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WORKING TOGETHER IN A DIGITAL WORLD: AN INTRODUCTION

MICHAEL S. MIRELES[†]
VIVA R. MOFFAT^{††}

In May of 2006, The University of Denver Sturm College of Law and The Cable Center sponsored the Inaugural Summit on Intellectual Property and Digital Media (Summit).¹ The Summit brought together academics and industry leaders in a search for common ground and practical policy solutions concerning issues related to intellectual property and digital technology. Through a number of panels and roundtable sessions, academics and industry leaders outlined and addressed a variety of issues concerning existing business models, digital technology, and intellectual property rights. The Summit highlighted the ways in which scholars, representatives from various industries, public interest groups, and other organizations, despite their differences, are able to engage in productive conversation about the digital future and the legal structure shaping that future. This symposium issue of the *Denver University Law Review* includes the papers authored for the Summit and is dedicated to examining real world problems concerning the interaction between law, technology, innovation, and creativity. One of the strengths of intellectual property scholarship is its attention to the practical issues facing industries, individual users, and regulators, and the papers included in this volume reflect that strength.

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^{††} Assistant Professor of Law, University of Denver Sturm College of Law. The authors would like to thank The Cable Center for organizing the Summit on Intellectual Property and Digital Media. Susan Greene had the initial vision for the conference and through sheer force of will brought it into being. We also thank the *Denver University Law Review* for publishing this symposium issue.

1. For more information on the Summit, see The Cable Center, <http://www.cablecenter.org/education/academic/digitalipsummit.cfm> (last visited September 26, 2006). In addition to the participants who contributed papers, the speakers at the Summit included Sandra Aistars, Associate General Counsel for Intellectual Property, Time Warner, Inc.; Joseph Cantwell, Vice President of Marketing, Advanced Services, Starz Entertainment Group; Peter M. Fannon, Vice President, Technology Policy, Government & Regulation, Panasonic Corporation of North America; Edward Felten, Professor of Computer Science and Public Affairs, Princeton University; Richard Fickle, Executive Vice President of Strategic Development, Ascent Media Group; Eric Goldman, Assistant Professor of Law and Director of the High Tech Institute at Santa Clara University School of Law; Vince Groff, Director, Video Product Development, Cox Communications; Greg Harper, President, Cerberus Corporation; Robert Kasunic, Principal Legal Advisor, Copyright Office, and Adjunct Associate Professor of Law, American University's Washington College of Law; Ron Lamprecht, Vice President, New Media, NBC Universal Cable; Maria Mandel, Partner, Executive Director of Digital Innovation, OgilvyInteractive Digital Innovation; Scott Teissler, Executive Vice President, Chief Information Officer and Chief Technology Officer, Turner Broadcasting System; and Bob Zitter, Executive Vice President and Chief Technology Officer, HBO.

Ralph Oman, the former Register of Copyrights, the Pravel, Hewitt, Kimball and Kreiger Professorial Lecturer in Intellectual Property and Patent Law at George Washington University Law School, and attorney with Dechert LLP; and Peter Yu, Associate Professor of Law and Director of the Intellectual Property & Communications Law Program at Michigan State University College of Law, submitted papers and participated in our Academic Roundtable Discussion entitled "Digital Rights Management: Searching for Common Ground."² This panel provided the academic viewpoint on how intellectual property principles may be changing in a digital environment and how the digital environment may ultimately affect the legal infrastructure. In his essay, *How Digital Rights Management Will Save Authorship in the Age of the Internet*, Ralph Oman argues that the Digital Millennium Copyright Act (DMCA) and digital rights management (DRM) technologies have stabilized the marketplace and allowed parties to contract for content using legitimate services. According to Mr. Oman, some of the problems—ease of copying and distribution of quality copies of copyrighted works—and some of the benefits—widespread dissemination of copyrighted works—that digital technology and the internet allow are not new and mirror some of the issues raised by older technologies, such as the printing press, radio, television, laser printers, VCRs and CD players. Mr. Oman asserts that "[t]he best copyright laws have always protected the power of creators against the power of the companies that build the machines that exploit the creators' work." He believes that DMCA and the DRM technologies protected by DMCA will enable authors to use the internet and digital technology as strong allies in the creative process.

Professor Yu provides a very different perspective on the role of the DMCA and DRM technologies in the digital environment. Professor Yu's article, *Anticircumvention and Anti-anticircumvention*, examines the DRM debate, the anticircumvention regime, and makes four observations. Professor Yu asserts that DMCA has resulted in many negative unintended consequences and likely has not created benefits for copyright holders. He then extends his analysis to the international level and laments the extension of statutory schemes similar to DMCA to other countries through multilateral, bilateral, and plurilateral treaties. Importantly, his article concludes by offering four suggestions to provide guidance for the creation of the next wave of DRM systems and the legal scheme that supports those systems. His observations for policy makers include: awareness of how difficult it can be to change an entrenched law, the distinction between DRM and technological protection measures, understanding the difference between machine-interpretable nonin-

2. Phil Weiser, Associate Professor and Executive Director, Silicon Flatirons Telecommunications Program, University of Colorado School of Law, also participated in this roundtable on digital rights management.

fringing uses and machine-uninterpretable noninfringing uses, and the accommodation of consumer interests.

In response to a call for papers concerning DRM and the adaptation of the business sector to the shrinkage of the distribution change between creator and consumer in the digital world, many scholars submitted thought-provoking papers. The Summit committee selected five of these papers for presentation and publication.³ Megan LaBelle's article, *The "Rootkit Debacle": The Latest Chapter in the Story of the Recording Industry and the War on Music Piracy*, focuses on Sony's decision to install invasive DRM on its music CDs sold in late 2005. As the title indicates, the attempt at curbing unlawful copying was a debacle for Sony, causing a public relations fiasco and ultimately forcing Sony to recall the CDs and to agree not use that form of DRM in the future. Ms. LaBelle uses the Sony story as a focal point for discussing the problems posed by the ease of digital copying in general. The article sets forth the background against which Sony's decision to install the rootkit on its CDs arose and evaluates the legal questions presented by the rootkit debacle. Finally and most importantly, the article proposes "a solution that attempts to strike a balance between the recording industry's right to protect its intellectual property and a consumer's right to enjoy purchased music." Concluding that DRM is the only reasonable way for the recording industry to protect itself against unauthorized copying of CDs—as there are no indirect infringers to pursue and tracking the copying of CDs is virtually impossible—Ms. LaBelle makes a number of concrete proposals for addressing the concerns of a variety of interested groups. She suggests that the Copyright Office "adopt a narrowly-tailored Security Research Exemption" for the purposes of protecting the work of academics, scientists and other researchers. She also proposes that the record companies take a different approach to copy-protecting CDs. In general, they should be mindful of security and privacy risks to individual consumers and, more specifically, have all DRM software independently analyzed and tested. In addition, Ms. LaBelle recommends that all copy-protected CDs carry "sufficient notice" of any anti-piracy technology they contain. Finally, the record companies ought to be more sensitive to consumer preferences in developing copy-protection or other DRM technology.

3. Two other scholars presented papers at the Summit, but those papers do not appear in this volume. Roberta Rosenthal Kwall, the Raymond P. Niro Professor of Law and founding director of the Center for Intellectual Property Law & Information Technology Law at DePaul University School of Law, discussed her work on section 108 of the Copyright Act. Professor Kwall's commentary is published in the *Columbia Journal of Law & the Arts*. See Roberta Rosenthal Kwall, *Commentary: Library Reproduction Rights for Preservation and Replacement in the Digital Era: An Author's Perspective on § 108*, 29 COLUM. J.L. & ARTS 343 (2006). In addition, Tal Zarsky presented his paper, *Reassessing Alternative Compensation Models for Copyright in the Digital Age*, which will appear in issue 84:2 of the *Denver University Law Review*.

Christine Galbraith's essay, *Remembering the Public Domain*, traces the ways in which public domain materials are increasingly being restricted with technological, contractual, and legislative measures. These measures have generally been supported and upheld by courts such that much information that "constitute[s] the building blocks of knowledge" is made proprietary. Professor Galbraith argues that the legal support for these measures is the result of a "myopic view of property rights" that treats virtual space as equivalent to real property and thus tends to grant the "ability to exclude whomever and whatever they choose." Professor Galbraith concludes with the admonition that courts and legislators must acknowledge the importance of the public domain, something that is essential "for an enlightened citizenry."

Jeremy deBeer's article, *Locks & Levies*, provides a valuable comparative perspective on the digital piracy and DRM war raging in the United States. Professor deBeer compares the U.S. approach of strengthening the legal support for technological protection measures to Canada's broad levy system. Rather than adopting specific anti-circumvention legislation, Canada has adopted a levy on manufacturers of goods and service providers to address the issue of private digital copying. Professor deBeer compares the two approaches from a variety of perspectives: those of creators, technology firms, and consumers. The two approaches are not exclusive, however, and Professor deBeer explores "a worldwide trend toward the simultaneous presence of both locks and levies in digital entertainment markets." The paper discusses the consequences of "lock" systems, "levy" systems, and hybrid systems. Professor deBeer concludes that hybrid systems, which may be the most likely result of compromise between the various interests, may also present the worst possible scenario, placing consumers between a rock and a hard place: "consumers risk being caught in the middle of a regime that prohibits the circumvention of DRM systems in order to access or copy digital content, but at the same time mandates levy payments to compensate for copying that either cannot occur, is already licensed, or constitutes fair use/dealing." Professor deBeer's article thus provides a very real world understanding of both consumer behaviors and preferences and the likely results of political compromises over the issue of digital copying. In conveying this perspective, Professor deBeer emphasizes the practical problems that may result if the legislative and technological approaches to the issue are not coordinated and well thought out.

In his article, *Beyond Copyright: Managing Information Rights with DRM*, Viktor Mayer-Schönberger also takes a broad perspective on DRM, arguing that it might be useful "beyond the narrow confines of copyright" for managing "rights over information more generally." Professor Mayer-Schönberger describes the ways in which DRM systems are able to define specific usage rights of the information they accompany, arguing that these systems can be used for more than just copyright

protection. Professor Mayer-Schönberger then sets forth the ways in which privacy claims might be managed through DRM systems, concluding that such an approach has some specific advantages, including increased privacy protections for individuals, an improved ability to manage and control the information that does exist, and, potentially, a more nationally and internationally harmonious approach to privacy and information management issues. There are, of course, challenges posed by using DRM systems to manage informational privacy. Professor Mayer-Schönberger identifies and labels three challenges in particular: technical, foundational, and conceptual. He then proposes some methods of addressing these three broad challenges in order to make an informational-privacy DRM system successful.

Finally, there are two pieces included in this symposium issue concerning patent law. First, we have an article by Amy Landers, a professor at the University of the Pacific, McGeorge School of Law, and second, a comment by Thomas Walsh, a student at the University of Denver, Sturm College of Law. Professor Landers' article is titled *Liquid Patents*. She argues that a trend has emerged in the patent system wherein patent holders have developed systemized and strategic plans to leverage value from asserting patent rights. She labels this practice "liquidizing patents," and asserts that this practice is in contravention of the goals of the patent system. To address the problem of liquidizing patents, she proposes a modification of the remedies provisions of the Patent Act and an elimination of the antitrust protections for patent holders. In his comment, Walsh reviews and analyzes the United States Supreme Court's recent decision in *Illinois Tool Works Inc. v. Independent Ink*, concerning whether the existence of a patent on a tying product raises a presumption that the patent holder has market power in an unlawful tying claim. Walsh argues that the decision by the Supreme Court to eliminate the presumption that a patented product confers market power was the correct decision for three reasons. Those reasons include the lower court's erroneous interpretation of a prior Supreme Court decision, the fact that presumptions are traditionally disfavored by the Supreme Court in antitrust law, and the unfairness that results when an alleged tie is subject to an irrebuttable presumption that a patent creates market power. Walsh argues that the adversarial system is well-equipped to determine the question of the market power of a particular product; that both parties will be able to muster evidence concerning the questions; and that, therefore, an irrebuttable presumption is inappropriate.

Thank you to all of the participants, presenters, and contributors to the Summit and to this symposium issue of the *Denver University Law Review*.

HOW DIGITAL RIGHTS MANAGEMENT WILL SAVE AUTHORSHIP IN THE AGE OF THE INTERNET

RALPH OMAN[†]

Editor's Note: The following is an edited transcript of Ralph Oman's presentation at the Inaugural Summit on Intellectual Property and Digital Media held at The Cable Center, Denver on May 23, 2006.

RALPH OMAN: Thank you very much for inviting me to the University of Denver Law School and The Cable Center for the Intellectual Property Summit. I like the idea of holding a summit meeting in the Mile High City. And I like the title of the conference—"Working Together in the Digital World." That is a concept I have advocated for a long time.

Unless all of the parties in the chain of distribution work together—the equipment manufacturers, the internet service providers (ISPs), the cable companies, the broadcasters, the content providers, and the consumer—we will never see the internet reach its full potential as a broad avenue for scholarly discourse, mass entertainment, and e-commerce. Without security for the content and certainty of payment, the internet will not attract the really valuable content, and authors will find other ways to get compensated, and the constitutional purpose of encouraging the broad public dissemination of copyrighted works will be thwarted. The internet will remain an email convenience and a haven for hackers, pirates, and porno creeps.

Let me mention some of the history of copyright to help us understand that these new technology-driven problems are not really all that new. They are just the latest wrinkle in a recurring theme that goes back to the invention of the printing press—the tension between new machines and authors' rights. We saw a terrific display of those wizard machines yesterday. Of course, they would be much less valuable without content—the songs, movies, and computer games that make them so popular.

[†] Ralph Oman is counsel in the intellectual property group of the Washington, DC office of Dechert LLP. Mr. Oman was the Register of Copyrights of the United States from 1985-93. Before becoming Register, he served as Chief Counsel for the Subcommittee on Patents, Copyrights, and Trademarks of the U.S. Senate Judiciary Committee. In his 10 years on Capitol Hill, he participated directly in many legislative enactments, most notably the 1976 revision of the copyright law. In addition, Mr. Oman has taught for 13 years as an adjunct professor of intellectual property law at George Washington University Law School. Mr. Oman is a graduate of Hamilton College (AB, 1962) and Georgetown University Law Center (JD, 1973).

First, the history: In 1897, Congress created a new right for songwriters—the exclusive right to perform their music publicly, and the exclusive right to license other people to perform their music publicly.¹ At the outset, that new right was more theoretical than real. The songwriters found that they could not enforce their right. They had no way to know when and where their music was being performed in the tens of thousands of locations across the United States that used their music.

There was another problem. The people who used the music had no practical way to locate the copyright owners and negotiate licenses for the music they wanted to perform.

Enter the performing rights organizations. Beginning in 1914, individual songwriters and music publishers created organizations to collectively manage their rights. They licensed and monitored the live public performances of music in concert halls, hotels, dance halls, sporting events, restaurants, taverns, theaters, and amusement parks. Starting in the 1920s, they licensed and monitored performances by radio broadcast. They licensed motion picture theaters, television, and now the internet. And they didn't normally license individual works. Under collective management, they usually negotiated blanket licenses that allowed people to use all of the music in their repertoire—millions of songs.

Now the songwriters are thinking creatively about marketing their music online. We have seen the tremendous innovation on the hardware side. We are also seeing fresh thinking on the creators' side. They are not locked into the old paradigm of physical distribution of hard copies. Let's see what the songwriters are doing to accommodate the new consumer options before we declare the Death of Copyright and the unworkability of business models based on exclusive rights. The songwriters have taken many concrete steps to make it easy for the online music websites to license the public performance right.

- FAST TRACK²

The songwriters have standardized the digitized copyright management information for over 20 million musical works.³ They call it Fast Track, and it creates the digital tools needed to manage authors' rights around the world in the online environment.⁴

1. Act of Jan. 6, 1897, ch. 4, § 4966, 29 Stat. 481, 481-82 (1897).

2. See Fast Track, <http://www.fasttrackdcn.net> (last visited Sept. 13, 2006).

3. See *id.*

4. See *id.*

- UNILICENSE⁵

The music industry has also proposed what they call the UniLicense.⁶ To expedite the licensing process for the new online music websites, this new license would permit the songwriters and the music publishers to offer “one-stop-shopping.”⁷ An online music service could obtain a single license to clear all rights for an interactive subscription service.⁸ Of course, to do so, all the parties would need an antitrust exemption from Congress and some explicit authorizations.⁹ Congress would establish a fixed license rate as a percent of website revenues (with minimum fees as appropriate).¹⁰ This rate under the UniLicense would give the songwriters and music publishers reasonable compensation for the use of their songs on the internet.¹¹ It is the ultimate blanket license.

- DIGITAL RECOGNITION TECHNOLOGY¹²

Last, let me vent on a new technology that is about to be launched that will use pattern recognition technology to identify music distributions and performances, and motion picture distributions and performances, from any electronic source—radio, television, cable, satellite, the internet.¹³ It is extremely accurate, and only has to “listen to” or “watch” one second of the song or movie. It will help solve the monitoring problem, as well as the problems that have always bedeviled the distribution of royalties among the various copyright claimants.

So the songwriters are thinking creatively about how to make this amazing digital technology a strong ally in the creative process.

Let me put on my ex-Register of the Copyrights hat. On-line hacking and piracy undermines creativity, hurts songwriters, singers, filmmakers, actors, and musicians, and costs us jobs in the record and movie business all over the world. Worst of all, it destroys the market for legitimate online music and motion picture delivery services. The honest entrepreneurs who pay for licenses can’t compete with “free.” Digital rights management will bring order to the chaos and move us in the right direction. It’s not there yet, but we see more and more of the key players starting to work together. The last panel confirmed the importance of

5. *Music Licensing Reform: Before the S. Comm. on the Judiciary Subcomm. on Intellectual Property*, 109th Cong., July 12, 2005 (statement of Del R. Bryant, President & CEO, Broadcast Music, Inc.), available at http://judiciary.senate.gov/hearing_search.cfm (search witness testimony for “music licensing reform”).

