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Cover Page Footnote

Special thanks are due to Julie E. Cohen and Kathleen M. Price for their willingness to read this article so carefully in draft and for their helpful suggestions.

ADRIFT IN THE DIGITAL MILLENNIUM COPYRIGHT ACT: THE SEQUEL

Diane Leenheer Zimmerman[*]

It is rare for a statute to exhibit a sense of humor. But how else is one to account, other than as an exhibition of sly and unkind wit, for the provisions in the Digital Millennium Copyright Act[1] ("DMCA") that purport to respond to the special needs of nonprofit, educational, research and other "public interest" users of copyrighted works in digital form?[2] The DMCA was Congress's response to the ostensible plight of copyright owners, faced, they argued, with ruin by the prospect of massive infringement of digital information products. Ordinary copyright law was not enough protection, they claimed, because it allowed too many illicit copies to get past the owners and the regulators; digital works could be copied so fast and so efficiently and so perfectly that only stanching as many holes as humanly possible through which copies could "leak" away from the control of owners would save the production of cultural goods in this important new format.

The industries have turned, therefore, to the development of technology to produce "paracopyright" protections that they themselves can manipulate to protect and enforce their preferences as to the use of their products. Self-help measures in the form of encryption, watermarking, and a variety of other digital anticopying strategies are either now in use or on the drawing board. New state laws permitting owners of digital works to impose unilateral contracts on licensees/purchasers are in the process of adoption.[3] But copyright owners were also able to convince Congress that they could not hope to stave off armies of dedicated hackers who would

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[1] Pub. L. No. 105-304, 112 Stat. 2863 (1998) (codified as amended at 17 U.S.C. §§ 1201-05 (Supp. 1998), *amended by* 17 U.S.C.A. §§1201-04 (West Supp. 2000)).

[2] *See infra* note 9 and accompanying text.

[3] A new model law, the Uniform Computer Information Transactions Act (UCITA), was approved by the Commissioners on Uniform State Laws in 1999, and is now before the states. It has been adopted in Virginia and Maryland, and is currently under consideration in other jurisdictions, including New Jersey and the District of Columbia. *See Introductions & Adoptions of Uniform Acts* (visited Feb. 24, 2001) <http://www.nccusl.org/uniformact_factsheets/uniformacts-fs-ucita.htm>. UCITA permits owners of intellectual property to enforce unilaterally drafted shrink-wrap licenses, limiting the uses that the consumer can make of the product. For a description of the model act, see Carlyle C. Ring, Jr., *The Need for Uniform Rules for the Information Highway: An Overview of UCITA*, at *Introductions & Adoptions of Uniform Acts* (visited Feb. 24, 2001) <http://www.nccusl.org/uniformact_overview/uniformacts-ov-ucita.htm>. For a critical assessment of the Act, see Mark Lemley, *Beyond Preemption: The Law and Policy of Intellectual Property Licensing*, 87 CAL. L. REV. 111 (1999), referring to the model statute under an earlier name, U.C.C. 2(b).

strip them of their rightful profits unless their self-help efforts were backed up by statutory penalties for breaking through the technological locks attached to proprietary works.[4] Congress responded by making it illegal for anyone to circumvent "a technological measure that effectively controls access to a work protected under [copyright law]."[5] Although it is not technically against the law to circumvent technological devices that protect against violation of copyright interests other than those controlling initial access, the statute makes illegal the making or offering of any device or service that is "primarily" intended to circumvent *all* forms of technology used to protect any right of a copyright owner.[6] Violations of the statute are punishable by civil damages, and, if "willful" and for commercial or personal financial gain, by enormous fines and long terms in prison.[7]

But there was clearly a potential cost to establishing this structure. Technological protection devices do not merely provide a way to avoid unacceptably high rates of unlicensed copying by those who gain access to the works. Depending on how they are designed, they can also give copyright owners a very fine-grained level of control over how works are accessed, by whom, how often, at what price, and indeed how they are used once access is obtained.[8] In short, they can be used to prevent virtually any unconsented interaction with a work. As a secondary effect of the new law, therefore, publishers and other copyright owners were given a level of protection that could enable them, should they choose, to extract fees from individuals for a single use of all digital works. They may also be able to exert a degree of oversight over how a work is used that would have been essentially impossible in a world where hard copies typically circulated to

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[4] The legislative history indicated that the Act was required to put the United States in compliance with its international treaty obligations. The claim was made that the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty, both promulgated at a Diplomatic Conference in Geneva, Switzerland, in 1996, required Congress to pass the package of protections contained in the DMCA. *See* H.R. REP. NO. 105-551(I), at 28 (1998). This interpretation of the WIPO treaties is controversial; the language would not seem to require anything so broad as the DMCA. *See* Pamela Samuelson, *The U.S. Digital Agenda at WIPO*, 37 VA. J. INT'L L. 369 (1997).

