the threat of prosecution or suit under the DMCA will continue to chill many lawful fair use activities. Even facial invalidation of anti-circumvention legislation, moreover, will not prevent private publishers from implementing rights management systems. Congress might do so, of course, but we think it inconceivable that Congress would pass such a law. Even the most user-friendly circumvention technologies will require some threshold level of technological competence.

There remains, finally, the question whether successful court challenges to the DMCA's anti-circumvention provisions might create incentives for content owners to design their systems more flexibly, to accommodate a degree of spontaneous, anonymous fair use. For example, the prospect of costly litigation of repeated constitutional challenges might provide incentive to implement steganography (watermarking technology) that could allow the proliferation of a certain digital work to be traced back to particular distribution points or copies, or even to particular users.[127] Conceivably, this might move copyright holders toward steganography alone as a method of deterring digital piracy.

We think, though, that a system of mandatory programmed fair use minima plus key escrow probably would create even stronger incentives for more flexible design. Most obviously, our proposal would require a minimum degree of system flexibility as a condition of state-backed copyright enforcement. Although private ordering has become increasingly central to copyright enforcement strategies, the copyright industries continue to view a degree of state-backed enforcement as essential.[128] Particularly when compared with the uncertainties of constitutional litigation, we think that our proposal is more likely to encourage the development of a "lex informatica" that serves all of the

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126. *Cf.* Reimerdes, 82 F. Supp. 2d at 332–39 (rejecting defendants' as-applied challenge to the DMCA's ban on circumvention devices and refusing even to consider their facial overbreadth challenge).

127. *See* NII WHITE PAPER, *supra* note 45, at 188–89; Kenneth W. Dam, *Self-Help in the Digital Jungle*, 28 J. LEGAL STUD. 393 (1999); Rosemarie F. Jones, *Wet Footprints? Digital Watermarks: A Trail to the Copyright Infringer on the Internet*, 26 PEPP. L. REV. 559, 569 (1999).

128. Imposing the "carrots" of mandatory fair use minima and key escrow might of course diminish the preference for state enforcement. *Cf.* Tom W. Bell, *Escape from Copyright: Market Success vs. Statutory Failure in the Protection of Expressive Works* (working paper Mar. 29, 2000) (on file with authors) (arguing that copyright law should enable authors to opt out of the statutory scheme of protection). However, our faith in the ingenuity of hackers is such that we do not think a system of pure private ordering would be in the copyright industries' best interests.

interests underlying the copyright system, including the public interest in fair use.

In addition, we cannot unqualifiedly endorse steganography as the magic solution to the problem of fair use under digital rights management. Although a system of steganography-based rights management could support spontaneous fair use of digital materials more fully than would a proliferation of "lock-out" systems and fair use preauthorization requirements, a system that attempted to register unique copies to identified users would destroy anonymity for fair users, and indeed for all readers. Although we think that steganography offers certain advantages over other forms of rights management — and that a steganography-based system need not be designed to compromise anonymity (or privacy) — we think that the legitimacy of such a system would depend on the specific details of its implementation.

Returning, finally, to the example of filterware, it seems highly likely that the market would have developed filterware whether or not Congress had passed legislation zoning Internet pornography. We cannot say the same for our proposal, and we think this is one of its strengths. Where copyright management systems are concerned, the market drives inexorably toward ever-less-flexible controls — or, rather, for controls that are flexibly responsive to the business plans of rights-holders, not the desires and habitual practices of fair users. A move toward greater flexibility will require some other impetus. We think that our proposal could provide this impetus. At the least, we hope that it will encourage greater discussion of the possibilities.