6. *See id.*

7. *See id.*

8. *See id.*

9. *See id.*

10. *See id.*

11. *See id.*

12. *See* BMI.com, <http://www.bmi.com/news/200508/20050830a.asp>.

13. *See id.*

working together. Just last month in Washington, I moderated a panel that included a senior lawyer for a motion picture powerhouse and a senior lawyer for one of the major telephone companies. After a decade of confrontation and name calling, the two sides are finally singing from the same hymnal. They finally agree on the need for security on the net.

The *Grokster* decision,¹⁴ and its reaffirmation of copyright, helped create that new environment. The Supreme Court decision has encouraged the ISPs to get actively involved in enforcement and security—implementing filtering technology, installing digital fingerprints, and pulling the plug on their infringing customers—all without losing their safe harbors as passive carriers.

And in that new environment, the movie studios are aggressively licensing their content online.

The Digital Millennium Copyright Act (DMCA)¹⁵ and digital rights management have stabilized the online marketplace and prompted the parties to do deals for content over legitimate services.

Verizon is making a deal with Disney for the exclusive rights to carry dozens of hot Disney programs over its fiber optic broadband network to compete against cable.¹⁶ And with companies like Verizon helping enforce security on the net, we have a much better chance of shutting down the hackers and pirates. Sure, there will be losses around the edges—just as cable lost some revenue to amateur hackers who figured out how to break into the wire to get the signal for nothing; just as pay-tv has lived with theft; just as satellite delivery companies lost revenues to unlicensed dish owners; and just as the telephone companies lost long-distance revenues because some computer nerds could figure out how to install switches to break into the dial tone.

But, the large mass of the population just wants to get the services conveniently and at a reasonable cost. They want to obey the law. Digital technology greatly accelerates the magnitude of the theft problem, but there is no reason to throw up our hands and admit defeat. The answer to the machine is in the machine, and this technology will get as sophisticated as necessary to protect the lion's share of the market. You don't need Fort Knox, as Peter said. Business models will evolve and legalized markets will develop that rely on digital rights management (DRM). As Mr. Vitter said, DRM is the enabler for the evolution of these new consumer choices.

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

15. *Digital Millennium Copyright Act*, 17 U.S.C.A. §§ 1201-1205, 1301-1332 (West 2006).

16. *Verizon and Disney in Deal*, N.Y. TIMES, Sept. 22, 2005, at C18.

CONCLUSION

Since we live in a free society, motion picture producers, songwriters, publishers, and record companies will ultimately decide how best to harness the internet to serve their needs. The new digital technologies will allow much more flexibility in licensing. The industry will be able to offer users a rich menu of options, with terms and conditions spelled out in great detail, if that is what users want. If users want instead the convenience of a blanket license—a monthly or yearly charge for access to the entire repertoire—then that too is easily accommodated.

The copyright industries had a tough time detecting unauthorized uses in the flesh and blood world of penny arcades, circuses, theaters, and dance halls at the turn of the last century. Remembering that experience, but not dwelling on it, they know they will have to be careful marketing their works in cyberspace. Energized, computerized, and digitized, they will shape that future in ways that will make the internet reach its full potential. The trick is to encourage the development of these terrific new technologies in a way that discourages piracy and promotes the creation of the new works that the technologies can then exploit.

The best copyright laws have always protected the power of creators against the power of the companies that build the machines that exploit the creators' works. This has been so whether the technology was the printing press, radio, television, laser printers, photocopying machines, motion picture projectors, jukeboxes, VCRs, cable systems, CD players, satellite transmitters, digital tape recorders, CD burners, recordable DVD players, mainframe computers, personal computers, or the internet. The debate over technology and the interests of authors is the very essence of copyright thinking—the core that makes copyright law historically unique, socially revolutionary, and worth fighting for.

Thank you.

ANTICIRCUMVENTION AND ANTI-ANTICIRCUMVENTION

PETER K. YU[†]

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[†] Copyright © 2006 Peter K. Yu. Associate Professor of Law & Director, Intellectual Property & Communications Law Program, Michigan State University College of Law; Core Faculty, Asian Studies Center & Adjunct Professor of Telecommunication, Information Studies and Media, Michigan State University; Research Fellow, Center for Studies of Intellectual Property Rights, Zhongnan University of Economics and Law. This Article is based on the remarks delivered on May 23, 2006, at the Inaugural Summit on Intellectual Property and Digital Media organized by The Cable Center and the University of Denver Sturm College of Law. The Author would like to thank Susan Greene, Michael Mireles, and Viva Moffat for their kind invitation and hospitality. He is also grateful to Jeremy deBeer, Richard Enbody, Megan LaBelle, Jacqueline Lipton, Michael Mireles, and Mark Schultz for their valuable comments and suggestions; Philip Weiser, Ralph Oman and the Summit participants for a very stimulating panel discussion; and Lisa Hammond and Alexander Kanous for excellent research and editorial assistance.

MSG LEFT BY: RED REBEL

THE FOLLOWING TOOLS SHOULD BE IN YOUR ARSENAL FOR CRACKING:

'BENEATH APPLE DOS'	QUALITY SOFTWARE
'BAG OF TRICKS'	QUALITY SOFTWARE
'APPLE MONITORS PEELED'	APPLE COMPUTER
'WHAT'S WHERE IN THE APPLE'	MICRO INK
INTEGER CARD	APPLE COMPUTER
MASTERDISK	MASTERWORKS SOFTWARE
MASTER DOS	MASTERWORKS SOFTWARE
D-A-R-K	MICROSEEDS
NIBBLES AWAY	COMPUTER APPLICATIONS
LOCKSMITH 5.0	OMEGA
INSPECTOR	OMEGA
WATSON	OMEGA
BEAGLE BROTHERS SOFTWARE FROM SAME	
ANY OF THE VARIOUS NON MASKABLE (NMI) INTERRUPT CARDS SUCH AS:	
CRACK-SHOT, REPLAY II, WILDCARD ¹	

INTRODUCTION

Digital rights management (“DRM”) systems, including technological measures that are used to protect copyrighted works, are not new.² They have existed for at least the last couple of decades. Similarly, circumvention tools have been widely available for a long time, and it is not uncommon for individual users to circumvent the technological measures used to protect copyrighted works.

Those who played with computers in the early Apple II days may still remember the wide variety of cracking software and hardware they could obtain—Bag of Tricks, Locksmith, Wildcard, you name it. Today, however, DRM systems have taken on greater significance because of the growth of electronic commerce and the explosion of the Internet. What was once fascinating to only techies and geeks is now also of great interest to policymakers and the consuming public.

In the current DRM debate, just like in most other intellectual property-related debates, there is a considerable divide between the rights holders, their investors and representatives on the one hand and academics, consumer advocates, and civil libertarians on the other.³ Although

1. *Cracking Techniques*, http://boutillon.free.fr/Underground/Deplombage/Cracking_Techniques/1984/1984.html (last visited Sept. 20, 2006).

2. For excellent collections of articles discussing DRM systems and related laws, see generally DIGITAL RIGHTS MANAGEMENT: TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS (Eberhard Becker et al. eds., 2003) [hereinafter DIGITAL RIGHTS MANAGEMENT]; Symposium, *The Law and Technology of Digital Rights Management*, 18 BERKELEY TECH. L.J. 487 (2003).

3. See, e.g., Stefan Bechtold, *The Present and Future of Digital Rights Management—Musings on Emerging Legal Problems*, in DIGITAL RIGHTS MANAGEMENT, *supra* note 2, at 597, 619 [hereinafter Bechtold, *Present and Future*] (“[O]ver the last few years, the DRM debate has devel-

these two groups rarely talk to each other, each of them is convinced that “its position is obvious and natural, whereas the other side is radical and contrived.”⁴ They concoct their own “doomsday scenarios” and argue for laws and policies that vindicate their positions.⁵

Unfortunately, neither side has sufficient empirical evidence to either support its position nor disprove its rivals’. Instead, as David McGowan noted, both sides tactically push the burden of proof back and forth, knowing full well that “[w]hoever has to prove the unprovable facts is likely to lose.”⁶ As the digital economy grows, the debate intensifies, and the divide between the two sides widens.

Today, there has emerged an urgent need to find the common ground on this very divisive issue, and this Inaugural Summit and the resulting symposium issue cannot be timelier. Although finding this proverbial common ground has been difficult, we as academics fortunately can step back from the debate to analyze the positions taken by both sides. As a businessman once told me, “You have the luxury of saying ‘on the other hand,’ but we don’t. We have to make decisions.”

oped into a discussion about extremes. Depending on the point of view, digital rights management is perceived as either heaven or hell on earth.”); James Boyle, *Enclosing the Genome: What the Squabbles over Genetic Patents Could Teach Us*, in PERSPECTIVES ON PROPERTIES OF THE HUMAN GENOME PROJECT 97, 107-09 (F. Scott Kieff & John M. Olin eds., 2003) (crudely dividing the intellectual property field into “‘maximalists’ or high protectionists, on the one hand, and ‘minimalists,’ or those with a heightened concern about the public domain, on the other”); Anupam Chander & Madhavi Sunder, *The Romance of the Public Domain*, 92 CAL. L. REV. 1331, 1334 (2004) (noting “the increasingly binary tenor of current intellectual property debates”); R. Polk Wagner, *The Perfect Storm: Intellectual Property and Public Values*, 74 FORDHAM L. REV. 423, 424 (2005) (observing the existence of “a virtual crisis for reasoned dialogue and deliberation; the gulf between advocates of ‘the public domain’ and the content creators is so broad as to virtually preclude the sort of discussion that could lead to mutually beneficial agreement about the policy changes that must occur in this new era of the copyright law”); Peter K. Yu, *Intellectual Property and the Information Ecosystem*, 2005 MICH. ST. L. REV. 1, 9 (“Today, the intellectual property debate is highly polarized. Policymakers and commentators tend to fall into one of the two rival camps: the high-protectionists or the low-protectionists—or in academic parlance, the maximalists or the minimalists.”).

4. Daniel A. Farber, *Conflicting Visions and Contested Baselines: Intellectual Property and Free Speech in the “Digital Millennium,”* 89 MINN. L. REV. 1318, 1347 (2005) (stating that “each side [in the debate] tries to convince the other that its position is obvious and natural, whereas the other side’s is radical and contrived”).

5. See, e.g., *id.* at 1321 (stating that both sides in the intellectual property debate “agree that the barbarians are at the gates, the city is under siege, and the situation is grave”); Jane C. Ginsburg, *How Copyright Got a Bad Name for Itself*, 26 COLUM. J.L. & ARTS 61, 65 (2002) (recalling suggestion that “the players in the debate over technological means of committing or forestalling copying were all paranoid, each suspecting the other of bottomless malevolence in their respective endeavors to control or to liberate copyrighted material”); David McGowan, *Copyright Nonconsequentialism*, 69 MO. L. REV. 1, 1 (2004) (observing that “those who debate copyright often seem to talk past each other”).

6. As David McGowan observed:

It is easy for each side to poke holes in the other side’s positions. It is hard for either side to make an affirmative, instrumental case for their views. For this reason, and because scholars favor consequentialist rhetoric, the debate often consists of competing narratives that use hunches and conjectures to link the result an author desires to the policy the author favors. Because the evidence in such arguments is so weak, the legal endgame is to place the burden of proof on the other side. Whoever has to prove the unprovable facts is likely to lose.

McGowan, *supra* note 5, at 2.

Fully exploiting this luxury, Part I begins by examining the positions taken by the proponents and critics of DRM systems and related laws. Part II then focuses on anticircumvention laws, highlighting their harms at both the domestic and international levels. Contending that an unbalanced international anticircumvention regime is more harmful than its domestic counterpart, this Part calls for countries, in particular less developed countries, to be more cautious about the ratification and subsequent implementation of the World Intellectual Property Organization (“WIPO”) Internet Treaties.⁷ Part III concludes with four observations which I hope will provide some insight into the development of the next generation of DRM systems and the supporting legal regime. Resuscitating this Summit’s larger theme of “working together in the digital world,” this Part also seeks to find more common ground between the many stakeholders in the DRM debate.

I. THE DRM DEBATE

In today’s DRM debate, there are generally two different camps. While rights holders, their investors and representatives are on one side, academics (usually liberal academics), consumer advocates, and civil libertarians are on the other. Even though these two camps disagree considerably, they do agree on many issues, and their positions are not irreconcilable. In addition, there are many who fall in between the two camps, as well as those whose affiliations vary depending on the specific issue at hand. Thus, despite the increasing polarity of the debate, it may be misleading to explore it as if there are only two camps.

Nevertheless, to underscore the need to find common ground between the many stakeholders in the DRM debate, this Part intentionally polarizes the positions of the pro-anticircumvention camp and the anti-anticircumvention camp. In particular, it discusses their disagreements over (1) where copyright law should strike the balance, (2) whether the leakage in the current copyright system is acceptable, (3) whether the technological measures deployed thus far by the content industries are sufficiently effective, (4) who should sacrifice in the early DRM systems, and (5) how society should respond to the challenge created by the Internet and new media technologies to the content industries. After exploring these differences, this Part concludes with a reminder that the debate is actually more complex and dynamic than what the bipolar debate has suggested and that stakeholders align their positions with those of others at times while opposing them at other times.

7. WIPO Copyright Treaty, *adopted* Dec. 20, 1996, 36 I.L.M. 65 [hereinafter WCT]; WIPO Performances and Phonograms Treaty, *adopted* Dec. 20, 1996, 36 I.L.M. 76 [hereinafter WPPT].

A. Where Should Copyright Law Strike the Balance?

Most members of the two camps agree that intellectual property is valuable and that the copyright system provides the needed economic incentives to promote creativity.⁸ Without copyright protection, they understand, most professional authors and their investors will not be able to recoup the time, effort, or resources expended in the creative process, and society will suffer as a result. Copyright therefore ensures that authors participate in the creative process, rather than in other, more remunerative activities.

What these two camps disagree about, however, is the amount of incentives the copyright system needs to generate to promote creativity and whether support for creative works should come *solely* from the copyright system.⁹ Although an increase in copyright protection will generally increase the authors' economic incentives to create, such incentives are not the only motivation behind creative activities. For example, I do not need economic incentives to write a thank you email to the organizers of this interesting summit, even though such an email is eligible for copyright protection if it is original and sufficiently creative and if it satisfies the other requirements under copyright law. Likewise, parents do not need economic incentives to take snapshots of their children, although these snapshots are also eligible for copyright protection. In fact, if the right circumstances arise, these snapshots may be worth a large sum of money (think Brangelina's Baby!¹⁰).

In addition, more is not always better, and small can be beautiful.¹¹ To participate in the creative process, authors need access to a richly endowed public domain. The more protection society gives to a single author, the less access to the copyrighted works thousands, or even millions, of future authors (and many more consumers) will have. At some point, the lack of access to needed raw materials and the fear of copyright infringement lawsuits will prompt future authors to abandon their aspiring profession.

As Judge Alex Kozinski warned us in his famous dissent in *White v. Samsung Electronics America, Inc.*,¹² “[o]verprotecting intellectual property is as harmful as underprotecting it.”¹³ Judge Kozinski's concern has

8. Inevitably, there are commentators who consider copyright obsolete and irrelevant in the digital world and therefore have called for its abolition. See Peter K. Yu, *P2P and the Future of Private Copying*, 76 U. COLO. L. REV. 653, 732-33 (2005) (discussing these commentaries).

9. See *id.* at 733-39 (examining alternative compensation models).

10. See Julie Bosman, *In Web Era, Big Money Can't Buy an Exclusive*, N.Y. TIMES, June 12, 2006, at C1 (reporting that *People* Magazine paid a substantial sum for the rights to publish the pictures of Angelina Jolie and Brad Pitt cuddling their days-old infant).

11. See generally E.F. SCHUMACHER, *SMALL IS BEAUTIFUL: ECONOMICS AS IF PEOPLE MATTERED* (1975).

12. 989 F.2d 1512 (9th Cir. 1993).

13. *White*, 989 F.2d at 1513 (Kozinski, J., dissenting).

become particularly important today, in light of the ever-expanding scope of intellectual property protection. Indeed, critics have repeatedly questioned whether the existing copyright system has struck the appropriate balance between rights holders and the consuming public. As Jessica Litman, one of the most vocal critics of the copyright industries, stated:

There is no overarching vision of the public interest animating the Digital Millennium Copyright Act ["DMCA"]. None. Instead, what we have is what a variety of different private parties were able to extract from each other in the course of an incredibly complicated four-year multiparty negotiation. Unsurprisingly, they paid for that with a lot of rent-seeking at the expense of new upstart industries and the public at large.¹⁴

Similarly, Glynn Lunney noted that "[o]rdinary consumers seldom play any direct role in the extended (and often private) negotiating sessions required to craft such compromises" and that consumer interests are "represented only indirectly in these sessions, when it happens to coincide with the interest of one of the participants."¹⁵ Joseph Liu also pointed out that the relationship between copyright and consumer interests remains underexplored in legal scholarship.¹⁶

While the historical lack of consumer participation in crafting copyright legislation is lamentable, the continued lack of such participation is especially alarming, as digital technologies and the Internet open up many new political, social, economic, educational, and career opportunities. It is therefore understandable why academics, consumer advocates, and civil libertarians have widely criticized the recent expansion of intellectual property laws, including the introduction of anticircumvention

14. JESSICA LITMAN, DIGITAL COPYRIGHT 144-45 (2001). For a classic treatment of public choice problems in copyright lawmaking, see Jessica D. Litman, *Copyright, Compromise, and Legislative History*, 72 CORNELL L. REV. 857 (1987). See also LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD (2001) (lamenting how the recent expansion of intellectual property laws have stifled creativity and innovation); LAWRENCE LESSIG, FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY (2004) (articulating the needs for the development of a free culture movement); LITMAN, *supra* (detailing the expansion of copyright laws in the past two centuries); SIVA VAIDHYANATHAN, COPYRIGHTS AND COPYWRONGS: THE RISE OF INTELLECTUAL PROPERTY AND HOW IT THREATENS CREATIVITY (2001) (describing how the increasing corporate control over the use of software, digital music, images, films, books and academic materials has steered copyright law away from its historical design to promote creativity and cultural vibrancy). But see Jane C. Ginsburg, *Copyright Legislation for the "Digital Millennium,"* 23 COLUM.-VLA J.L. & ARTS 137, 137 (1999) [hereinafter Ginsburg, *Copyright Legislation*] (describing the DMCA as "the fruit of intensive lobbying by a wide range of interest groups of copyright owners, on the one hand, and, particularly, users, on the other" (emphasis added)).

15. Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 898 (2001).

16. See Joseph P. Liu, *Copyright Law's Theory of the Consumer*, 44 B.C. L. REV. 397, 401 (2003) (stating that "copyright law currently does not have any persuasive or coherent theory of the consumer, and that examining consumer interests in more detail may shed some useful light on a number of existing copyright law debates").

protection. To them, DRM systems and related laws are just another alarming feature of the ever-expanding copyright regime.

B. Is the Leakage in the Existing Copyright System Acceptable?

Both camps agree that unauthorized downloading is widespread, serious, and probably detrimental to the economic health of the content industries.¹⁷ However, they bicker about the actual volumes of illegal downloading and the resulting adverse financial impact on the industries.¹⁸ They also disagree on whether the leakage in the current copyright system is acceptable. From the standpoint of rights holders, the more airtight the protection is, the more profits they will make, and the more worthwhile their investments will be. Thus, it is ideal for the content industries to deploy technological measures to ensure zero leakage from the production facilities to consumers.¹⁹

From the standpoint of consumers, however, this position is not only unsupportable, but socially detrimental. As Mark Lemley observed:

[T]he effort to permit inventors [and creators] to capture the full social value of their invention—and the rhetoric of free riding in intellectual property more generally—are fundamentally misguided. In no other area of the economy do we permit the full internalization of social benefits. Competitive markets work not because producers capture the full social value of their output—they do not, except at the margin—but because they permit producers to make enough money to cover their costs, including a reasonable return on fixed-cost investment. Even real property doesn't give property owners the right to control social value. Various uses of property create uncompensated positive externalities, and we don't see that as a problem or a reason people won't efficiently invest in their property.²⁰

17. For example, although Raymond Ku disagrees with the recording industry's position that file sharing is theft and considers such activities instead as part of a socially beneficial creative destruction process, he has made it clear that he "do[es] not mean to suggest that consumer copying is not a threat to the recording industry or other content distributors." Raymond Shih Ray Ku, *Consumers and Creative Destruction: Fair Use Beyond Market Failure*, 18 BERKELEY TECH. L.J. 539, 564, 566 (2003). In fact, he believes that file sharing "is a serious threat, one that strikes at the very foundation of a business model based upon distributing content to the public." *Id.* at 566. His disagreement with the industry mainly comes from his belief that "copyright does not protect against this type of threat" and that "[c]opyright protects the distribution of creative works in general, not a particular industry or business model." *Id.*

18. See Yu, *P2P and the Future of Private Copying*, *supra* note 8, at 658 n.15 (providing sources disagreeing over the adverse economic impact of file sharing on the recording industry).

19. As Eben Moglen observed, "[t]he content industries want to make a leakproof pipe that leads from their production facility directly to the eyeball and eardrum of the consumer." Tina Gasperson, *SSSCA Gets a Hearing Oct. 25—Can It Be Stopped?*, NEWSFORGE, Oct. 19, 2001, <http://www.newsforge.com/article.pl?sid=01/10/19/1546246>.

20. Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1032 (2005) [hereinafter Lemley, *Free Riding*]. But see John F. Duffy, *Intellectual Property Isolationism and the Average Cost Thesis*, 83 TEX. L. REV. 1077 (2005) (responding to Professor Lemley). See also Mark A. Lemley, *REPLY: What's Different About Intellectual Property?*, 83 TEX. L. REV. 1097 (2005) (replying to Professor Duffy).

Thus, there are many good policy reasons for harnessing the copyright system to promote spillovers that are beneficial to innovation and creativity.²¹ As Professor Lemley pointed out, “[t]he goal of eliminating free riding . . . is ill-suited to the unique characteristics of intellectual property . . . [, and e]fforts to permit intellectual property owners to fully internalize the benefits of their creativity will inevitably get the balance wrong.”²²

Moreover, the First Amendment seems to require some form of accommodation of individual interests in copyright law. Although the Supreme Court in *Eldred v. Ashcroft*²³ stated that the First Amendment “bears less heavily when speakers assert the right to make other people’s speeches,” as compared to making or declining to make one’s own speech, the Court recognized that copyright law incorporates “built-in free speech safeguards” to address First Amendment concerns,²⁴ such as the idea-expression dichotomy, the fair use privilege, and the many statutory exceptions cited in the decision. Because of these safeguards, the Court declined to impose on copyright term extension the “uncommonly strict scrutiny” applied in First Amendment cases.²⁵ As the Court explained, strict scrutiny is unnecessary as long as “Congress has not altered the traditional contours of copyright protection.”²⁶

Nevertheless, the Court left open the possibility for strict First Amendment scrutiny when the DMCA or sophisticated DRM systems have altered those traditional contours. Because the DMCA threatens to take away the “built-in free speech safeguards,” some cyberlaw and First Amendment scholars, like Jack Balkin, Daniel Farber, and Lawrence Lessig, suggested that the DMCA may be open to challenge on First Amendment grounds.²⁷ Others, by contrast, have questioned whether

21. See Lemley, *Free Riding*, *supra* note 20, at 1052 (contending that “part of the point of intellectual property law is to promote uncompensated positive externalities, by ensuring that ideas and works that might otherwise be kept secret are widely disseminated”); see also Brett M. Frischmann, *Evaluating the Demsetzian Trend in Copyright Law*, 4 REV. L. & ECON. (forthcoming 2006), http://ssrn.com/abstract_id=855244; Brett M. Frischmann & Mark Lemley, *Spillovers*, 106 COLUM. L. REV. (forthcoming 2007), http://ssrn.com/abstract_id=898881.

22. Lemley, *Free Riding*, *supra* note 20, at 1032; see also LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 130 (1999) [hereinafter LESSIG, CODE] (explaining why “perfect control is not the control that law has given owners of intellectual property”).

23. 537 U.S. 186 (2003).

24. *Eldred*, 537 U.S. at 227.

25. See *id.* at 218-19 (“We reject petitioners’ plea for imposition of uncommonly strict scrutiny on a copyright scheme that incorporates its own speech-protective purposes and safeguards.”); see also *id.* at 219-20 (discussing the various exceptions in the copyright statute).

26. *Id.* at 221.

27. See, e.g., Farber, *supra* note 4, at 1349 (contending that *Eldred* has “suggest[ed] that more transformative uses might come out differently under the First Amendment . . . [and that] further First Amendment scrutiny is in order when Congress has altered those contours”); Lawrence Lessig, *Creative Economies*, 2006 MICH. ST. L. REV. 33, 41 (stating that “[t]he Court stated that laws that do not change the ‘traditional contours’ of copyright protection are not subject to First Amendment scrutiny, leaving the implication that laws that change those ‘traditional contours’ do get First Amendment scrutiny”); Posting of Jack Balkin to Balkinization, http://balkin.blogspot.com/2003_01_12_balkin_archive.html#87596430 (Jan. 17, 2003, 11:45 EST) (“Is the Digital Millennium

there has ever been any “traditional contours of copyright protection,”²⁸ suggesting that these contours may have to be defined, constructed, or even “invented.”²⁹ Notwithstanding this continuous debate, it seems correct to assume that the copyright system needs to accommodate *some* form of First Amendment interests. After all, the Court rejected the position of the United States Court of Appeals for the District of Columbia Circuit that copyrights are “categorically immune from challenges under the First Amendment.”³⁰

In addition to First Amendment interests, commentators have suggested that the “breathing space”³¹ in the copyright system extends to cover other individual interests and socially-beneficial activities. For example, Julie Cohen criticized the DMCA for taking away the “breathing space for thought, exploration, and personal growth” usually protected by the right to privacy.³² Joseph Liu faulted the DMCA for its “potential of effectively blocking out some of the breathing space that conventional copyright law made available for more active modes of consumption.”³³ Pamela Samuelson and Suzanne Scotchmer discussed “[t]he challenge . . . to design legal rules that protect information-rich products against market-destructive cloning while providing enough breathing room for reverse engineering to enable new entrants to compete and innovate in a competitively healthy way.”³⁴

Some commentators have also underscored the importance of a regulatory safety valve in our legal system. As Polk Wagner pointed out recently, “[e]ven under legal schemes that demand little or no intervention on the part of third-party regulatory institutions, such as property-backed contracts, there nonetheless exist a number of safety valves that ensure that private arrangements conform to acknowledged boundaries of

Copyright Act Unconstitutional Under *Eldred v. Ashcroft?*)” (suggesting that “the DMCA is constitutionally suspect” under the *Eldred* logic, because the statute has “altered the traditional contours of copyright protection”).

28. See Peter K. Yu, *The Escalating Copyright Wars*, 32 HOFSTRA L. REV. 907, 929-30 (2004) (explaining that it remains unclear whether the Court would find that the DMCA had altered “the traditional contours of copyright protection”).

29. See Farber, *supra* note 4, at 1322 (observing that the baseline used to determine the ideal governing regime for the digital domain remains to be “constructed” and cannot be derived from simple observation); cf. THE INVENTION OF TRADITION (Eric J. Hobsbawm & Terence Ranger eds., 1983) (showing that many of what we consider ancient traditions were actually invented comparatively recently).

30. *Eldred*, 537 U.S. at 221 (stating that “the D.C. Circuit spoke too broadly when it declared copyrights ‘categorically immune from challenges under the First Amendment.’” (quoting *Eldred v. Reno*, 239 F.3d 372, 375 (D.C. Cir. 2001)); see also Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354, 414-26 (1999) (describing how the DMCA raises First Amendment concerns); Neil Weinstock Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1, 74-81 (2001) (contending that the DMCA is vulnerable to First Amendment challenge).

31. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 579 (1994).

32. Julie E. Cohen, *DRM and Privacy*, 18 BERKELEY TECH. L.J. 575, 578 (2003).

33. Liu, *Copyright Law’s Theory of the Consumer*, *supra* note 16, at 429.

34. Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575, 1580 (2002).

social practice.”³⁵ Thus, one can conclude that some leakage is beneficial and can be further justified as the needed “safety valve” in the copyright system.³⁶ After all, the Framers of the Constitution intended copyright to be the “engine of free expression,”³⁷ and jurists and commentators have underscored the “safety valve” function of the First Amendment.³⁸

C. Are the Existing Technological Measures Sufficiently Effective?

Both camps agree that the arms race between copyright holders and technology developers on the one hand and hackers—or, more accurately, crackers—on the other hand is wasteful.³⁹ In fact, society will be

35. R. Polk Wagner, *Reconsidering the DMCA*, 42 HOUS. L. REV. 1107, 1118 (2005). Among the safety valves he cited are the doctrine of unconscionability in contract law, unfair competition law, principles of nondiscrimination, and restraint encouraged by public enforcement of contract law. *Id.*

36. *Cf.* Universal City Studios v. Reimerdes, 111 F. Supp. 2d 294, 322 (S.D.N.Y. 2000) (stating that “[i]t has been viewed by courts as a safety valve that accommodates the exclusive rights conferred by copyright with the freedom of expression guaranteed by the First Amendment”). There is no guarantee, however, in what form this safety valve should take. As stated in a study by the Kernochan Center for Law, Media and the Arts, “the current law already includes a ‘safety valve’—in addition to several exemptions set out in the law, the Copyright Office can create new exemptions through its rulemaking proceeding.” June M. Besek, *Anti-Circumvention Laws and Copyright: A Report from the Kernochan Center for Law, Media and the Arts*, 27 COLUM. J.L. & ARTS 385, 390 (2004).

37. Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 558 (1985).

38. As Justice Louis Brandeis recognized in *Whitney v. California*:

Those who won our independence . . . knew that order cannot be secured merely through fear of punishment for its infraction; that it is hazardous to discourage thought, hope and imagination; that fear breeds repression; that repression breeds hate; that hate menaces stable government; that the path of safety lies in the opportunity to discuss freely supposed grievances and proposed remedies; and that the fitting remedy for evil counsels is good ones.

274 U.S. 357, 375 (1927); *see also* Frances H. Foster, *Izvestiia as a Mirror of Russian Legal Reform: Press, Law, and Crisis in the Post-Soviet Era*, 26 VAND. J. TRANSNAT’L L. 675, 742 (1993) (stating that the press in the United States “has acted as a ‘safety valve’ for the release and ‘domestication’ of popular discontent and frustration” (footnote omitted)); Jonathan Weinberg, *Broadcasting and Speech*, 81 CAL. L. REV. 1103, 1141 n.177 (1993) (stating that “[a]dvocates of a ‘safety valve’ theory of the First Amendment can cite Brandeis’ [concurrency in *Whitney v. California*]”).

39. I described this endless arms race earlier:

Although copy protection technologies allow copyright holders to lock up creative works, these technologies lose their protective function when they are decrypted. Even worse, once the decryption key is disclosed, the copyrighted work will become available not only to those “techies” who successfully broke the code but also to unsophisticated users around the world. . . . To prevent the public from breaking the copy protection technology, copyright holders must constantly upgrade their technology. Such upgrading, unfortunately, will further attract the attention of hackers, who are eager to tinker with the latest technology. Eventually, the repeated encryption and decryption will create a vicious cycle in which the entertainment industry and the hacker community engage in an endless copy protection arms race.

Yu, *P2P and the Future of Private Copying*, *supra* note 8, at 722-24 (footnotes omitted); *see also* Ginsburg, *Copyright Legislation*, *supra* note 14, at 153 (stating that an “arms race wastes creative resources that might be better directed toward creating original works of authorship, rather than devices that promote piracy”); Trotter Hardy, *Property (and Copyright) in Cyberspace*, 1996 U. CHI. LEGAL F. 217, 251 (discussing the “wasteful ‘arms race’ of technological-protection schemes, with each side increasing its spending to outperform the other’s technology”); Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263, 319-20 (2002) (discussing an expensive and unending technological arms race).

better off if the content industries devote their scarce resources to nurturing artists and creators and improving products, rather than upgrading the technology that is used to restrict consumers' access to copyrighted works.⁴⁰

Both camps also understand that there are no perfect, hacker-proof DRM systems.⁴¹ As Edward Felten explained, even the best encryption technology merely serves as “a speed bump that will frustrate people who want to copy illegally.”⁴² The goal of DRM systems is not to ensure that the content will be unavailable to highly sophisticated hackers. Rather, it is to “help . . . keep honest people honest”⁴³—or, as Fred von Lohmann put it, to help “keep[] technically unsophisticated people honest.”⁴⁴ By providing “virtual fences,” DRM systems also can help signal

40. See Yu, *P2P and the Future of Private Copying*, *supra* note 8, at 723.

41. See *Competition, Innovation, and Public Policy in the Digital Age: Is the Marketplace Working to Protect Digital Creative Works?: Hearing Before the Senate Comm. on the Judiciary*, 107th Cong. 89-92 (2002) (testimony of Edward W. Felten, Associate Professor of Computer Science, Princeton University) (noting that “strong encryption” techniques that a moderately skilled person cannot break do not exist in the real world), available at http://frwebgate.access.gpo.gov/cgi-bin/useftpl.cgi?laddress=162.140.64.21&filename=85758.pdf&directory=/disk/wais/data/107_senate_hearings; PETER BIDDLE ET AL., *THE DARKNET AND THE FUTURE OF CONTENT DISTRIBUTION* § 5.1 (2002), <http://crypto.stanford.edu/DRM2002/darknet5.doc> (noting that digital rights management systems “are doomed to failure”); Stuart Haber, *If Piracy Is the Problem, Is DRM the Answer?*, in *DIGITAL RIGHTS MANAGEMENT*, *supra* note 2, at 224 (arguing that “given the current and foreseeable state of technology the content protection features of DRM are not effective at combating piracy”); Pamela Samuelson, *DRM {and, or, vs.} the Law*, *COMM. ACM*, Apr. 2003, at 41, 43 (stating that “no DRM technology is hacker-proof”); see also Fred von Lohmann, *Measuring the Digital Millennium Copyright Act Against the Darknet: Implications for the Regulation of Technological Protection Measures*, 24 *LOY. L.A. ENT. L. REV.* 635, 638 (2004) (“Proponents of the DMCA’s anti-circumvention provisions were not naïve about the technological infallibility of TPMs. They admitted that no technology would be foolproof against every hacker bent on compromising it.”).

42. A “Speed Bump” vs. *Music Copying*, *BUS. WK.*, Jan. 9, 2002 (interview with Professor Edward Felten of Princeton University), available at http://www.businessweek.com/bwdaily/dnflash/jan2002/nf2002019_7170.htm. Although no encryption technology can protect perfectly, such technology does not need to be perfectly robust to have a positive effect.

43. As a National Research Council study observed:

Most people are not technically knowledgeable enough to defeat even moderately sophisticated systems and, in any case, are law-abiding citizens rather than determined adversaries. TPSs [technical protection services] with what might be called “curb-high deterrence”—systems that can be circumvented by a knowledgeable person—are sufficient in many instances. They can deter the average user from engaging in illegal behavior and may deter those who may be ignorant about some aspects of the law by causing them to think carefully about the appropriateness of their copying. Simply put, TPSs can help to keep honest people honest.