[5] 17 U.S.C. § 1201(a)(1)(A).

[6] *See id.* § 1201(a)(2).

[7] Civil damages are available under § 1203 of the DMCA; the criminal provision, § 1204, permits fines of up to $500,000 and prison terms of up to 5 years for the first offense, and up to $1 million and 10 years for any subsequent offense.

[8] A concise description of various forms of technological controls can be found in Comments of the Library Associations, *In re Rulemaking on Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies*, No. RM 99-7A (visited Feb. 17, 2000) <http://www.loc.gov/copyright/1201/comments/162.pdf> (Copyright Office website URL) [hereinafter *Library Letter*]; *see also* Daniel J. Gervais, *E-Commerce and Intellectual Property: Lock-it up or License?*, Copyright Clearance Center (visited Nov. 30, 2000) <http://www.copyright.com/News/gervais_Ecom.html>.

the public via the mechanism of an outright sale. Not only were poorer consumers of copyrighted works at risk, as a result of the DMCA, of being even more disadvantaged in this revised universe of technology controls; so, too, were heavy consumers of copyrighted works (scholars, researchers and students, to name a few) who must, as a practical matter, depend on the use of works borrowed from libraries and other similar shared-use collections.

Faced with forcefully expressed objections from the library, research and academic communities to this new form of "paracopyright" protection, Congress added a few provisions to the DMCA, ostensibly designed to soften the impact of the statute on these users' reasonable needs for access.[9] Unfortunately, however, the provisions were designed in such a way that made it doubtful from the outset that they would actually be able to deliver much of the relief that was supposedly intended.[10]

The most glaring example of the DMCA's Catch-22 approach is the so-called "fail-safe" proviso in § 1201(1)(a). This section delayed implementation of the prohibition against circumventing access controls for two years after the effective date of the law. During that time, Congress required the Copyright Office, in consultation with the Department of Commerce, to study the prospective effect of the Act on the ability of users to make "noninfringing" uses of copyprotected works. Following this study, the Copyright Office was authorized to issue regulations "selectively" waiving the prohibitions "for limited time periods, if necessary to prevent a diminution in the availability to

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[9] For example, 17 U.S.C. § 108 was amended to permit very limited rights to make copies of digital works protected by technological means by libraries for archival purposes, or where works are in obsolete formats, or have been damaged or lost. Libraries and educational institutions may also circumvent technological protection mechanisms to examine a work prior to deciding whether or not to acquire it. *See* 17 U.S.C. § 1201(d). In addition, the statute purports not to subvert limitations and defenses, including the fair use defense, otherwise provided for by the Copyright Act. *See id.* § 1201(c)(1). Because the statute prohibits circumvention to gain access to a work, but not for other purposes, a user who wants to make some statutorily permissible use of the work is presumably permitted to evade technological controls that would otherwise prevent it once legal access is obtained.

[10] The limited rights to circumvent technological protections, for example, presuppose the capability of doing so. Yet it is against the law to make devices or offer services "primarily designed or produced for the purpose of" circumvention. 17 U.S.C. § 1201(b)(1). Thus, unless a library, archive, school or individual keeps its own resident stable of hackers available, how they will avail themselves of these provisions is unclear. For example, someone who has legal access to a work and wants to make a copy that is permitted under fair use may legally do so, even if it requires circumventing a technological protection. But the chances that this option can be enjoyed without running afoul of § 1201(b) seem slim. As a practical matter, the survival of the limitations on copyright owner's rights, as set out in Chapter 1 of the Copyright Act of 1976, including the "first sale" doctrine, and exemptions provided for by § 110, will now be available purely at the discretion of the copyright owner.

individual users of a particular category of copyrighted materials."[11] The process is to be repeated thereafter at intervals of three years.

How the Copyright Office was supposed to identify the "particular class[es] of copyrighted works" that would be appropriate to exempt from the Act's prohibition against circumventing access controls on digital works[12] was a mystery from the outset. For one thing, the statute provided no standards on which to base the decision to exempt some classes of works from coverage while leaving others protected.[13] The statute merely imposes the rather cryptic requirement that the Librarian of Congress must find that implementation as to these works would leave users "adversely affected" in making noninfringing uses of them (a standard, critics might argue, that is satisfied to some degree by *every* class of work protected by the DMCA). And it was clear that the decision to excise any meaningful class of work, even temporarily, from the DMCA's coverage would provoke serious challenges by irate owners who would find themselves, as a result of the designation under § 1201(a), in a very unfavorable position relative to those who were not excluded.[14] Short of a decision by Congress to scrap the whole idea of the DMCA, the likelihood that the Copyright Office would see itself as having much freedom to use the exclusion provision prophylactically seemed remote.[15]

And, unfortunately, that is how the process played itself out. The Copyright Office dutifully issued its report one day before the prohibitions in § 1201(a)(1) were scheduled to go into effect.[16] And the Register did indeed exempt two classes of works: a) compilations of lists of web sites

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[11] H.R. REP. NO. 105-551 (II), at 96 (1998).

[12] 17 U.S.C. 1201(a)(1)(C).

[13] The Copyright Office noted at one point in its report that "[t]he language of section 1201(a)(1) does not offer much guidance as to the respective burdens of proponents and opponents of any classes of works to be exempted from the prohibition on circumvention," and at another termed the statutory language about what was meant by a "class of works" ambiguous. Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. 64,555, 64,558-59 (2000) (issued Oct. 27, 2000) [hereinafter Report]. The Report is available at *Recommendation of the Register of Copyrights and Determination of the Librarian of Congress* (visited Jan. 29, 2001) <http://www.loc.gov/copyright/1201/anticirc.html>.

[14] The problem is implicitly flagged in the statute itself when Congress directs the Librarian of Congress to take into account in issuing rules exempting classes of works from the access control provision "the effect of circumvention of technological measures on the market for or value of copyrighted works." 17 U.S.C. § 1201(a)(1)(C)(iv).

[15] Some proponents did suggest a rule that would create exceptions for "textbooks, scholarly journals, academic monographs and treatises, law reports and educational audiovisual works." Report, *supra* note 13, at 64,572. But the Register rejected the suggestion without much discussion, noting that the proponents had not shown how access controls were limiting noninfringing uses of these works as a class. *See id.*

[16] *See* Report, *supra* note 13. The DMCA became effective October 28, 1998. *See* Digital Millenium Copyright Act of 1998, Pub. L. No. 105-304, sec. 105(a), 112 Stat. 2860, 2877.

blocked by filtering software (this rule was designed to allow web site owners who were on the lists to find out about it, and to object if their placement on them was unfair or erroneous), and b) literary works that would otherwise be wholly unusable because they are protected by defective, damaged or obsolete access control devices.[17]

Useful as these two exemptions may be, neither did much to address the concerns that ostensibly caused the procedure to be put into the statute in the first place. That is, they did not provide reassurance that the fail-safe provision was up to the job of preventing particular kinds of uses from being disadvantaged or particular and customary practices, like library archiving, from being disrupted. Nor did they suggest that the Copyright Office would have the power in future rulemaking procedures to do much if it saw evidence that the shift in legal rules actually was encouraging the use of technologies and approaches to licensing that, at least in some circumstances, was adversely affecting levels of access and types of use that copyright, prior to the DMCA, had permitted.[18] And, indeed, the Report issued by the Register of Copyrights was quite explicit in disclaiming any authority to define categories of works based on factors "external" to the work, including who their users are or how the various technologies are deployed.[19] Licensing practices in particular were singled out as a concern irrelevant to the rulemaking procedure permitted under the DMCA.[20]

The misfit between the perceived problem and the tools available to deal with it does not seem to result from failure to understand the relevant issues. However short the statute might be on standards for identifying the classes of works to be subjected to exclusion for each successive three-year period, it very clearly directs the Librarian of Congress to consider the negative effects of access controls on such things as "nonprofit archival, preservation, and educational purposes,"[21] and on such uses as "criticism,

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[17] *See* Exemption to Prohibition Against Circumvention, 65 Fed. Reg. 64,555, 64,574 (2000) (to be codified at 37 C.F.R. pt. 201).