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44. von Lohmann, *supra* note 41, at 639; see also David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 *U. PA. L. REV.* 673, 740 (2000) [hereinafter Nimmer, *A Riff on Fair Use*] (stating that “[i]f the courts apply section 1201 as written, the only users whose interests are truly safeguarded are those few who personally possess sufficient expertise to counteract whatever technological measures are placed in their path” (footnote omitted)). Pamela Samuelson, however, questioned “whether Congress intended for the technologically savvy who could ‘do it themselves’ to be the only ones who could engage in privileged acts of circumvention.” Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to Be Revised*, 14 *BERKELEY TECH. L.J.* 519, 551 (1999) [hereinafter Samuelson, *Intellectual Property and the Digital Economy*]. But see *Universal City Studios v. Reimerdes*, 111 F. Supp.

to the outside world the traditionally elusive boundaries of intellectual property,⁴⁵ even though these systems sometimes “‘fence in’ material that is either not copyrighted or which is already in the public domain.”⁴⁶

Nevertheless, the two camps disagree on whether the encryption technology currently deployed by the content industries is sufficiently effective to protect copyrighted works.⁴⁷ A case in point is the weak copy-protection technology manufactured by SunnComm for BMG’s CDs.⁴⁸ In October 2003, SunnComm threatened to sue a computer science graduate student under the DMCA after he posted a paper on his website explaining how to disarm SunnComm’s technology by pushing the shift key when loading a CD into a computer.⁴⁹ While there is no doubt that the student’s disclosure of this embarrassing flaw has reduced the company’s market value in the short term, it is unclear how such a shift-key-disabled technology could be considered effective.⁵⁰

It is important to remember that the anticircumvention provision of the DMCA, and the WIPO Internet Treaties on which it was based, were created to promote *self-help*.⁵¹ To some extent, the provision can be seen

2d 294, 324 (S.D.N.Y. 2000) (declaring that “[t]he fact that Congress elected to leave technologically unsophisticated persons who wish to make fair use of encrypted copyrighted works without the technical means of doing so is a matter for Congress unless Congress’ decision contravenes the Constitution”).

45. See, e.g., Ian R. Kerr et al., *Technical Protection Measures: Tilting at Copyright’s Windmill*, 34 OTTAWA L. REV. 7, 13 (2002) (stating that “TPMs can operate as safeguards or ‘virtual fences’ around digitized content, whether or not the content enjoys copyright protection”); Ejan Mackaay, *Intellectual Property and the Internet: The Share of Sharing*, in THE COMMODIFICATION OF INFORMATION 133, 136-38 (Neil Weinstock Netanel & Niva Elkin-Koren eds., 2002) (discussing the “fencing” aspect of property). But cf. Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J.L. & TECH. 41, 53 (2001) (discussing the uneasiness of using the “fence” metaphor).

46. Thomas Dreier & Georg Nolte, *The German Copyright—Yesterday, Today, Tomorrow*, in DIGITAL RIGHTS MANAGEMENT, *supra* note 2, at 479, 496.

47. Effectiveness is actually one of the requirements of the DMCA. See 17 U.S.C. § 1201(a)(3)(B) (2004) (stating that “a technological measure ‘effectively controls access to a work’ if the measure, in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work”); *id.* § 1201(b)(2)(B) (stating that “a technological measure ‘effectively protects a right of a copyright owner under this title’ if the measure, in the ordinary course of its operation, prevents, restricts, or otherwise limits the exercise of a right of a copyright owner under this title”).

48. BMG seems to have its unfortunate share of bad publicity about its deployment of TPMs. The most recent embarrassment concerns the unauthorized installation of a “rootkit” onto users’ computers. For a discussion of this controversy in this symposium issue, see Megan M. LaBelle, *The “Rootkit Debacle”: The Latest Chapter in the Story of the Recording Industry and the War on Music Piracy*, 84 DENV. U. L. REV. 79 (2006).

49. John Borland, *Student Faces Suit Over Key to CD Locks*, CNET NEWS.COM, Oct. 9, 2003, <http://news.com.com/2100-1025-5089168.html>.

50. SunnComm smartly dropped the lawsuit. See Declan McCullagh, *SunnComm Won’t Sue Grad Student*, CNET NEWS.COM, Oct. 10, 2003, <http://news.com.com/2100-1027-5089448.html>.

51. See, e.g., DIGITAL DILEMMA, *supra* note 43, at 312 (stating that it is “a perfectly understandable goal” when the DMCA is “[i]nterpreted as an incentive for copyright owners to protect their own property, rather than to rely solely on the police and the courts”); ROBERT S. SCHWARTZ & MIKE GODWIN, *BEYOND GROKSTER: A CRITIQUE OF THE MODELS PROPOSED BY COPYRIGHT AND LAW-AND-ECONOMICS AUTHORITIES* (2005), <http://www.publicknowledge.org/news/analysis/critique-menellet-rss-mg> (stating that “Sections 1201(a) and (b) are aimed at strengthening a regime of licensed technological measures and self-help, as an alternative to copyright litigation”);

as a two-step legislative compromise. The first step commences when copyright holders introduce technological measures that effectively protect copyrighted works. If the rights holders complete the first step by deploying *effective* measures, the law will then kick in to offer additional protection, based partly on the premise that some legal protection is needed to compensate for the lack of perfect, hacker-proof encryption technology. However, if the copyright holder fails to complete the first step, there is no need to reach the second step. Thus, the anticircumvention right—if there is one—is not absolute, but conditional, and circumvention of technological measures *per se* is not a violation of the DMCA.

D. Who Should Sacrifice in Early DRM Systems?

Both camps agree that DRM systems are important and can be very useful, especially during a transitional period when the content industries are seeking solutions to the extensive unauthorized copying problem created by the Internet and new media technologies.⁵² Thus, the question for the debate is not whether the use of these systems and related laws is good or bad, but what systems should be deployed, under what circumstances they should be deployed, and whether they embody the important values of our society.⁵³

Although self-help measures and supporting laws are often criticized, DRM systems actually have many benefits.⁵⁴ Indeed, as Lionel Sobel observed, these systems “appear[] to be at the foundation of whatever business models will actually succeed in the digital age.”⁵⁵ If effectively deployed, they can help “facilitate[] the acquisition of rights, reduce transaction costs and allow a better price differentiation by permit-

Mackaay, *supra* note 45, at 137 (“If new technology results in old fences becoming more permeable, this problem falls to the owner. It is not the mission of state law enforcement to shore up outdated fences.”).

52. For a discussion of this transition, see generally DIGITAL DILEMMA, *supra* note 43.

53. See Symposium, *Edited & Excerpted Transcript of the Symposium on the Law & Technology of Digital Rights Management*, 18 BERKELEY TECH. L.J. 697, 741 (2003) [hereinafter *DRM Symposium Transcript*] (“The question is not: DRM, yes or no? It can be a helpful tool. It’s under what context it’s being developed and how it’s being used.”) (remarks of Commissioner Mozelle Thompson of the Federal Trade Commission).

54. For discussions of the needs and benefits of DRM systems, see generally Kenneth W. Dam, *Self-Help in the Digital Jungle*, 28 J. LEGAL STUD. 393, 405 (1999); Dean S. Marks & Bruce H. Turnbull, *Technical Protection Measures: The Intersection of Technology, Law and Commercial Licences*, 22 EUR. INTEL. PROP. REV. 198 (2000); Barry B. Sookman, “TPMs”: *A Perfect Storm for Consumers: Replies to Professor Geist*, 4 CAN. J.L. & TECH. 23 (2005), available at http://cjlt.dal.ca/vol4_no1/index.html.

55. Lionel S. Sobel, *DRMs as an Enabler of Business Models: ISPs as Digital Retailers*, 18 BERKELEY TECH. L.J. 667, 669 (2003). As elaborated by one commentator:

DRMs enable a wide variety of business models. They are seen as being crucial for the development of new business models, in which pricing schemes, subscription models, credit sales and billing schemes could be incorporated. DRMs permit different price-points for services, such as “à la carte” downloads, subscriptions, or rental and preview. Business models might also include network downloads, streaming, rights lockers, broadcasts and super distribution using P2P technologies.

Sookman, *supra* note 54, at 31.

ting the rights holder to tailor their products and the prices to the individual needs of the users.”⁵⁶ They also foster competition and allow rights holders to “better exploit the markets for their products” and ultimately provide greater choices for consumers.⁵⁷ In addition, as Kenneth Dam pointed out, such systems “can . . . serve purposes akin to moral rights, first by assuring attribution to the author, artist, or composer, and second by ensuring the integrity of documents, images, and music.”⁵⁸ If the copyrighted works are reasonably priced, and the use of DRM systems is not too burdensome, those systems “will [even] facilitate the change in public mores that will be required to make paying for information seem to be the thing to do rather than an encroachment on freedom.”⁵⁹

By contrast, if they are improperly deployed, they will intrude upon the users’ individual privacy while stripping away important rights consumers have traditionally enjoyed in the physical space, including the idea-expression dichotomy, the fair use privilege, the first sale doctrine, and many other lawful personal uses. The next Part will discuss in greater detail how the misuse of DRMs and anticircumvention laws can be harmful at both the domestic and international levels.⁶⁰

To boost the use of DRM systems and related laws, proponents have justified their proposals by stating that consumers sometimes have to sacrifice, at least in the early stages of development of DRM systems. As they argue, because digital technologies allow individuals to reproduce unlimited copies of copyrighted works in near-perfect quality, effective protection is essential for the continued development of copyrighted products.⁶¹ Without such protection, new, innovative products would not appear in the market in the first place. Thus, the proponents claimed, Congress has recalibrated the balance in the copyright system to respond to the challenge created by the digital revolution. As Eric Smith of the International Intellectual Property Alliance declared, “Congress made a judgment that the danger from unauthorized copying and further

56. Dreier & Nolte, *supra* note 46, at 501.

57. *Id.*; Sookman, *supra* note 54, at 31 (“In contrast to traditional distribution, consumers could gain wider access to content wherever and whenever they choose. Given their ability to unbundle copyright into discrete and custom-made products, DRMs promise a much greater range of consumer choice and perhaps even a reduction in prices.”).

58. Dam, *supra* note 54, at 405. As Ian Kerr and others explained:

Under a moral rights view, they would say, the creators of original works ought to have some ability to control the use of those works—not merely because their financial livelihoods depend on it but, also because of the ease with which a digital work can be unbundled. The unbundling of a digital work threatens the integrity of the work and poses serious challenges for those creators who wish to ensure that elements of their work are given proper attribution. As such, the personality and reputational rights of authors, which are so deeply and inextricably tied to the products of their creation, are in jeopardy.

Kerr et al., *supra* note 45, at 39.

59. Dam, *supra* note 54, at 409.

60. See discussion Part II.

61. See Burk & Cohen, *supra* note 45, at 48 n.20 (collecting congressional testimonies on this point).

distribution of digitally transmitted material was so high, that there could be some incursions on fair use.”⁶² Similarly, the court noted the necessary sacrifice in *United States v. Elcom Ltd.*⁶³:

[W]hile it is not unlawful to circumvent for the purpose of engaging in fair use, it is unlawful to traffic in tools that allow fair use circumvention. That is part of the sacrifice Congress was willing to make in order to protect against unlawful piracy and promote the development of electronic commerce and the availability of copyrighted material on the Internet.⁶⁴

Notably, both the proponents and courts have not denied that the DMCA has burdened free speech and other legitimate uses. Rather, they believe that the industries successfully convinced Congress that these burdens were acceptable because they were necessary to slow piracy and to promote the development of electronic commerce.

Critics, however, disagree, for good reasons. While the protection of private property is important, it is not the only right enshrined in the United States Constitution. There are many other important rights, such as freedom of speech, freedom of press, freedom of thought, and the right to privacy. The proponents’ argument that property is so important that we have to give up our other important rights simply does not withstand constitutional scrutiny.⁶⁵ Indeed, the American people have decided not to set up such a scheme in the physical space, and the proponents have yet to rebut this position or persuasively explain why we need to change our tradition in the digital environment. As Yochai Benkler pointed out in the context of self-help measures:

The convenience of using self-help measures rather than the more ponderous legal process is not an insignificant value. But it is one that courts and legislators have often decided must yield in the face of important countervailing interests. Landlords can no longer use self-help against tenants in most jurisdictions, but instead must resort

62. Symposium, *Implications of Enforcing the Digital Millennium Copyright Act: A Case Study, Focusing on United States v. Sklyarov*, 12 *FORDHAM INTELL. PROP. MEDIA & ENT. L.J.* 805, 841 (2002) [hereinafter *Sklyarov Symposium Transcript*] (remarks of Eric Smith of the International Intellectual Property Alliance); accord Ginsburg, *Copyright Legislation*, *supra* note 14, at 142 (stating that “Congress has independently determined that this scope of protection is necessary to afford meaningful protection to copyrighted works in the digital environment”).

63. 203 F. Supp. 2d 1111 (N.D. Cal. 2002).

64. *Elcom*, 203 F. Supp. 2d at 1125; *see also* Besek, *supra* note 36, at 391 (“Section 1201 involves genuine tradeoffs: Congress, recognizing that technological controls might diminish the convenience of making privileged uses, nonetheless made a judgment that technological protection would foster innovation in new content delivery mechanisms and provide consumers with a range of new options for experiencing copyrighted works”).

65. *See, e.g.*, Julie E. Cohen, *Overcoming Property: Does Copyright Trump Privacy?*, 2002 *U. ILL. J.L. TECH. & POL’Y* 375 (questioning whether copyright protection should trump the protection of the right to privacy); Margaret Jane Radin, *A Comment on Information Propertization and Its Legal Milieu*, 54 *CLEV. ST. L. REV.* 23, 23 (2006) (urging that “policy arguments about property in the digital environment take explicit cognizance of other policy considerations that tend to bound propertization: contractual ordering, competition, and freedom of expression”).

to summary process. Life, limb, and the public peace were considered by courts too important to sacrifice in the name of effective self-help. The claimed inefficiency of courts at enforcing copyrights hardly seems an adequate reason to prevent individuals from reading, criticizing, or mocking the words of others in ways that the law of copyright privileges them to do.⁶⁶

When the issue is projected into the international sphere, the importance of protection of private property vis-à-vis other rights becomes even more contestable. The word “private,” for example, was deliberately omitted in the right to property provision of the Universal Declaration of Human Rights, which states that “[e]veryone has the right to own property alone *as well as in association with others*.”⁶⁷ The right to property was also not explicitly recognized in both the International Covenant on Civil and Political Rights⁶⁸ and the International Covenant on Economic, Social and Cultural Rights,⁶⁹ the two legally-binding human rights instruments drafted after the adoption of the Universal Declaration of Human Rights. Unlike anticircumvention laws, these international covenants have recognized many potential countervailing interests, such as the right to freedom of thought, the right to freedom of expression, the right to education, the right to take part in cultural life, and the right to the benefits of scientific progress and its applications.⁷⁰

Moreover, commentators have suggested that there does not have to be “an all-or-nothing choice between the total control of DRM and rampant copyright infringement.”⁷¹ While sacrifices may sometimes be needed, especially in the early stages of development of DRM systems, consumers may not need to sacrifice as much as the DMCA requires.

66. Benkler, *supra* note 30, at 426 (footnote omitted).

67. Universal Declaration of Human Rights art. 17(1), G.A. Res. 217, U.N. GAOR, 3d Sess. (1948) [hereinafter UDHR] (emphasis added); Peter K. Yu, *Reconceptualizing Intellectual Property Interests in a Human Rights Framework*, 40 U.C. DAVIS L. REV. (forthcoming 2007), <http://ssrn.com/abstract=927335> (discussing the omission of the word “private” in article 17 of the Universal Declaration of Human Rights); see also MARY ANN GLENDON, *A WORLD MADE NEW: ELEANOR ROOSEVELT AND THE UNIVERSAL DECLARATION OF HUMAN RIGHTS* 182-83 (2001) (discussing the different conceptions of the right to property among the various delegates to the Human Rights Commission).

68. International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171 [hereinafter ICCPR].

69. International Covenant on Economic, Social and Cultural Rights, Dec. 16, 1966, 993 U.N.T.S. 3 [hereinafter ICESCR].

70. See, e.g., ICCPR, *supra* note 68, art. 19(1) (recognizing the right to freedom of thought); *id.* art. 19(2) (recognizing the right to freedom of expression); ICESCR, *supra* note 69, art. 13 (recognizing the right to education); *id.* art. 15(1)(a) (recognizing the right to take part in cultural life); *id.* art. 15(1)(b) (recognizing the right to the benefits of scientific progress and its applications).

71. Alfred C. Yen, *What Federal Gun Control Can Teach Us About the DMCA's Anti-Trafficking Provisions*, 2003 WIS. L. REV. 649, 697; see also Jacqueline D. Lipton, *Solving the Digital Piracy Puzzle: Disaggregating Fair Use from the DMCA's Anti-Device Provisions*, 19 HARV. J.L. & TECH. 111, 113 (2005) [hereinafter Lipton, *Solving the Digital Piracy Puzzle*] (stating that “[c]ourts typically take an all-or-nothing approach to circumvention technologies, usually resulting in a complete ban on marketing them”); Lunney, *supra* note 15, at 820 (observing that “decryption presents something close to an all-or-nothing choice”).

For example, Dan Burk and Julie Cohen proposed a mixed fair use infrastructure that includes automatic fair use defaults and a key escrow system that provides would-be fair users with the needed encryption keys to obtain access to protected works.⁷² Drawing on British law, Jacqueline Lipton offered an administrative complaint mechanism for individuals who sought to obtain legitimate uses of copyrighted works.⁷³ As she explained, “[a]dministrative approaches tend to be more flexible and less formal in their procedures than judicial processes and are generally less costly than judicial hearings.”⁷⁴ Alfred Yen suggested that “[a] circumvention technology control law modeled after federal gun control law will deter the irresponsible misuse of circumvention technology while preserving access to such technology for lawful purposes.”⁷⁵ Professor Yen’s proposal is quite similar to the national verification system introduced in Australia.⁷⁶

E. How Should Society Respond to the Digital Challenge?

As discussed above, both camps understand the “digital challenge” confronting the content industries. They also appreciate the need for transition and the sometimes imperfection of transitional policies. However, they disagree on whether the law should err on the side of consumers or that of rights holders, especially when supporting empirical evidence is lacking one way or the other.

It is important to remember that creating protection for copyright holders is a *means* to an end, not an end itself.⁷⁷ As the Supreme Court

72. See Burk & Cohen, *supra* note 45.

73. See Lipton, *Solving the Digital Piracy Puzzle*, *supra* note 71. Her proposal draws, but improves on, the administrative complaint mechanism provided under the British Copyright, Designs and Patents Act of 1988. Section 296ZE of the statute provides:

Where the application of any effective technological measure to a copyright work other than a computer program prevents a person from carrying out a permitted act in relation to that work then that person or a person being a representative of a class of persons prevented from carrying out a permitted act may issue a notice of complaint to the Secretary of State.