[18] The Copyright Office was urged by the Assistant Secretary of Commerce for Communications and Information to engage in more sweeping regulation. In the mandatory consultations under 17 U.S.C. § 1201(a)(1)(C), that preceded issuance of the Report, the Secretary expressed concern about the effect of the law on educators and librarians, and in particular flagged as a problem the potential practice of licensing works on a "pay per use" basis. *See* Report, *supra* note 13, at 64,561, 64,563-64. The Secretary, therefore, favored a broad exception that would allow circumvention for noninfringing uses whenever works "have been lawfully acquired by users or their institutions." *Id.* at 64,561. The Copyright Office rejected the proposal because it would define classes of works by their uses, not by the attributes of the work itself. *See id.* at 64,562.

[19] *See id.* at 64,562.

[20] *See id.* at 64,563.

[21] 17 U.S.C. § 1201(a)(1)(C)(ii).

comment, news reporting, teaching, scholarship, or research."[22] This language clearly identifies the areas of purported concern, and seems to acknowledge that they center not around effects on classes of works, but rather around effects on specific categories of users and loci of use and the specific intensity of control exerted through technological means by various copyright owners. In particular, the congressional committee that added the rulemaking requirement to the DMCA seemed to understand that the Act might permit a variety of restrictive business practices (presumably including licensing and software design) to emerge that could seriously impede access.[23] Thus, to provide as the only tool available to the Copyright Office to deal with this set of problems across-the-board exemptions of entire categories of works does look at least a bit like the legislative equivalent of a somewhat ill-tempered practical joke.

Why has this silly state of affairs come about? Let me suggest two factors. The first is a complete failure to come to grips with the obvious: that the advent of law-backed self-help to assert and enforce copyright owners' interests also demands that lawmakers engage in an affirmative rebalancing of interests as between users and owners to assure that crucial social policy objectives are not lost in the shuffle; it is not enough to hope that creators, disseminators, and users will work it all out somehow over time. And the second factor is the "fear of the unknown."

First, let me address the failure to see the obvious. It is beyond controversy that the self-help technologies now available or under development, particularly when backed by the power of the sanctions in the DMCA, offer copyright owners the potential (whether or not they avail themselves of it)[24] to control interaction with their works to a degree, and along axes, that have never before been possible. Whether or not such practices come into widespread use, it is now feasible to think about setting up access to a digital work so that no individual can use it without first paying for the use or receiving specific approval (or both) and to do so in a way that also controls the duration of access and the types and numbers of uses that can be made once access is granted. Furthermore, copyright

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[22] *Id.* § 1201(a)(1)(C)(iii).

[23] The Report of the House Commerce Committee stated:

> [T]he Committee is concerned that marketplace realities may someday dictate a different outcome, resulting in less access, rather than more, to copyrighted materials that are important to education, scholarship, and other socially vital endeavors. This result could flow from a confluence of factors, including . . . the adoption of business models that depend on restricting distribution and availability, rather than upon maximizing it.

H.R. REP. No. 105-551(II), at 95-96 (1998).

[24] Many in the copyright industries warn that overprotection may not be a good business model. *See, e.g.*, Gervais, *supra* note 8.

owners can potentially control the delivery system for digital works more completely, and this, coupled with the application of technological access and other controls over works in electronic formats, gives them the realistic possibility of establishing for the first time, as a general matter, individualized prices and packages of user rights for each would-be consumer.[25] Because digitally encoded material can be destroyed if used in violation of the terms of transfer, outright sales are now less attractive to copyright owners than are self-enforcing temporary licenses.[26]

The interesting question about the DMCA is why, if Congress truly was concerned about the possible effects of this changed information environment on research, education, and on libraries and the people who use them, the statute did not provide directly for a set of special limitations on the rights of owners. By failing to do so, the DMCA departs sharply from prior practice.

Chapter 1 of the Copyright Act of 1976 is replete with provisions that limit the otherwise broad rights that the copyright law provides.[27] The most important of these, in my view, is § 109(a), the so-called "first sale doctrine."[28] This provision gives copyright owners control over individual copies of works only until they are legally transferred by sale to members of the public. After that, although the copyright owner continues to retain rights against infringing replication of the copy, or perhaps the public

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[25] For a discussion of the implications of the ability to engage in price discrimination in the on-line environment, see Julie E. Cohen, *Copyright and the Perfect Curve*, 53 VAND. L. REV. 1799 (2000).

[26] UCITA, for example, assumes that many transactions in digital works will be in the form of licenses rather than sales. *See* Carlyle C. Ring, Jr., *The Need for Uniform Rules for the Information Highway: An Overview of UCITA*, at *Introductions & Adoptions of Uniform Acts* (visited Feb. 24, 2001) <http://www.nccusl.org/uniformact_overview/uniformacts-ov-ucita.htm>. Yale University, recognizing how different it was to obtain works through licensing rather than outright sale, received funding to establish the LIBLICENSE Project, an attempt to help librarians work their way through the time-consuming web of new and unfamiliar types of provisions. The Project is described in Ann Okerson, *The LIBLICENSE Project and How It Grows*, 5 D-LIB MAG. (Sept. 1999) <http://www.dlib.org/dlib/september99/okerson/09okerson.html>.

[27] The basic rights of copyright owners are set out in 17 U.S.C. §§ 106, 106A (1994), *amended by* 17 U.S.C. 106 (Supp. IV 1998). For an example of a provision that cuts back on these rights, see 17 U.S.C. § 110 (1994 & Supp. IV 1998), *amended by* 17 U.S.C.A. § 110 (West Supp. 2000), which imposes limitations on copyright owners in the interest of benefiting educational, religious and other users.

[28] *See* 17 U.S.C. § 109(a) (1994 & Supp. IV 1998). The Register of Copyrights and the Assistant Secretary of Commerce for Communications and Information are currently engaged in a joint study of the effect of the DMCA on the "first sale" doctrine, and are expected to report on the matter to Congress in February, 2001. At that time, it is possible that the Copyright Office will recommend amendments to the statute. However, it lacks rulemaking power to deal with any negative effects of the DMCA on 17 U.S.C. § 109(a) that its study may uncover. *See* DMCA, Pub. Law. No. 105-304, sec. 104, 112 Stat. 2860, 2876 (1998). The provision also directs the Register and the Assistant Secretary to inquire into the impact of the DMCA on 17 U.S.C. § 117, which imposes certain limits on the rights of copyright owners of software. *See id.*

performance (where applicable) of it, further distribution of the specific copy is at the discretion of the purchaser. One important thing that is accomplished by this provision is that those who cannot, or do not wish to, purchase a new copy at full price have access to alternative sources for the work, enabling them to acquire it at little or no cost to themselves. This compromise has allowed government and private institutions to use social resources to acquire rich accumulations of works for shared use. The institution pays once for each copy and then places it in a library where the copy is available for shared use at little or no charge[29] by those who either lack the resources to obtain their own copy, or whose appetite and need for information products outruns any reasonable amount that the individual could be expected to devote to the acquisition of personal copies.[30] The compromise provided by the first sale doctrine also means that a variety of interactions with a given copy of a work can occur without the knowledge of the copyright owner—that is, privately.

This compromise has worked well for us as a historical matter, and one might have expected Congress to attempt to provide for its functional equivalent as a quid pro quo for the benefits to industry of the DMCA at the outset, rather than leaving the cure for any problems that develop to an inadequate rulemaking procedure or to the vague hope of a subsequent legislative fix. Libraries, educational institutions and research facilities are already somewhat vulnerable players in the market for the acquisition of information products because they are less free than individuals, given their special role in the society, to walk away from unfavorable terms offered by information providers. One might argue, for example, that one reason many scientific journals can be priced at their currently astronomical levels is because libraries, caught between the needs of their patrons and the market power of large commercial publishers,[31] cannot credibly threaten not to buy as many of the products as their budgets will

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[29] The United States has never adopted the so-called "Public Lending Right" under which authors are compensated for the borrowing of their work from libraries. This right is recognized widely in Europe, although the compensation comes from a government subsidy rather than charges to the user or individual library budgets. *See* Jennifer M. Schneck, *Closing the Book on the Public Lending Right*, 63 N.Y.U. L. REV. 878 (1988). European law has been revised recently, however, to give authors a share of the revenues generated by commercial lending of copyrighted works. *See* Jan Corbet, *The Law of the EEC and Intellectual Property*, 13 J. L. & COMM. 327, 360-61 (1994).

[30] In this category, I would include researchers, educators and students, to give just a few examples.