Copyright, Designs and Patents Act, 1988, c. 48, § 296ZE(2) (U.K.) (amended 2003).

74. Lipton, *Solving the Digital Piracy Puzzle*, *supra* note 71, at 155.

75. Yen, *supra* note 71, at 697.

76. As Ian Kerr and others described:

In order to make sure that a circumventing device or service is really used for a permitted purpose, a person wishing to make such a use must provide the supplier of the device or service with a signed declaration containing information, such as the person’s name and address, the basis of the exemption claimed, the name and address of the supplier, a statement that the device or service is to be used for a permitted purpose and identification of that purpose by reference to a specific section of the *Copyright Act*.

Kerr et al., *supra* note 45, at 58-59.

77. See, e.g., COMM’N ON INTELLECTUAL PROP. RIGHTS, INTEGRATING INTELLECTUAL PROPERTY RIGHTS AND DEVELOPMENT POLICY: REPORT OF THE COMMISSION ON INTELLECTUAL PROPERTY RIGHTS 7 (2002) [hereinafter IPR COMMISSION REPORT] (“Regardless of the term used for them, we prefer to regard IPRs as instruments of public policy which confer economic *privileges* for individuals or institutions solely for the purposes of contributing to the greater public good. The *privilege* is therefore a means to an end, not an end in itself.”), available at http://www.iprcommission.org/papers/pdfs/final_report/CIPRfullfinal.pdf; Dan T. Coenen & Paul J.

reminded us in *Twentieth Century Music Corp. v. Aiken*,⁷⁸ and again in *Sony Corporation of America v. Universal City Studios, Inc.*,⁷⁹ “[t]he ultimate aim [of copyright] is . . . to stimulate artistic creativity for the general public good.”⁸⁰ Earlier in *Mazer v. Stein*,⁸¹ the Court also stated that “[t]he economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in ‘Science and useful Arts.’”⁸²

The two camps also disagree on what society should do in the meantime while the legislature is searching for a better solution.⁸³ Should consumers wait for the content industries to come up with better protection mechanisms and a viable business plan? Or should the industries wait for consumers to change their attitudes toward the protection of artists and creators or for society to develop legal solutions that can *equally* protect both consumers and copyright holders?

In congressional testimonies, the content industries stated that they were unlikely to release works until the market was well protected.⁸⁴ However, experience on the Internet and in China (as well as in other major markets in the less developed world) has demonstrated otherwise. There is no doubt that the industries are very reluctant to release creative works if *no* protection whatsoever exists. However, they might be more willing to do so if *some* protection exists. In fact, because rights holders are unlikely to find a marketplace that has zero leakage, economics suggest that they will release their products if the profits they obtain will exceed their piracy-related losses. Some rights holders may even write off these early losses as expenses for the experimentation of new business plans or for promotion or market development purposes. As Microsoft’s founder Bill Gates famously declared:

Although about three million computers get sold every year in China, people don’t pay for the software. Someday they will, though. And

Heald, *Means/Ends Analysis in Copyright Law: Eldred v. Ashcroft in One Act*, 36 LOY. L.A. L. REV. 99 (2002) (discussing the means-end fit of the Sonny Bono Copyright Term Extension Act).

78. 422 U.S. 151 (1975).

79. 464 U.S. 417 (1984).

80. *Sony*, 464 U.S. at 432 (quoting *Aiken*, 422 U.S. at 156).

81. 347 U.S. 201 (1954).

82. *Mazer*, 347 U.S. at 219.

83. Cf. Peter K. Yu, *Innovation Gains Edge in Music, Movie Battle*, DETROIT NEWS, Aug. 29, 2004, at 15A (stating that “[t]he difficult question in the *Grokster* case is not whether the court should exercise caution while waiting for time and market forces to achieve some balance, but whom the court should ask to wait”).

84. Even Jane Ginsburg, a noted advocate of strong authors’ rights, conceded that “[t]he assumption that copyright owners will only make their works available in copy-protected form may well be overstated.” Ginsburg, *Copyright Legislation*, *supra* note 14, at 153. Nevertheless, she believes the issue should be left for the U.S. Copyright Office to review during its triennial rulemaking proceeding. *Id.*

as long as they're going to steal it, we want them to steal ours. They'll get sort of addicted, and then we'll somehow figure out how to collect sometime in the next decade.⁸⁵

It remains to be seen whether Mr. Gates has figured out how to collect these lost software license fees, especially in light of the growing development of open source software in China.⁸⁶

F. Summary

In sum, both camps share sufficient common ground to start a dialogue, but their considerable disagreements prevent them from reaching mutually acceptable conclusions. Because many of their differences have yet to be proved or disproved by empirical data, the positions they eventually will take will depend on their perceptions of the market, the state of technology, and the expectation of consumers, all of which are susceptible to rapid changes in the digital world. As Daniel Farber pointed out insightfully, their differing positions may also raise broader and deeper issues about “how the economy works, how power is distributed in society, and how individuals can best flourish under contemporary conditions.”⁸⁷ With the continuous change in the market, technology, and social norms, it will be interesting to see whether the two camps can eventually agree on what the legal regime should be and how to build the next generation of DRM systems.

Although the divide between these two camps is unlikely to narrow in the near future, the actual DRM debate is actually more complicated. As I mentioned in the beginning, the stakeholders in this debate are not divided nicely into the pro-anticircumvention camp and the anti-anticircumvention camp. Instead, they accrue different benefits from the use of DRM systems and have incurred different costs. As a result, their positions often change according to the market, technologies, and consumer behavior. As a National Research Council study reminds us:

The debate over intellectual property includes almost everyone, from authors and publishers, to consumers (e.g., the reading, listening, and viewing public), to libraries and educational institutions, to governmental and standards bodies. Each of the stakeholders has a variety of concerns . . . that are at times aligned with those of other stakeholders, and at other times opposed. An individual stakeholder may also play multiple roles with various concerns. At different times, a single individual may be an author, reader, consumer, teacher, or shareholder in publishing or entertainment companies; a member of an editorial board; or an officer of a scholarly society that relies on

85. Brent Schlender et al., *The Bill & Warren Show*, FORTUNE, July 20, 1998, at 48.

86. See Peter K. Yu, *From Pirates to Partners (Episode II): Protecting Intellectual Property in Post-WTO China*, 55 AM. U. L. REV. 901, 982 (2006) (using Microsoft products to illustrate how piracy losses can be treated as promotional expenses needed to capture an emerging market).

87. Farber, *supra* note 4, at 1358.

publishing for revenue. The dominant concern will depend on the part played at the moment.⁸⁸

Thus, the DRM debate is far more complex and dynamic than what the bipolar debate has suggested. This Part merely emphasizes the debate's bipolar nature to underscore the importance of finding common ground between the many stakeholders in the DRM debate.

II. THE ANTICIRCUMVENTION REGIME

Although DRM systems can be traced back to the early days of the software industry, the international standards for these systems were not created until the 1996 WIPO Diplomatic Conference, which updated international intellectual property norms to reflect changes in the digital environment.⁸⁹ Entering into effect in 2002, both the WIPO Copyright Treaty ("WCT") and the WIPO Performances and Phonograms Treaty ("WPPT") require member states to "provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures" that are needed to protect creative works.⁹⁰ Although the treaties leave discretion to the member states over how to discharge their obligations, several countries have chosen to create an anticircumvention regime. In the United States, for example, Congress enacted the oft-criticized DMCA.⁹¹ Other countries, like Australia, China, Japan, and various members of the European Union, have since followed suit to enact anticircumvention laws, or are in the process of doing so.⁹²

Although the WIPO Internet Treaties require only adequate protection and effective remedies, the DMCA went beyond this requirement to prohibit the circumvention of any technological measure that effectively controls access to, or use of, a copyrighted work.⁹³ The statute also prohibits the manufacture, importation, or distribution of any technology or device that is primarily designed, produced, or knowingly marketed for the purpose of circumventing such a measure or that does not have any commercially significant purpose other than to circumvent the measure.⁹⁴

88. DIGITAL DILEMMA, *supra* note 43, at 51; *see also* Jeremy F. deBeer, *Locks & Levies*, 84 DENV. U. L. REV. 143, 165-75 (2006) (discussing the impact of locks and levies from the perspectives of three main groups of stakeholders—creators, technology firms, and consumers).

89. For a detailed discussion of the U.S. agenda at the 1996 WIPO Diplomatic Conference, *see generally* Pamela Samuelson, *The U.S. Digital Agenda at WIPO*, 37 VA. J. INT'L L. 369 (1997) [hereinafter Samuelson, *U.S. Digital Agenda*].

90. *See* WCT, *supra* note 7, art. 11; WPPT, *supra* note 7, art. 18.

91. 17 U.S.C. §§ 1201-1205 (2004).

92. *See, e.g.*, Kerr et al., *supra* note 45, at 58-64 (discussing anticircumvention regimes in Australia, Japan, and the European Union); Regulations on the Protection of the Right of Communication Through Information Network, (promulgated by the State Council, May 10, 2006, effective July 1, 2006) (P.R.C.), *available in Chinese at* <http://www.nCAC.gov.cn/servlet/servlet.info.NatLawServlet?action=list&id=529>.

93. *See* 17 U.S.C. § 1201(a)(1).

94. *See id.* §§ 1201(a)(2), 1201(b).

To protect the public interest, the DMCA expressly states that Congress did not intend to alter existing “rights, remedies, limitations, or defenses to copyright infringement, including fair use,” the scope of vicarious or contributory liability for copyright infringement, or the free speech and free press guarantees under the First Amendment as they relate to consumer electronics, telecommunications, or computing products.⁹⁵ In addition, the statute enumerates seven narrow, carefully-drafted exceptions for nonprofit organizations, law enforcement agencies, reverse engineers, encryption researchers, and security testers, as well as for the protection of minors and of personally identifying information.⁹⁶ Finally, the statute includes a triennial rulemaking proceeding to determine whether users would be, or are likely to be, “adversely affected by the prohibition . . . to make noninfringing uses . . . of a particular class of copyrighted works.”⁹⁷ Conducted by the Librarian of Congress, this proceeding has led to the creation of a small number of new, but limited exceptions.⁹⁸

95. *Id.* § 1201(c).

96. *See, e.g., id.* § 1201(d) (exemption for nonprofit libraries, archives, and educational institutions); *id.* § 1201(e) (exemption for law enforcement, intelligence, and other government activities); *id.* § 1201(f) (exemption for reverse engineering); *id.* § 1201(g) (exemption for encryption research); *id.* § 1201(h) (exceptions regarding minors); *id.* § 1201(i) (protection of personally identifying information); *id.* § 1201(j) (exemption for security testing). For a detailed discussion of these exemptions, see generally Ginsburg, *Copyright Legislation*, *supra* note 14, at 148-52.

97. 17 U.S.C. § 1201(a)(1)(C); *see also id.* § 1201(a)(1)(B)-(D) (outlining the triennial rulemaking proceeding). When the statute was first enacted, it also included a two-year moratorium on enforcement of the anticircumvention provision due to “the strong concerns expressed by librarians and educators about the potential negative impacts that broad anti-circumvention provisions might have on fair uses of copyrighted works and on access to information and to public domain works.” Samuelson, *Intellectual Property and the Digital Economy*, *supra* note 44, at 559.

98. *See, e.g.*, Copyright Office, Library of Congress, Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. 64,556 (2000); Copyright Office, Library of Congress, Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 68 Fed. Reg. 62,011 (2003). These exceptions are limited because the Librarian of Congress narrowly defined the term “a particular class of copyrighted works” in the rulemaking proceedings. 17 U.S.C. § 1201(a)(1)(C). The current available exemptions, for example, apply to persons who engage in noninfringing uses of the following four classes of copyrighted works:

(1) Compilations consisting of lists of Internet locations blocked by commercially marketed filtering software applications that are intended to prevent access to domains, websites or portions of websites, but not including lists of Internet locations blocked by software applications that operate exclusively to protect against damage to a computer or computer network or lists of Internet locations blocked by software applications that operate exclusively to prevent receipt of e-mail.

(2) Computer programs protected by dongles that prevent access due to malfunction or damage and which are obsolete.

(3) Computer programs and video games distributed in formats that have become obsolete and which require the original media or hardware as a condition of access. A format shall be considered obsolete if the machine or system necessary to render perceptible a work stored in that format is no longer manufactured or is no longer reasonably available in the commercial marketplace.

(4) Literary works distributed in ebook format when all existing ebook editions of the work (including digital text editions made available by authorized entities) contain access controls that prevent the enabling of the ebook’s read-aloud function and that prevent the enabling of screen readers to render the text into a specialized format.

Notwithstanding these public interest safeguards, this Article takes the position that the DMCA was defectively designed and that anticircumvention laws are problematic at both the domestic and international levels. This Part first discusses the problems with the anticircumvention provision of the DMCA at the domestic level. It then explains why an international anticircumvention regime modeled after the DMCA would be even more harmful. If countries are to introduce such a regime, they need to carefully evaluate the costs and benefits of such protection. They also need to tailor the contours of protection to their local needs, interests, and conditions and avoid the wholesale transplant of the DMCA to their own soil. In addition, in jurisdictions where the WIPO Internet Treaties are self-executing,⁹⁹ courts need to remember that the treaties do not require anticircumvention protection¹⁰⁰ and that countries can comply with the treaties without ever introducing such protection.¹⁰¹

A. *The Domestic Regime*

As commentators have widely noted, there are four main criticisms of the anticircumvention provision of the DMCA. First, the DMCA has made it difficult for users and future creators to exercise legitimate rights under existing copyright law.¹⁰² On its face, the statute seems to be pro-

99. A self-executing treaty is one that can be enforced in courts without prior implementing legislation. In jurisdictions where the WIPO Internet Treaties are self-executing, courts will directly apply the treaties as if they are domestic laws.

100. Cf. Michael Geist, *Anti-circumvention Legislation and Competition Policy: Defining a Canadian Way?*, in *IN THE PUBLIC INTEREST: THE FUTURE OF CANADIAN COPYRIGHT LAW* 211, 240 (Michael Geist ed., 2005) (stating that, in countries that “have allowed for the WIPO Internet treaties to take direct effect within their countries . . . , it would be difficult to discern the precise legal rules since the WCT and WPPT do not contain the specificity typically found in implementing legislation”).

101. See *infra* discussion Part II.B.1 (discussing alternative ways to comply with the WIPO Internet Treaties).

102. See, e.g., Dan L. Burk, *Anticircumvention Misuse*, 50 UCLA L. REV. 1095, 1138 (2003) (noting that “[t]he limited exceptions provided under the statute, or under the rulemaking authority of the Librarian of Congress, lack the breadth and flexibility to fill the equitable role played by fair use”); Burk & Cohen, *supra* note 45, at 54 (claiming that “[c]urrently, the DMCA’s anti-circumvention provisions effectively sanction the use of private code to write the public law of fair use out of existence”); Jacqueline Lipton, *The Law of Unintended Consequences: The Digital Millennium Copyright Act and Interoperability*, 62 WASH & LEE L. REV. 487, 494-95 (2005) [hereinafter Lipton, *Law of Unintended Consequences*] (noting that “several recent bills have been introduced into Congress to remedy the perceived defects of the DMCA in terms of its impact on the fair use defense”); Nimmer, *A Riff on Fair Use*, *supra* note 44, at 739 (stating that “[t]he user safeguards so proudly heralded as securing balance between owner and user interests, on inspection, largely fail to achieve their stated goals”). But cf. Zohar Efroni, *Towards a Doctrine of “Fair Access” in Copyright: The Federal Circuit’s Accord*, 46 IDEA 99 (2005) (arguing that the United States Court of Appeals for the Federal Circuit is developing a common law doctrine of “fair access” in *Chamberlain Group, Inc. v. Skylink Technologies, Inc.* and *Storage Tech. Corp. v. Custom Hardware Engineering & Consulting, Inc.*); David Nimmer, *Appreciating Legislative History the Sweet and Sour Spots of the DMCA’s Commentary*, 23 CARDOZO L. REV. 909, 979 (2002) (holding a belief that “a tight reading of Section 1201 . . . leaves no room within the statutory orbit for a general Congressionally-sanctioned fair use defense,” but that, “to effectuate justice in a concrete case, judges may go outside the statutory text by doing what common law jurists have done since time immemorial”); Lipton, *Law of Unintended Consequences*, *supra* note 102, at 495 (observing that judges in *Lexmark* and *Chamberlain* have “suggest[ed] a greater role for the fair use defense, even in the DMCA con-

tective of these rights. Section 1201(c) states explicitly that “[n]othing in this section shall affect rights, remedies, limitations, or defenses to copyright infringement, *including fair use*, under this title.”¹⁰³ As described above, the statute also includes exceptions and a triennial rulemaking proceeding. In reality, the exceptions under the DMCA are highly constrained, and many of the legitimate rights that exist in copyright law are unavailable under the anticircumvention regime. As Dan Burk observed:

The separation between the anticircumvention right and copyright becomes apparent when comparing the limitations on each: . . . [C]opyright contains numerous exceptions and user privileges, such as statutory provisions allowing unauthorized use of copyrighted works in classroom instruction, in certain religious services, and creation of “back-up” copies of computer programs, to name a few. None of these uses is sanctioned by the anticircumvention provisions. If a work is protected by technical controls, circumventing those controls to act in a manner privileged under the copyright act is still prohibited. Outside of circumvention for the few exceptions described above, the only statutorily sanctioned method for gaining access to technically protected works is with the permission of the content owner.¹⁰⁴

In addition, “even though copyright law confers on copyright owners the right to control only public performances and displays of these works, DRM systems can also be used to control private performances and displays of digital content.”¹⁰⁵ The DMCA also threatens the first sale doctrine and many different lawful private uses, including those customary ones that may or may not have been codified as exceptions in the current copyright statute.¹⁰⁶ Indeed, when the statute was being

text”); Samuelson, *Intellectual Property and the Digital Economy*, *supra* note 44, at 540 (stating that, “[i]f section 1201(c)(1)’s preservation of fair use and other defenses to infringement are to be given their plain meaning, it would seem that this sort of circumvention should be permissible”).