[31] Consolidation in the academic publishing universe is widely viewed by librarians as a serious problem because of the market power enjoyed by the large companies. *See, e.g.*, David D. Kirkpatrick, *As Publishers Perish, Libraries Feel the Pain*, NY TIMES, Nov. 3, 2000, at C1, col.2 (mergers push up costs of journals).

allow.[32] And no matter what form the DMCA takes, it is unlikely to help very much in the struggle by libraries, for the foreseeable future, to deal with what one might call the "creative" pricing for works in electronic form.[33]

Thus, it would have made good policy sense for Congress to attempt to re-level the playing field in passing the DMCA, rather than waiting until institutions and individuals who depend on shared use can gather together enough convincing evidence of major and systematic harm—evidence that, not surprisingly, is hard to muster at this early stage in the deployment of self-help technologies.[34] Certainly, enough early signs of questionable choices, from the public's perspective, have already shown up to suggest that an ounce of prevention today would be worth the proverbial pound of cure applied at a later date.[35] For example, one should not need to experience a wide range of pay-per-use models in libraries to decide in advance, as a policy matter, to restrict some of them. By the time colleges and libraries and comparable institutions amass the kind of proof of harm that currently seems requisite, the injury to the public interest is likely to be difficult to repair.[36]

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[32] The high, and rapidly escalating, price of scientific journals has generated a vast body of commentary over the past ten years. For example, the Davis Library at University of North Carolina publishes an on-line journal called the *Newsletter on Serials Pricing Issues* (*ISSN:* 1046-3410); information and back issues are available at <http://www.lib.unc.edu/prices/about.html>. Numerous individual studies have been done documenting these surprisingly large price increases and attempting to understand some of the causes. *See, e.g.*, Cornell University Faculty Taskforce, *Journal Price Study: Core Agricultural and Biological Journals* (Nov. 1998), *available at* <http://jan.mannlib.cornell.edu/jps/jps.htm>.

[33] Clearly, part of the problem is that publishers themselves simply do not know what is reasonable in pricing their electronic publications. *See, e.g.*, *ePubExpo Panelists Debate—Which Price is Right for Electronic Books?*, 25 Book Publishing Report, Nov. 6, 2000, *available in* LEXIS, News, Newsletters. *See also* Stephen H. Wildstrom, *A New Chapter for E-Books*, BUSINESS WEEK, Mar. 27, 2000, at 18. Another factor may be disparities in bargaining power. One response by libraries to the market power of large publishing conglomerates is to band together into consortia to bargain with them. The NorthEast Research Libraries consortium, for example, negotiates licenses for about a dozen and a half large libraries that belong to it. Interview with Kathleen M. Price, Professor of Law and Librarian, New York University School of Law (Dec. 6, 2000).

[34] The Copyright Office, for example, found that researchers, educators and librarians had not succeeded in establishing with sufficient certainty for purposes of a § 1201(a) exception that access to textbooks, scholarly journals, treatises, and other similar works would be significantly affected by technological controls. *See* Report, *supra* note 13, at 64,571-72.

[35] One problem with licensing, for example, is that libraries may pay to "subscribe" to journals, but can enjoy access to them only for a limited time. Permanent access may be unavailable, or unaffordable. This problem is discussed briefly in *Library Letter*, *supra* note 8, at 15-16.

[36] Remedying a problem for a future generation of students, for example, will not make up for losses in educational opportunities suffered by the present generation as a result of the overly vigorous or inappropriate application of technological controls. Arguments in favor of facilitating access to works through libraries and second-hand markets are presented in Cohen, *supra* note 25, at 1805-08. Furthermore, materials lost to collections today may not be recoverable in the future.

I recognize that, because digital works are peculiarly vulnerable to illicit copying and distribution, the balance struck for a world of print cannot be duplicated exactly, and I do not wish to make light of the difficulties that might be entailed in deciding on the right mix of protections and privileges. Nonetheless, it would not seem unreasonable, for example, for Congress to mandate that copyright owners approximate something like the degree of flexibility that libraries or educational institutions have historically enjoyed under § 109(a). At a minimum, patrons should not have fewer rights to utilize works in electronic form than they would have enjoyed were the works in hard copy.[37] And libraries should be able to archive and preserve the works they acquire for the use of future readers and scholars. However difficult the right balance may be to find, a process committed to finding such a balance is more likely to be successful than one that simply gives up the battle before the first skirmish.

Why did limits of this sort on copyright owners not appear in the statute, or at least be placed within the rulemaking jurisdiction of the Copyright Office? Well, that brings us to the second problem: fear of the unknown. Suppose that, by offering more generous treatment to libraries, the result is that works escape to a significant degree from the control of owners over illicit copying. Will the business of producing information products be able to survive if library copies result in some "leakage" in the form of illicit copying? Fearful of this, the producer community prefers to dismiss the concerns of academics and librarians as baseless or overblown, and to urge that anything short of a full panoply of protection through public law and private self-help measures will fail to preserve the necessary incentives for authors, software designers and other creators of intellectual goods.[38] And

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[37] A group of major library associations discussed some current problems with electronic access in their submission to the Copyright Office relating to the § 1201(a)(1) rulemaking. They pointed out that *Nature*, for example, offers a web site containing several journals. *See Library Letter*, *supra* note 8, at 20. Only one user, with an appropriate password, can use the site at a given moment, meaning that when one journal in the bundle is in use, no others on the same site can be accessed. *See id.* At least for works available in electronic form only, site restrictions of this sort should probably not be permitted on library subscriptions.

[38] The Association of American Publishers ("AAP") argues that critics "tend to pose 'worst-case' scenarios that are unlikely to occur or go unchecked in an environment of fierce global competition." *Contractual Licensing, Technological Measures and Copyright Law*, section entitled *The Current Debate*, ¶ 3 (visited Jan. 28, 2001) <http://www.publishers.org/home/abouta/copy/plicens.htm>. Rather, the AAP claims that technological measures to protect copyrighted works will help "fulfill the Internet's potential for enhancing individual lives and the global community," and the DMCA is a necessary legal framework for facilitating the use of such valuable measures. *Id.* at section entitled *Technological Measures*, ¶ 2. In another example, a spokesperson for Time Warner, Inc., wrote to the Copyright Office during the comment period for the § 1201(a)(1) rulemaking that "[t]he use of technological control measures has, to my knowledge, not had any impact on the ability of persons to engage in criticism, comment, news reporting, teaching, scholarship or research. Such measures have not restricted those activities, nor . . . are they likely to do so." Letter from Bernard R. Sorkin, *Re:*

they have prevailed on the basis that copyright policy decisions are usually made: on theory and guesswork, rather than on arguments grounded on a solid empirical foundation.

The copyright industries, of course, were destined from the start to prevail on their arguments for more protection and fewer exceptions because, although they cannot muster clear empirical proof for their position,[39] they do know One Big Thing, and Congress knows it too. Copyright today is a force driving the domestic and export economic engine for the United States. A brief look at the Senate report accompanying the bill that became the DMCA makes the point. The Report calls the copyright industries "one of America's largest and fastest growing economic assets."[40] It tells us what per cent of the gross domestic product is accounted for by these industries,[41] and adds that the knowledge industries are continuing to grow in value.[42] Lastly, the Report informs the reader that "the copyright industries contribute more to the U.S. economy and employ more workers than any single manufacturing sector, including chemicals, industrial equipment, electronics, food processing, textiles and apparel, and aircraft."[43] And, if that were not enough, we also learn from the Report that copyrighted works are now our most important export.[44] The contributions to the domestic economy made by libraries, researchers, and educators are harder to calibrate; thus, if the face-off is over the "value" of the players, the outcome is preordained.

In the face of this One Big Thing, legislators and regulators, even if they wanted to, might be leery of tampering with success or of denying these industries what they want. As long as we continue to operate on our current highly impoverished empirical base, I fear the answer will continue to be: prevention, no; treatment, yes—and then only if things get really (read, r-e-a-l-l-y) bad.

Section 1201(a)(1) of the Digital Millennium Copyright Act, No. 7M99-7, at 5 (Feb. 11, 2000) <http://www.loc.gov/copyright/1201/comments/043.pdf>. Rather, he claims that, absent the effective and universal implementation of technological access controls, illicit copying would pose a devastating threat to "copyright and to all of the businesses and individuals whose livelihoods depend on copyright protection." *Id.* at 2.

[39] This result is, of course, also fully consistent with the predictions generated by public choice theory.

[40] S. REP. NO. 105-190, at 10 (1998).