103. 17 U.S.C. § 1201(c)(1) (emphasis added); *see also* Lipton, *Solving the Digital Piracy Puzzle*, *supra* note 71, at 120 (suggesting that, because the treaties did not mention the effect of the anticircumvention provision on fair use, “the drafters of the treaties may have assumed that the domestic implementation of the relevant treaty terms would not adversely affect activities that are permitted by law, such as fair use”).

104. Burk, *Anticircumvention Misuse*, *supra* note 102, at 1107. For a discussion of the impact of the DMCA on the enjoyment and exercise of fair use, *see generally* Lipton, *Solving the Digital Piracy Puzzle*, *supra* note 71, at 115-16 (describing the various DMCA provisions that sought “to balance the competing needs of fair use and digital content protection”). *See also* ANDREW L. SHAPIRO, *THE CONTROL REVOLUTION: HOW INTERNET IS PUTTING INDIVIDUALS IN CHARGE AND CHANGING THE WORLD WE KNOW* 18 (1999) (proposing “a rule analogous to fair use that might be known as ‘fair hacking’ or ‘fair breach’”); Julie E. Cohen, *Copyright and the Jurisprudence of Self-Help*, 13 *BERKELEY TECH. L.J.* 1089, 1092 (1998) (arguing that “licensees . . . should be accorded rights of electronic self-help when necessary to preserve the balance that the Copyright Act is intended to establish”); Geist, *supra* note 100, at 248-49 (proposing to amend the anticircumvention bill “to include a positive user right to circumvent a technological measure for lawful purposes”).

105. Samuelson, *DRM {and, or, vs.} the Law*, *supra* note 41, at 42.

106. For discussions of these lawful personal uses, *see generally* Jessica Litman, *Lawful Personal Use* (Michigan Legal Studies Research Paper Series, No. 06-004, 2006), http://ssrn.com/abstract_id=926575; Lunney, *supra* note 15.

drafted, then-Senator John Ashcroft expressed concern that the anticircumvention provision “would have established a flat prohibition on the circumvention of technological protection measures to gain access to works for any purpose, and thus raised the specter of moving our Nation towards a ‘pay-per-use’ society.”¹⁰⁷ Although this pay-per-use society has yet to materialize, critics remain justifiably concerned.

In the statute’s defense, one has to differentiate between access-control and use-control technologies, which receive different treatment under the DMCA.¹⁰⁸ As Alan Adler of the Association of American Publishers testified before Congress, “the fair use doctrine has never given anyone a right to break other laws for the stated purpose of exercising the fair use privilege. Fair use doesn’t allow you to break into a locked library in order to make ‘fair use’ copies of the books in it, or steal newspapers from a vending machine in order to copy articles and share them with a friend.”¹⁰⁹ Similarly, museums have the right to restrict access to the many public domain works they hold on their premises—for example, by charging admission fees, prohibiting photography, and determining which and when works will be displayed.¹¹⁰ Although Jessica Litman rightly pointed out that the “breaking and entering” metaphor was somewhat misleading because it overlooked the importance of property rights in the physical establishment,¹¹¹ there is no doubt that the

107. 144 Cong. Rec. S11,887 (Oct. 8, 1998) (statement of Senator John Ashcroft).

108. See, e.g., Ginsburg, *Copyright Legislation*, *supra* note 14, at 139 (explaining why the DMCA affords greater protection to the copyright holders’ right to control access); R. Anthony Reese, *Will Merging Access Controls and Rights Controls Undermine the Structure of Anticircumvention Law?*, 18 BERKELEY TECH. L.J. 619, 621 (2003) (stating that “Congress expressly provided less protection for rights controls in order to allow consumers to make noninfringing uses of copyrighted works in protected digital format, just as consumers have for centuries made noninfringing uses of copyrighted works in unprotected analog copies”).

109. *WIPO Copyright Treaties Implementation Act and Online Copyright Liability Limitation Act: Hearing on H.R. 2281 and H.R. 2280 Before the Subcomm. on Courts and Intellectual Property of the House Comm. on the Judiciary*, 105th Cong. 208 (1997) (prepared statement of Allan Adler, Association of American Publishers); see also Ginsburg, *Copyright Legislation*, *supra* note 14, at 140 (stating that “it may be fair use to make nonprofit research photocopies of pages from a lawfully acquired book; it is not fair use to steal the book in order to make the photocopies”).

110. As Michael Landau observed:

Museums have controlled access to public domain works by controlling how and when people may view the works contained inside. Museums control access by charging admission to see public domain works. Museums also often prevent photography or other reproduction of the works inside, many of which are in the public domain. In addition, museums control access by determining which works will be on display and when. An enormous number of works owned by museums are in storage at any given time. I have not heard a public outcry against museums for limiting access.

Michael Landau, *Has the Digital Millennium Copyright Act Really Created a New Exclusive Right of Access?: Attempting to Reach a Balance Between Users’ and Content Providers’ Rights*, 49 J. COPYRIGHT SOC’Y U.S.A. 277, 289 (2001); accord Dam, *supra* note 54, at 408-09 (stating that “[t]he Louvre has the Mona Lisa, a prototypical public domain painting, but surely the Louvre is not required to allow students and artists (or even art reviewers and parodists) to set up easels for copying it or to allow them to take photographs or even to admit them without charge to the museum so that they can copy covertly”).

111. As Jessica Litman explained:

The thing about houses is that property laws give homeowners legal control over who gets to come in. A homeowner may therefore say: “My painting may be in the public

metaphor has been effective as part of the overall lobbying efforts.¹¹² In fact, it partly accounts for the differential statutory treatment of access-control and use-control technologies.

In practice, however, such differential treatment may not be as useful as commentators have suggested. As Anthony Reese observed, copyright holders increasingly employ technological measures that incorporate both access-control and use-control technologies. “[C]ourts [also] have treated such ‘merged’ control measures as entitled to the legal protections of both access- and rights-control measures, even when the system was essentially directed only at preventing copying and distribution, rather than at controlling access.”¹¹³ By upgrading the protection of use-control technologies to the level of access-control technologies whenever merged control mechanisms are deployed, these courts therefore have “undercut[] the congressional intent in drafting the DMCA expressly to allow circumvention of rights controls so long as the circumventor does not engage in copyright infringement.”¹¹⁴

Second, the existing regime has upset the historical balance between copyright interests and access to information.¹¹⁵ Some commentators, notably Jane Ginsburg, have suggested that the DMCA has created a new access right.¹¹⁶ In addition, the DMCA has brought about many unin-

domain but I don't have to let you into my locked home to see it.” Backed up by that legal control, she can use protective devices—locks, burglar alarms, electrified fences, vicious attack dogs—to keep outsiders out of her home and away from her painting. The property laws about home ownership are what gives the locks and other devices their legitimacy.

Without those property rights, however, the metaphor collapses. Imagine, for example, that somebody used a lock or other protection measure (a well-trained attack dog, say) to prevent strangers from viewing some painting she didn't own in some place she didn't own. If I were to set my vicious attack dog to keep folks away from the Mona Lisa in the Louvre Museum, the guards would simply shoot it.

LITMAN, *supra* note 14, at 133.

112. Samuelson, *Intellectual Property and the Digital Economy*, *supra* note 44, at 539 (observing that “[t]he ‘breaking and entering’ metaphor for circumvention activities swayed some influential Congressmen in the debate over anti-circumvention regulations”).

113. Reese, *supra* note 108, at 621; *see also id.* (contending that “[t]he deployment of merged control measures thus poses a threat to the congressional scheme for balancing protections for copyright owners against the public's interest in noninfringing use”); Lipton, *Solving the Digital Piracy Puzzle*, *supra* note 71, at 116 n.25 (stating that “[i]t is difficult to think of a circumstance where circumvention of a copy-control measure would not also be prohibited as circumvention of a commensurate access-control measure”).

114. Reese, *supra* note 108, at 651.

115. *See, e.g.*, Kerr et al., *supra* note 45, at 38 (stating that, because “TPMs could go on working indefinitely,” “the ensuing policy issue is not merely a question of copyright's ability to balance but also one of technology's power to control”); Lunney, *supra* note 15, at 814-15 (contending that the DMCA transformed copyright into a “guild monopoly,” similar to the monopoly the Stationers' Company enjoyed in the sixteenth and seventeenth centuries); Diane Leenheer Zimmerman, *Adrift in the Digital Millennium Copyright Act: The Sequel*, 26 U. DAYTON L. REV. 279, 285 (2001) (contending that “the DMCA departs sharply from prior practice” in which Congress sought to limit the impact of the changed information environment on research, education, and on libraries and their users).

116. *See* Ginsburg, *Copyright Legislation*, *supra* note 14, at 140-43 (discussing the right of access); *see also* Burk, *Anticircumvention Misuse*, *supra* note 102, at 1103 (stating that “the DMCA

tended consequences, chilling innovation and competition while raising concerns about free speech, privacy, academic freedom, learning, scientific advancement, cultural development, and democratic discourse.¹¹⁷ Early reports of potential chilling effects and unintended consequences included the disturbing episodes concerning the cease-and-desist letter sent to computer science professor Edward Felten, the lawsuit to enjoin *2600: The Hacker Quarterly*, the arrest of Russian cryptographer Dmitry Sklyarov, and the subsequent failed criminal prosecution of Elcom-Soft.¹¹⁸

In recent years, the DMCA has also been misused to deter competition and interoperability in tangible products that only incidentally incorporated copyrightable software code.¹¹⁹ Recent examples include *Lexmark International, Inc. v. Static Control Components, Inc.*,¹²⁰ which concerned laser printer toner cartridges, and *Chamberlain Group, Inc. v. Skylink Technologies, Inc.*,¹²¹ which involved universal garage door openers. One may also add Sony's attempt to suppress distribution of software tools among owners of its programmable 'Aibo' robot dogs.¹²² Although all of these incidents are eventually resolved favorably in the interests of consumers, it is important not to overlook the potential chilling effect created by threatening cease-and-desist letters invoking the anticircumvention provision of the DMCA. As Dan Burk reminded us, "court action is always the exception, rather than the rule, in legal disputes,"¹²³ and there is no easy way to find out how often the DMCA has been invoked in unreported letters.

Third, by protecting DRMs, the DMCA has undermined the protection of privacy of individual users. As Julie Cohen pointed out, the statute "threaten[s] to change rather substantially . . . the degree of informational and spatial privacy to which users of intellectual goods are enti-

as enacted creates a new and unprecedented right to control access to copyrighted works"); cf. Thomas Heide, *Copyright in the E.U. and United States: What "Access Right"?*, 23 EUR. INTELL. PROP. REV. 469 (2001) (contending that "the recent inclusion of the 'access right' within copyright does not represent an evolution of copyright to extend to new forms of exploitation but rather the incorporation of a completely new rights structure into copyright law—one closely akin to that underlying cinemas and theatres"); Wagner, *Reconsidering the DMCA*, *supra* note 35, at 1108-09 ("Congress did not in fact alter the balance between copyright owners and the public Instead, Congress attempted to alter the balance between law and software to respond to changes in the enforcement environment by shifting the regulatory equilibrium back towards the law." (footnote omitted)).

117. See Yu, *P2P and the Future of Private Copying*, *supra* note 8, at 725-26.

118. See *id.* at 724-25.

119. For excellent discussions of the unintended consequences of the DMCA, see generally ELEC. FRONTIER FOUND., UNINTENDED CONSEQUENCES: SEVEN YEARS UNDER THE DMCA (2006), http://www EFF.ORG/IP/DMCA/DMCA_unintended_v4.pdf; Lipton, *Law of Unintended Consequences*, *supra* note 102. But see Richard Gooch, *Requirements for DRM Systems*, in DIGITAL RIGHTS MANAGEMENT, *supra* note 2, at 16, 23 ("Of course misuse of any technology is possible, but such issues do not arise more significantly with DRM than with any other technology.").

120. 387 F.3d 522 (6th Cir. 2004).

121. 381 F.3d 1178 (Fed. Cir. 2004).

122. See Burk, *Anticircumvention Misuse*, *supra* note 102, at 1113.

123. *Id.* at 1112.

tled.”¹²⁴ By collecting information about an individual’s intellectual consumption and exploration, DRM systems intrude upon the “the privacy interest in (metaphoric) breathing space for thought, exploration, and personal growth.”¹²⁵ In addition, the technologies “dictate the circumstances—the when, where, how, and how often—of one’s own intellectual consumption, unobserved and unobstructed by others” and therefore threaten to take away the freedom to explore areas of intellectual interest that an individual might not feel as free to explore in public.¹²⁶ Indeed, the concern of privacy intrusion was so important that the DMCA includes a special but limited exception to enable circumvention in the event that the circumventer needs to protect personally-identifying information.¹²⁷ Nevertheless, because the exception is limited, commentators have called for more expansive protection of privacy.¹²⁸

Finally, the expediency of the DMCA has been deeply undercut by its failure to achieve its stated goals of reducing digital piracy.¹²⁹ As of this writing, the DMCA has yet to reduce the amount of copyright infringement on the Internet, and online file sharing remains widespread.¹³⁰ Although the content industries have billed the Content Scramble System¹³¹ (“CSS”) deployed to protect copyrighted contents in DVDs as a major success, the technology “was readily compromised, and . . . free

124. Cohen, *DRM and Privacy*, *supra* note 32, at 594. For discussions of the impact of anticircumvention laws on privacy, see generally *id.*; Lee A. Bygrave, *Digital Rights Management and Privacy—Legal Aspects in the European Union*, in DIGITAL RIGHTS MANAGEMENT, *supra* note 2, at 418; Ian R. Kerr, *To Observe and Protect?: How Digital Rights Management Systems Threaten Privacy and What Policy Makers Should Do About It*, in 1 INTELLECTUAL PROPERTY AND INFORMATION WEALTH: ISSUES AND PRACTICES IN THE DIGITAL AGE (Peter K. Yu ed., forthcoming 2006).

125. Cohen, *DRM and Privacy*, *supra* note 32, at 578.

126. *Id.* at 579.

127. See 17 U.S.C. § 1201(i) (2004) (creating an exception to protect personally identifying information).

128. See Cohen, *DRM and Privacy*, *supra* note 32, at 609 (stating that, compared to both judicial and regulatory sanctions, “[a] far more effective method of ensuring that information users actually enjoy the privacy to which they are entitled would entail building privacy into the design of DRM technologies in the first instance”); Kerr, *supra* note 124 (recommending countermeasures needed to offset the new powers and protections afforded to TPM and DRM); see also Julie E. Cohen, *A Right to Read Anonymously: A Closer Look at “Copyright Management” in Cyberspace*, 28 CONN. L. REV. 981 (1996) (discussing how the proposed federal protection for digital copyright management technologies has failed to protect an individual right to read anonymously).

129. See von Lohmann, *supra* note 41, at 636 (contending that “the DMCA fails in light of its stated goal—namely, reducing the threat of copyright infringement in the digital age”). It is important to note that, although the reduction of digital piracy is one of the important goals of the DMCA, it is not the only one.

130. For discussions of illegal file sharing, see generally Yu, *The Escalating Copyright Wars*, *supra* note 28; Yu, *P2P and the Future of Private Copying*, *supra* note 8.

131. “CSS, or Content Scramble System, is an access control and copy prevention system for DVDs developed by the motion picture companies, including plaintiffs. It is an encryption-based system that requires the use of appropriately configured hardware such as a DVD player or a computer DVD drive to decrypt, unscramble and play back, but not copy, motion pictures on DVDs.” *Universal City Studios v. Reimerdes*, 111 F. Supp. 2d 294, 308 (S.D.N.Y. 2000) (footnote omitted); see also Marks & Turnbull, *supra* note 54, at 212-13 (describing the CSS technology and its application to DVDs).

circumvention tools are in wide circulation across the Internet.”¹³² It also remains unclear whether the continued heavy sales of DVDs derive from the success of the CSS or from the structural differences of the movie industry and the inherently attractive features of the DVD medium.¹³³

In sum, the benefits created by TPM thus far are largely questionable. It is problematic enough that the DMCA has many shortcomings and unintended consequences. It is more disturbing that the statute may have imposed these costs and burdens on society without bringing significant benefits to copyright holders.

B. *The International Regime*

While the DMCA is problematic at the domestic level, it is even more harmful at the international level. In general, due to the territorial nature of intellectual property rights, the DMCA does not have any significant extraterritorial effects. As a result, the DMCA is usually not applicable to foreign nationals unless and until they conduct business in the United States—a painful lesson Dmitry Sklyarov and his former employer ElcomSoft have learned.¹³⁴

In recent years, however, the United States has actively pushed for bilateral and plurilateral treaties that seek to achieve “a standard of protection similar to that found in United States law.”¹³⁵ Thanks to these agreements, an anticircumvention regime that is modeled after the DMCA has now been exported to foreign countries. Indeed, the DMCA has emerged as the international standard for the implementation of the WIPO Internet Treaties. Article 15.5.7 of the Central America-Dominican Republic Free Trade Agreement, for example, transplanted the DMCA onto the soils of Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua.¹³⁶ Similar provisions

132. von Lohmann, *supra* note 41, at 645.

133. See, e.g., *id.* at 645-46 (discussing the various features that make DVDs successful in the face of darknet competition); Peter S. Menell, *Envisioning Copyright Law's Digital Future*, 46 N.Y. L. SCH. L. REV. 63, 123-25 (2002) (highlighting the unique structure of the film industry); Peter K. Yu, *The Copyright Divide*, 25 CARDOZO L. REV. 331, 426-27 (2003) (discussing how the differences between the movie and music industries may have impacted on the volume of illegal online file sharing).

134. The creation of ElcomSoft's software, which removed security protection from Adobe e-books, was not illegal under Russian Law. However, Sklyarov was arrested in the United States in July 2001, after giving a presentation at a computer hacker convention. His Moscow-based employer was subsequently criminally prosecuted. In December 2002, a federal jury acquitted ElcomSoft of all charges. For a symposium discussing the criminal lawsuit against Sklyarov, see *Sklyarov Symposium Transcript*, *supra* note 62.