[41] The 1996 figure used in the Senate report was 3.65 per cent. *See id.*

[42] The Senate report tells us that from 1977 to 1996, the copyright industries grew more than twice as fast as the rest of the economy (5.5 per cent as compared to 2.6 per cent). *See id.*

[43] *Id.*

[44] The Senate Report notes that, in 1996, for the first time, copyrighted products outpaced both agriculture and industry in exports, accounting for $60.18 billion in sales. *See id.*

Does this mean we are stuck in a one-way ratchet whenever users' and information providers' interests collide? I fear the answer is yes unless we think of a different way to come at this debate. Thinking about that question leads me to wonder, are there case studies, models, that could offer a factual, rather than a purely speculative, basis for making information policy determinations? Although empirical research has not played a major role in copyright policy thus far, it is not entirely quixotic to think that it could do so in the future. Numerous studies of the economics and behavior of patent-holding industries have helped test the theoretical underpinnings of patent policy and continue to contribute to debates in that arena. But what questions in copyright lend themselves to an empirical approach, and where can models to study these questions be found?[45]

Let me suggest one question that is relevant to the debate over the DMCA, and some possible models that might be explored to answer it: namely, in the face of the real threat of easy, cheap and high-quality copying of digital works, can Congress afford to limit the amount of control copyright owners exercise over their works without risking massive market failure and terrible damage to a vital sector of the economy? If the answer to that question is no, then the futile exercise that § 1201(a)(1) represents can at least be justified on the ground that it got us to the right answer—in all but the most unusual circumstances, circumvention or limits on the kinds of technological controls that can be employed will give us results that, on balance, are bad for the public interest. But could the real answer be, yes?

Although the digital revolution is just beginning, and we have not had much time to gain experience with it, cheap, easy, high-quality copying did not begin with the Internet. At least for the last four decades, we have been awash in technologies that enable individuals, in comparative privacy, to use readily available equipment to make copies of legally protected information works. Think of tape recorders, and video cassette recorders, and computers that copied software onto blank diskettes in a second or two. Think of the photocopying machine. All these and more have, at one time or another, been seen as a death blow to some segment, large or small, of the copyright industries. What actually happened, and what can the past tell us about copyright "leakage" and its effect on the health of the copyright industries? At a minimum, we can say that none of these industries failed as a result of the admittedly huge amount of copying that has occurred. To give but one example, a study now in progress of the

[45] Some of this work has been done and is continuing in the area of software, trying to understand the different ways innovation occurs, and the promises and risks involved when proprietary or nonproprietary strategies are pursued.

experience of the publishing industry with over 40 years of largely unlicensed photocopying, has failed to date to turn up any serious evidence of adverse impact, much less of actual market failure, attributable to the practice.[46]

I do not mean that copyright owners are wrong to worry about uncontrolled copying, but rather I would like to suggest that they can often tolerate a far greater amount of private, noncommercial copying than current theory would acknowledge.[47] Although illicit copying may well deprive owners of some income they might otherwise have enjoyed, the copyright laws have never given complete economic control to owners of intellectual property,[48] and, furthermore, losses of income and loss of profitability are different and should not be discussed as if they were interchangeable harms. Admittedly, models from the past are not parallel on all fours with their current counterparts, but developing a better empirical base will, I hope, reassure legislators and regulators alike that, even on the Information Superhighway, enough wiggle room exists to experiment with protections for the public; I like to think of it as the provision of a digital accident prevention policy.

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[46] *See* Diane Leenheer Zimmerman, *A Lesson for the Digital Future From the Old Media: Photocopying, Journal Pricing and Their Impact on the Enterprise of Scholarship and Research* (visited Jan. 28, 2001) <http://law.nyu.edu/ili/conferences/freeinfo2000/abstracts/zimmerman.htm>. A preliminary version of this paper was presented at New York University School of Law in April, 2000, at a conference entitled "A Free Information Ecology in the Digital Environment." A later version was presented at the University of Dayton School of Law in November, 2000, at a conference entitled "Copyright's Balance in an Internet World." (manuscript on file with author).

[47] *See, e.g.*, Jane C. Ginsburg, *Reproduction of Protected Works for University Research or Teaching*, 39 J. COPYRIGHT SOC'Y U.S.A. 181, 183 (1992) (hypothesizing that unrestrained copying would put so much pressure on copyright owners to raise prices to cover their first copy costs that buyers would no longer be able to afford the product and it would cease to be provided).

[48] The fair use provision, for example, permits works to be copied without permission or payment under some conditions. *See* 17 U.S.C. § 107 (1994). Similarly, § 110 allows some free uses of copyrighted works by educational and other entities. *See* 17 U.S.C. § 110 (1994 & Supp IV 1998), *amended by* 17 U.S.C.A. § 110 (West Supp. 2000).