135. Bipartisan Trade Promotion Authority Act of 2002, 19 U.S.C. § 3802(b)(4)(A)(i)(II) (2004) (stating that one of the principal negotiating objectives of the free trade agreements is to “ensur[e] that the provisions of any multilateral or bilateral trade agreement governing intellectual property rights that is entered into by the United States reflect a standard of protection similar to that found in United States law”).

136. Central America-Dominican Republic Free Trade Agreement, May 28, 2004, art. 15.5.7 [hereinafter CAFTA-DR], available at http://www.ustr.gov/assets/Trade_Agreements/Bilateral/CAFTA/CAFTA-DR_Final_Texts/asset_upload_file934_3935.pdf.

are found in all of the other free trade agreements the United States has reached in recent years—with Australia, Bahrain, Chile, Jordan, Morocco, Oman, and Singapore.¹³⁷

Even worse for these countries, the protection under the free trade agreements is often stronger than what is required under the DMCA. This type of DMCA-plus legislation is particularly troublesome because less developed countries actually need to have greater access to information and knowledge than their developed counterparts. While the anticircumvention regime required by the agreements still includes many narrow exceptions commonly found in the DMCA, it omits other important ones and has made it more difficult for the signatory countries to introduce new exceptions.¹³⁸ For example, the Central America-Dominican Republic Free Trade Agreement allows for exceptions for noninfringing uses of a copyrighted work only

when an actual or likely adverse impact on those noninfringing uses is demonstrated in a legislative or administrative proceeding by substantial evidence; provided that in order for any such exception to remain in effect for more than four years, a Party must conduct a review before the expiration of the four-year period and at intervals of at least every four years thereafter, pursuant to which it is demonstrated in such a proceeding by substantial evidence that there is a continuing actual or likely adverse impact on the particular noninfringing use.¹³⁹

To be certain, this “substantial evidence” standard is similar to the one adopted by the Copyright Office in the first DMCA rulemaking pro-

137. See, e.g., United States-Australia Free Trade Agreement, May 18, 2004, U.S.-Austl., art. 17.4.7, available at http://www.ustr.gov/assets/Trade_Agreements/Bilateral/Australia_FTA/Final_Text/asset_upload_file469_5141.pdf; Agreement Between the Government of the United States of America and the Government of the Kingdom of Bahrain on the Establishment of a Free Trade Area, Sept. 14, 2004, U.S.-Bahrain, art. 14.4.7, available at http://www.ustr.gov/assets/Trade_Agreements/Bilateral/Bahrain_FTA/final_texts/asset_upload_file211_6293.pdf; United States-Chile Free Trade Agreement, June 6, 2003, U.S.-Chile, art. 17.7.5, available at http://www.ustr.gov/assets/Trade_Agreements/Bilateral/Chile_FTA/Final_Texts/asset_upload_file912_4011.pdf; Agreement Between the United States of America and the Hashemite Kingdom of Jordan on the Establishment of a Free Trade Area, Oct. 24, 2000, U.S.-Jordan, art. 4.13, available at http://www.ustr.gov/Trade_Agreements/Bilateral/Jordan/Section_Index.html; United States-Morocco Free Trade Agreement, June 15, 2004, U.S.-Morocco, art. 15.5.8, available at http://www.ustr.gov/assets/Trade_Agreements/Bilateral/Morocco_FTA/Final_Text/asset_upload_file797_3849.pdf; Agreement Between the Government of the United States of America and the Government of the Sultanate of Oman on the Establishment of a Free Trade Area, Jan. 19, 2006, U.S.-Oman, art. 15.4.7, available at http://www.ustr.gov/assets/Trade_Agreements/Bilateral/Oman_FTA/Final_Text/asset_upload_file715_8809.pdf; United States-Singapore Free Trade Agreement, May 6, 2003, U.S.-Sing., art. 16.4.7, available at http://www.ustr.gov/assets/Trade_Agreements/Bilateral/Singapore_FTA/Final_Texts/asset_upload_file708_4036.pdf. For a recent discussion of some of these agreements, see Anupam Chander, *Exporting DMCA Lockouts*, 54 CLEV. ST. L. REV. 205, 212-16 (2006).

138. Compare CAFTA-DR, *supra* note 136, art. 15.5.7, with 17 U.S.C. § 1201(c)-1201(j).

139. CAFTA-DR, *supra* note 136, art. 15.5.7(e)(iii).

ceeding in 2000.¹⁴⁰ However, the standard successfully shifts the burden of proof governments of less developed countries usually adopt when determining whether they need to introduce new exceptions and limitations to the copyright system. To some extent, it reminds one of David McGowan's observation that "the legal endgame [has now become one that] place[s] the burden of proof on the other side."¹⁴¹ Because less developed countries now have to "prove the unprovable facts,"¹⁴² they are less likely to be able to introduce exceptions to protect noninfringing uses.

To help understand why an international anticircumvention regime is more harmful than its domestic counterpart, this Part discusses the serious mismatch between the regime and the local conditions of less developed countries, the insufficient empirical evidence needed to demonstrate the need or expediency of such a regime, and the greater unintended consequences created by the regime for less developed countries. This Part also explains how an international anticircumvention regime may ultimately backfire on the United States when it forces other countries to expand their domestic protection without providing significant benefits in return.

1. Mismatch with Local Conditions

To begin with, the DMCA was designed specifically to deal with the threat created by digital technologies under conditions specific to the United States, including the stage of its economic development, the structure of its content and communications industries, the state of available technology, the overall market conditions, and the average living standards of local consumers. Because these conditions are unlikely to be present in less developed countries, the DMCA serves as an inappropriate model for the implementation of the WIPO Internet Treaties. In fact, the U.K. Commission on Intellectual Property Rights has advised against the adoption of similar legislation by less developed countries. As the Commission stated in its final report:

We believe developing countries would probably be unwise to endorse the WIPO Copyright Treaty, unless they have very specific reasons for doing so, and should retain their freedom to legislate on technological measures. It follows that developing countries, or indeed other developed countries, should not follow the example of the DMCA in forbidding all circumvention of technological protection. In particular, we take the view that legislation such as the DMCA

140. See Copyright Office, Library of Congress, Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. 64,556, 64,558-59 (2000) (discussing the respective burdens of proponents and opponents of any classes of works to be exempted from the prohibition on circumvention).

141. McGowan, *supra* note 5, at 2.

142. *Id.*

shifts the balance too far in favour of producers of copyright material at the expense of the historic rights of users. Its replication globally could be very harmful to the interests of developing countries in accessing information and knowledge they require for their development.¹⁴³

It is important to remember that the DMCA is not the only way, but one of the *many* possible ways, to implement the WIPO Internet Treaties. As Ian Kerr, Alana Maurushat, and Christian Tacit noted:

it is clear that there is no singular correct approach to interpreting articles 11 [of the WCT] and 18 [of the WPPT]. The *WCT* and *WPPT* provide WIPO Members with large degrees of latitude as to how a particular state might choose to fulfill its obligations with respect to the relevant provisions. Consequently, there is considerable flexibility as to how [each country] might implement these provisions, should the Government elect to ratify the two WIPO Treaties.¹⁴⁴

Thus, countries can comply with the treaties without ever introducing an anticircumvention regime. In the context of the United States, for example, Pamela Samuelson contended that “the DMCA was largely unnecessary to implement the WIPO Copyright Treaty because U.S. law already complied with all but one minor provision of that treaty [concerning the protection of the integrity of rights management information].”¹⁴⁵ Dan Burk cited the common law “doctrine of contributory infringement, which attributes copyright liability to providers of technical devices that lack a substantial noninfringing use.”¹⁴⁶ Indeed, in light of the substantial overlap between the treaty and then-existing U.S. law, “the Clinton Administration initially considered whether the WIPO Copyright Treaty might even be sent to the Senate for ratification ‘clean’ of implementing legislation.”¹⁴⁷

Even if anticircumvention protection is needed, the DMCA may not serve as a good model. As Jessica Litman noted, “[a]ll the [WCT] required, and all that made policy sense, was to give copyright owners remedies against people who circumvented technological protection in aid of infringement and redress against others—including device makers

143. IPR COMMISSION REPORT, *supra* note 77, at 108.

144. Kerr et al., *supra* note 45, at 36; *see also* Geist, *supra* note 100, at 214 (arguing that “there is a fairly diverse array of implementing provisions, demonstrating that the US model found in the *Digital Millennium Copyright Act*, is but one approach open to Canada”).

145. Samuelson, *Intellectual Property and the Digital Economy*, *supra* note 44, at 521 & n.10; *see also* Kerr et al., *supra* note 45, at 36 (stating that “article 11 of the *WCT* does not require anti-circumvention measures to be integrated into copyright legislation”).

146. Burk, *Anticircumvention Misuse*, *supra* note 102, at 1103. *But see* 3 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 12A.01[C] (Perm. ed. 2006) (explaining why the *Sony* standard of being “capable of a commercially significant noninfringing use” may not meet the treaty requirement of providing “adequate legal protection and effective legal remedies against circumvention”).

147. Samuelson, *Intellectual Property and the Digital Economy*, *supra* note 44, at 530.

and sellers—who deliberately facilitated circumvention for an infringing purpose.”¹⁴⁸ Likewise, Coenraad Visser reminded us that the treaty “is much more limited than the wording of the DMCA. It does not strike at manufacturing devices; it strikes only at the actual circumvention.”¹⁴⁹

In fact, from Australia to Japan, countries have implemented the WIPO Internet Treaties differently.¹⁵⁰ Likewise, the EU Information Society Directive, which sought to implement the treaties, differs from the DMCA in providing an additional requirement that each member state

take appropriate measures to ensure that rightholders make available to the beneficiary of [the specified] exception or limitation provided for in national law . . . the means of benefiting from that exception or limitation, to the extent necessary to benefit from that exception or limitation and where that beneficiary has legal access to the protected work or subject-matter concerned.¹⁵¹

Some commentators even suggested that the treaties can be implemented by adopting legislation outside the copyright system (and the greater copyright system that includes paracopyright laws). Ian Kerr and others, for example, noted that the protection of technological measures “could be dealt with in other kinds of legislation, such as criminal law or competition law.”¹⁵²

Moreover, although the digital revolution affects both developed and less developed countries, these countries face different challenges and obtain different benefits from the opportunities created by the Internet and new media technologies. While the Internet serves mainly as a communication medium or a commercial marketplace for the United States and other developed countries, it provides for many less developed countries an important leapfrogging tool to catch up with their more developed counterparts.¹⁵³ To take advantage of this leapfrogging tool, less developed countries pushed aggressively for the recognition of the importance of access to information and knowledge in the recent World Summit on the Information Society.¹⁵⁴ In that forum, and elsewhere,

148. LITMAN, *supra* note 14, at 132.

149. *Sklyarov Symposium Transcript*, *supra* note 62, at 854 (remarks of Professor Coenraad Visser of the University of South Africa).

150. *See* Kerr et al., *supra* note 45, at 58-60 (discussing anticircumvention regimes in Australia and Japan).

151. Directive 2001/29/EC of the European Parliament and of the Council on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society art. 6(4), 2001 O.J. (L 167) 10.

152. Kerr et al., *supra* note 45, at 36-37.

153. *See* Peter K. Yu, *Bridging the Digital Divide: Equality in the Information Age*, 20 CARDOZO ARTS & ENT. L.J. 1, 9 (2002) (contending that “[t]he information revolution also might allow the less developed countries to catch up with the developed countries by leapfrogging stages of technological, industrial, and infrastructural development”).

154. *See* World Summit on the Information Society, Dec. 10-12, 2003, Declaration of Principles, U.N. Doc. WSIS-03/GENEVA/DOC/4-E (Dec. 12, 2003), *available at*

they have also questioned the compatibility of intellectual property protection with their development goals.¹⁵⁵ Their position is understandable. As James Boyle noted in the early days of the Internet, “[t]he intellectual property regime could make or break the educational, political, scientific, and cultural promise of the Net.”¹⁵⁶ Thus, strong intellectual property protection not only may not be in the interest of less developed countries, but may take away their rare opportunities to catch up with their more developed counterparts.

To make matters worse, the DMCA is based on three assumptions that may be invalid in the less developed world. The first assumption concerns the claim that most works will exist in both DRM and non-DRM formats. If consumers are unhappy with the protected format, or if that format prevents users from enjoying noninfringing uses, they can always switch to an identical product in an unprotected format.¹⁵⁷ In *United States v. Elcom Ltd.*,¹⁵⁸ for example, the court reminded us that the DMCA “does not ‘prevent access to matters in the public domain’ or allow any publisher to remove from the public domain and acquire rights in any public domain work.”¹⁵⁹ Rather, it allows copyright holders to “gain[] a technological protection against copying *that particular electronic version* of the work.”¹⁶⁰

While the *Elcom* court’s assumption that copyrighted works are always available in both protected and unprotected formats is invalid even in developed countries,¹⁶¹ it is particularly problematic in the less devel-

http://www.itu.int/dms_pub/itu-s/md/03/wsis/doc/S03-WSIS-DOC-0004!!PDF-E.pdf; World Summit on the Information Society, Nov. 16-18, 2005, Tunis Agenda for the Information Society, WSIS-05/TUNIS/DOC/6(Rev. 1)-E (Nov. 18, 2005), available at <http://www.itu.int/wsis/docs2/tunis/off/6rev1.html>.

155. For an excellent discussion of how to recalibrate intellectual property protection in light of the development concept, see generally Margaret Chon, *Intellectual Property and the Development Divide*, 27 CARDOZO L. REV. 2821 (2006).

156. James Boyle, *A Politics of Intellectual Property: Environmentalism for the Net?*, 47 DUKE L.J. 87, 89 (1997).

157. See Copyright Office, Library of Congress, Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. 64,556, 64,558 (2000) (considering a mitigating factor “when a work as to which the copyright owner has instituted a technological control is also available in formats that are not subject to technological protections”); Reese, *supra* note 108, at 653 (“Motion pictures . . . are today often available both on DVD, protected by CSS, and on videocassette, unprotected by CSS, perhaps alleviating some concerns about the difficulty a consumer might have in circumventing CSS to engage in noninfringing use of a film that she owns on DVD”); *Sklyarov Symposium Transcript, supra* note 62, at 841-44 (discussing whether consumers can exercise fair use despite strong DRM systems); *id.* at 841 (observing that “a lot of these e-books will be published as normal, printed books”) (remarks of Eric Smith of the International Intellectual Property Alliance); *id.* at 842 (stating that “absolutely nothing under the law stops you from displaying the text on the screen and sitting there and typing into your own hard drive whatever portions of the book you want to type in”) (remarks of Bruce Lehman, former Assistant Secretary of Commerce and Commissioner of the U.S. Patent and Trademark Office).

158. 203 F. Supp. 2d 1111 (N.D. Cal. 2002).

159. *Elcom*, 203 F. Supp. 2d at 1131.

160. *Id.* (emphasis added).

161. See Copyright Office, Library of Congress, Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. 64,556, 64,558

oped world,¹⁶² which faces an acute shortage of copyrighted works. As the U.K. Commission on Intellectual Property Rights observed:

In the tertiary sector, the evidence indicates that access to books and other materials for education and research remains a critical problem in many developing countries, particularly the poorest. Most developing countries remain heavily dependent on imported textbooks and reference books, as this sector is often not commercially feasible for struggling local publishers to enter. The prices of such books are beyond the means of most students.¹⁶³

Even worse, a copy-protected copy on the Internet sometimes may be the only available copy. Even materials that are in the public domain of developed countries may not be available in those countries.

Moreover, although the WIPO Internet Treaties, the DMCA, and similar anticircumvention laws do not extend to public domain materials, it is naïve to assume that these materials are always freely available.¹⁶⁴ Today, public domain works are increasingly bundled with copyrighted materials, such as copyrighted introduction or editorial comments.¹⁶⁵ As

(2000) (reporting that commenters have submitted a number of databases and indexes “that were available only in digital form”). *But see* Stefan Bechtold, *Digital Rights Management in the United States and Europe*, 52 AM. J. COMP. L. 323, 363 (2004) [hereinafter Bechtold, *Digital Rights Management*] (“DRM systems will never be able to cordon off content completely. File-sharing networks will continue to exist, movies and photos can be captured from a computer screen, and music can be re-recorded from a loudspeaker.”).

162. Challenging this position, Jane Ginsburg suggested that the assumption that works will be available only in encrypted formats “may be more true for some works, such as software, digital sound recordings, and databases, than for others, such as books and other literary works.” Ginsburg, *Copyright Legislation*, *supra* note 14, at 153-54. She also explained that “many documents (frequently composed of noncopyrightable information) have been the objects of limited distribution and site licenses or shrink-wrap licenses that contractually limit the library’s or user’s ability to dispose of the information disclosed in the document.” *Id.* at 153 n.52. Nevertheless, it remains debatable whether these licenses would hold up in court. In addition, Professor Ginsburg pointed out that “copyright owners may not choose to restrict access to every copy, . . . [and that] copies will often still be available for anonymous consultation (and limited copying) in places such as public libraries (who, under the analysis offered earlier, are entitled to circumvent access and anti-copying codes, under appropriate circumstances).” *Id.* at 154.

163. IPR COMMISSION REPORT, *supra* note 77, at 103.

164. Examples that easily come to mind are the public domain materials included in Lexis-Nexis and Westlaw databases and those public domain movies shown on subscription-based cable television channels. To these content providers, “what is being sold is not the work itself but rather, the service of delivering it.” MARK STEFIK, *THE INTERNET EDGE: SOCIAL, LEGAL, AND TECHNOLOGICAL CHALLENGES FOR A NETWORKED WORLD 94* (1999).

165. As Alfred Yen described:

Bundling happens all the time. History books contain copies of the Constitution and letters by historical figures that have passed into the public domain. Telephone books contain both copyrightable yellow pages and uncopyrightable white pages. Law school casebooks combine the copyrightable commentary of authors with public domain cases. If such works were to be distributed in digital form, then the publishers could implement DRM schemes that limit the uses a digital reader could make of these works. The DRM scheme might not allow any printing of the book, or it might not allow any copying of the book. It might even restrict the number of times a person can read the book.

Yen, *supra* note 71, at 674; accord NIMMER & NIMMER, *supra* note 146, §12A.06[B][1] (stating that “[p]ublishers are free to take old works that have fallen into the public domain, to add a bit of original material to them, and to claim a copyright in the newly released whole” (footnote omitted));

a result, the bundled materials, including both the copyrighted and public domain portions, will be protected by technological measures supported by the anticircumvention regime.¹⁶⁶ Because many less developed countries lack a choice of materials in both protected and unprotected formats, sophisticated DRM systems “may exclude access to these materials altogether and impose a heavy burden that will delay the participation of those countries in the global knowledge-based society.”¹⁶⁷

The second assumption concerns the availability of decryption tools or technological expertise to perform the needed circumvention as allowed under the narrowly-crafted exceptions. Because of their inevitable dual-use nature and the continued merger of access-control and use-control technologies,¹⁶⁸ decryption tools are unlikely to be widely available. The limited Internet connectivity in many of these countries has also reduced access to these tools, although such access will increase as connectivity improves.

Even if the needed decryption tools are available, it is very likely that these tools or related services will have to be imported into less developed countries until they can develop their own technological expertise. Less developed countries are therefore at the mercy of their developed counterparts. If circumvention technologies are banned in the exporting developed countries, less developed countries may not be able to obtain access to protected works even if they manage to obtain an exception in the international intellectual property agreements to prevent the decryption tools or services from being outlawed in their own countries.

Burk, *Anticircumvention Misuse*, *supra* note 102, at 1108 (stating that “copyrightable content is typically mixed with uncopyrightable content, which will also be under the control of the technological protection system”); *see also* Nimmer, *A Riff on Fair Use*, *supra* note 44, at 712 (stating that “[p]ublishers are free to take old works that have fallen into the public domain, to add a bit of original material to them, and to claim a copyright in the newly released whole” (footnote omitted)).

166. In addition to technological measures, restrictive licenses have also been employed to protect these works (and other copyrighted works). The adverse impact of these licenses, however, is likely to be less severe than that of technological measures due to the underdeveloped legal systems and lax enforcement of laws in many of these countries. The law concerning the enforceability of shrinkwrap and clickwrap mass market licenses is also unsettled and varies from country to country.

167. IPR COMMISSION REPORT, *supra* note 77, at 106.

168. As Professor Lunney explained:

Dealing with decryption technology is difficult because the same decryption technology that enables the making of a non-infringing copy of a creative work also enables the making of an infringing copy. A decryption tool that enables a teacher to prepare a few spur-of-the-moment copies for the classroom is the same decryption tool that enables a pernicious pirate to duplicate the work for resale. Moreover, unless lawful access to decryption technology is severely restricted, the widespread dissemination of decryption technology is almost inevitable. Because decryption technology is usually readily portable and easily duplicated, it will likely prove impossible to contain. If every librarian, teacher, or researcher with a potential fair use claim is allowed to possess decryption technology, it will be all but impossible to keep the technology out of the hands of those who intend unlawful uses.

Lunney, *supra* note 15, at 820; *see also* Burk, *Anticircumvention Misuse*, *supra* note 102, at 1106 (stating that “enacting a sweeping blanket prohibition with discrete exceptions is a foolish approach to legislation covering multipurpose technologies”).

To some extent, the plight of less developed countries in the circumvention area is similar to the access-to-medicines problems they currently experience. Lacking the technical capacity to develop or manufacture drugs, these countries often have to import pharmaceutical products from abroad—regardless of whether these products are on- or off-patent. While there is no doubt that the access-to-medicines problem has an immediate and arguably more severe impact, the access-to-circumvention-tools problem will touch on education and cultural development and will therefore have a more lasting impact.

To deal with the access-to-medicines problem, the WTO member states have adopted a proposal to amend the Agreement on Trade-Related Aspects of Intellectual Property Rights¹⁶⁹ (“TRIPs Agreement”) to allow member states with insufficient or no manufacturing capacity to import generic versions of on-patent pharmaceuticals.¹⁷⁰ If DRM systems are widely deployed throughout the world and if they have prevented people in less developed countries from having access to basic educational and research materials, a similar exception may be needed to enlarge access to the needed circumvention tools or services.¹⁷¹ Indeed, many international intellectual property treaties already contain technology transfer and technical assistance provisions that can be easily extended to these tools. Article 67 of the TRIPs Agreement, for example, requires developed countries to provide technical and financial cooperation to less and least developed countries “on request and on mutually agreed terms and conditions.”¹⁷²

The final assumption states that the DMCA only creates inconvenience. As the United States Court of Appeals for the Second Circuit declared in *Universal City Studios, Inc. v. Corley*,¹⁷³ it “kn[e]w of no au-

169. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, LEGAL INSTRUMENTS—RESULTS OF THE URUGUAY ROUND, 33 I.L.M. 1197 (1994) [hereinafter TRIPs Agreement].

170. See Council for Trade-Related Aspects of Intellectual Property Rights, *Implementation of Paragraph 11 of the General Council Decision of 30 August 2003 on the Implementation of Paragraph 6 of the Doha Declaration on the TRIPs Agreement and Public Health: Proposal for a Decision on an Amendment to the TRIPs Agreement*, IP/C/41 (Dec. 6, 2005), available at http://www.wto.org/english/news_e/news05_e/trips_decision_e.doc. For a discussion of proposed article 31bis of the TRIPs Agreement, see generally Peter K. Yu, *The International Enclosure Movement*, 82 IND. L.J. (forthcoming 2007), <http://ssrn.com/abstract=896134>.

171. Scholars have advanced proposals to amend domestic circumvention laws to facilitate the provision of this type of assistance. See, e.g., Lipton, *Solving the Digital Piracy Puzzle*, *supra* note 71, at 120 (advancing a proposal to develop an administrative complaint mechanism to assist individuals who seek to obtain legitimate uses of copyrighted works); Tian Yijun, *Problems of Anti-Circumvention Rules in the DMCA & More Heterogeneous Solutions*, 15 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 749, 785 (2005) (stating that “a future DMCA amendment should provide specific legal mechanisms to help eligible users obtain necessary circumvention assistance from the appointed government agency when these users are not capable of circumventing the technological protection measures by themselves”).

172. TRIPs Agreement, *supra* note 169, art. 67.

173. 273 F.3d 429 (2d Cir. 2001).

thority for the proposition that fair use, as protected by the Copyright Act, much less the Constitution, guarantees copying *by the optimum method or in the identical format of the original*.¹⁷⁴ Likewise, in *United States v. Elcom Ltd.*,¹⁷⁵ the court explained that fair use is still available even though “[t]he fair user may find it more difficult to engage in certain fair uses with regard to electronic books.”¹⁷⁶ These observations were similar to the position articulated by Jesse Feder when he was the Acting Associate Register for Policy and International Affairs of the United States Copyright Office: “[T]he ability to make a perfect digital reproduction of something is not something that is inherent in fair use. Fair use entails copying, but it does not have to be a perfect digital reproduction.”¹⁷⁷

From the perspectives of the proponents, judges, and officials, the DMCA has adequately preserved the users’ ability to obtain legitimate access through traditional analog means even though it may have reduced consumer convenience.¹⁷⁸ Consumers may not be able to make copies “by the optimum method or in the identical format of the original.”¹⁷⁹ However, they can always do so by employing analog fixation devices and techniques—sometimes as simple as the use of pen and paper. As the Second Circuit noted in *Corley*, the DMCA continues to allow one

to make a variety of traditional fair uses of DVD movies, such as commenting on their content, quoting excerpts from their screenplays, and even recording portions of the video images and sounds on film or tape by pointing a camera, a camcorder, or a microphone at a monitor as it displays the DVD movie.¹⁸⁰

What the court did not mention is that the use of these analog tools and techniques “will often be costly or impractical.”¹⁸¹ As Alfred Yen

174. *Corley*, 273 F.3d at 459 (emphasis added).

175. 203 F. Supp. 2d 1111 (N.D. Cal. 2002).

176. *Elcom*, 203 F. Supp. 2d at 1134-35.

177. *Sklyarov Symposium Transcript*, *supra* note 62, at 843-44 (remarks of Jesse Feder, former Acting Associate Register for Policy and International Affairs of the United States Copyright Office).

178. Jane Ginsburg questioned whether, “[w]hen the public increasingly expects to acquire works with a click of a mouse, . . . the law should stand back while third-party entrepreneurs endeavor to make works available without authorization in the most copy-convenient format (and without compensation for resulting copies)?” Ginsburg, *Copyright Legislation*, *supra* note 14, at 154. Bruce Lehman went even further to remark that he did not believe that the DMCA has made it inconvenient for consumers to exercise fair use. As he stated, “It is not more cumbersome at all. It is just exactly the same as it has always been.” *Sklyarov Symposium Transcript*, *supra* note 62, at 844 (remarks of Bruce Lehman, former Assistant Secretary of Commerce and Commissioner of the U.S. Patent and Trademark Office).

179. *Corley*, 273 F.3d at 459.

180. *Id.*

181. Yen, *supra* note 71, at 678; *see also* Landau, *supra* note 110, at 298 (stating that “[a]lthough ‘fair use’ does not guarantee the making of the most efficient copies, the DMCA should not mandate the most inefficient”).

pointed out, these alternatives sometimes require the purchase of analog equipment as well as the technical expertise to set up such equipment.¹⁸² The inferior results of analog reproduction also raise the question “[w]hy should the rights holders benefit from the new opportunities of DRM systems in order to protect their legitimate interests, while the beneficiaries of a copyright limitation have to fall back on an inferior and sometimes outdated version of the work in order to carry out their legitimate interests?”¹⁸³

Moreover, inconvenience in one nation may be inaccessibility in another. Due to limited resources and the lack of infrastructure development in many less developed countries, inconvenience can become such a heavy burden that would eliminate access entirely.¹⁸⁴ As June Besek noted in the Kernochan Center report, “there is a continuum between ‘inconvenient’ and ‘impossible.’ There may well be circumstances in which the exercise of a privilege is so inconvenient as to be impossible, as a practical matter.”¹⁸⁵

Finally, there is no guarantee that the traditional analog means of noninfringing uses will always be available in the near future. “[S]ome copyright owners [already] have expressed a desire to use technology, perhaps backed by legal requirements, to ‘plug the analog hole’ and prevent such copying of copyrighted works.”¹⁸⁶ If the analog hole is plugged, or severely shrunk, anticircumvention legislation is more than a mere inconvenience.

2. Lack of Empirical Evidence

Thus far, there has been insufficient empirical proof to conclusively demonstrate whether an anticircumvention regime will be expedient, or even needed, in less developed countries. There has also been limited evidence about whether the extensive use of DRM systems would benefit these countries. On the one hand, due to lax enforcement of intellectual property laws, these systems, along with strong anticircumvention protection, will provide foreign rights holders with the needed protection to make the products available in the first place. If they decide to relocate their manufacturing plants to take advantage of the lower labor, production, and distribution costs, such protection will also help bring the desperately needed foreign direct investments. In countries that have wide digital distribution of culture-based materials, DRM systems may even

182. See Yen, *supra* note 71, at 679 (stating that the use of video camera to make fair use of DVDs “requires the purchase of an appropriate camera and the effort of setting up the camera so that a serviceable image can be captured”).

183. Bechtold, *Digital Rights Management*, *supra* note 161, at 363.

184. Thanks to Mark Schultz for reminding me of this important point.

185. Besek, *supra* note 36, at 481.

186. Reese, *supra* note 108, at 653; see also Susan P. Crawford, *The Biology of the Broadcast Flag*, 25 HASTINGS COMM. & ENT. L.J. 603, 618-21 (2003) (providing an overview of the “analog hole”).

help protect the integrity of those materials. Such protection therefore would benefit the local people if it would not make the materials unaffordable.

On the other hand, as pointed out above, the deployment of sophisticated DRM systems will make the products expensive and inaccessible to a large number of people in these countries. While in theory DRM systems allow for price discrimination, in reality foreign rights holders rarely do so, for at least two reasons. First, many of them are concerned that the discounted products would flow back as parallel imports to their primary markets in the developed world and emerging economies.¹⁸⁷ Second, because of highly uneven distribution of wealth in these countries, foreign content providers may choose to price their products based on the demand of the “more affluent minority,” rather than the larger and poorer majority.¹⁸⁸ Thus, instead of providing greater consumer choices and cheaper products, the widespread deployment of DRM systems will generally reduce access to materials that are needed for education, science, and cultural development.

One may still argue that the use of DRM systems will encourage people in less developed countries to consume local products that are not in copy-protected formats. Although this argument is valid in some cases, it is unlikely that the benefits accrued from such diversion would outweigh the costs of reduced access. After all, the high prices of foreign products also encourage people in less developed countries to consume the cheaper, local products. However, it would be difficult to argue that these countries should encourage high prices for foreign products for that particular reason. Moreover, there may not always be local alternatives for the needed products. Nor may there always be alternatives in unprotected format. With increased globalization and the demand generated by the “more affluent minority” in these countries, many

187. See Yu, *The Copyright Divide*, *supra* note 133, at 436 (noting the concern of backflow of discounted products as parallel imports).

188. This reason, indeed, is one of the primary reasons why price discrimination of pharmaceuticals does not occur in many less developed countries. See F.M. SCHERER & JAYASHREE WATAL, *POST-TRIPS OPTIONS FOR ACCESS TO PATENTED MEDICINES IN DEVELOPING COUNTRIES* 45 (Comm'n on Macroeconomics & Health, Working Paper No. WG4:1, 2001), available at http://www.cmhealth.org/docs/wg4_paper1.pdf; Patricia M. Danzon & Adrian Towse, *Theory and Implementation of Differential Pricing for Pharmaceuticals*, in *INTERNATIONAL PUBLIC GOODS AND TRANSFER OF TECHNOLOGY UNDER A GLOBALIZED INTELLECTUAL PROPERTY REGIME* 425, 455 (Keith E. Maskus & Jerome H. Reichman eds., 2005) (noting that “pricing in some [developed countries] is dominated by the demands of small, affluent populations, resulting in prices that are unaffordable to the majority of poorer people”); Keith E. Maskus, *Ensuring Access to Essential Medicines: Some Economic Considerations*, 20 *WIS. INT'L L.J.* 563, 566 (2002) (stating that “pharmaceutical firms and their distributors in poor countries may find it more profitable to sell drugs in low volumes and high prices to wealthier patients with price-inelastic demand rather than in high volumes at low prices to poorer patients”); Yu, *The International Enclosure Movement*, *supra* note 170 (explaining why pharmaceutical companies prefer not to price discriminate their products in less developed countries).

of the needed local products may even be copy-protected or manufactured by multinational corporations that seek to sell the products abroad.

In sum, there is no conclusive evidence that the use of DRM systems would benefit less developed countries. Without such evidence, it remains unclear whether an anticircumvention regime would be expedient, or even needed, in these countries. While strong anticircumvention protection may bring in some benefits—such as a potential increase in foreign investment and the protection of culture-based materials—it is likely to result in high prices and restricted access. In my view, the benefits of an anticircumvention regime to less developed countries are speculative and therefore would not outweigh its costs.

Even worse, such a regime may be a risky gamble that these countries cannot afford. If the anticircumvention regime does not strike an appropriate balance between proprietary interests and public access needs, it is likely to cause more damage to less developed countries than to their developed counterparts. Many less developed countries have neither the correction mechanisms nor the expertise or resources to introduce mechanisms to correct the imbalance.¹⁸⁹ In the developed world, commentators have proposed to adjust the balance of the anticircumvention regime by using the following correction mechanisms: antitrust or competition law,¹⁹⁰ the misuse doctrine,¹⁹¹ a mixed fair use infrastructure with automatic fair use defaults and a key escrow system,¹⁹² an administrative complaint mechanism and an appeal procedure,¹⁹³ a verification system based on gun control laws,¹⁹⁴ the provision of circumvention ser-

189. See IPR COMMISSION REPORT, *supra* note 77, at 4 which states that:

[W]e consider that, if anything, the costs of getting the IP system 'wrong' in a developing country are likely to be far higher than in developed countries. Most developed countries have sophisticated systems of competition regulation to ensure that abuses of any monopoly rights cannot unduly affect the public interest.

Id.; KEITH E. MASKUS, INTELLECTUAL PROPERTY RIGHTS IN THE GLOBAL ECONOMY 237 (2000) (noting that developed countries "have mature legal systems of corrective interventions" where "the exercise of IPRs threatens to be anticompetitive or excessively costly in social terms").

190. See, e.g., Bechtold, *Present and Future*, *supra* note 3, at 619 (stating that antitrust concerns need to be taken into account when analyzing DRM-related developments); Zohar Efroni, *A Momentary Lapse of Reason: Digital Copyright, the DMCA and a Dose of Common Sense*, 28 COLUM.-VLA J.L. & ARTS 249, 266 (2005) (noting that "grounds for constraining the power to prohibit access might be found in legal sources external to copyright law, for instance, in antitrust law"); Geist, *supra* note 100, at 246-48 (proposing to respond to the introduction of anticircumvention protection by making parallel amendments to the Canadian Competition Act "to ensure that the Competition Bureau is not restricted in its ability to bring actions against abusive behaviour stemming from the application of an anti-circumvention right"); Lipton, *Solving the Digital Piracy Puzzle*, *supra* note 71, at 491 (stating that "[i]t is important that the DMCA does not become a tool for those engaging in potentially questionable tying practices to distract attention from their possible antitrust violations by claiming copyright and DMCA infringements against a commercial competitor").

191. See generally Burk, *Anticircumvention Misuse*, *supra* note 102; John R. Therien, Comment, *Exorcising the Specter of a "Pay-Per-Use" Society: Toward Preserving Fair Use and the Public Domain in the Digital Age*, 16 BERKELEY TECH. L.J. 979, 1041-42 (2001).

192. See generally Burk & Cohen, *supra* note 45.

193. See generally Lipton, *Solving the Digital Piracy Puzzle*, *supra* note 71.

194. See generally Yen, *supra* note 71.

vice providers,¹⁹⁵ and the development of DRM systems that are engineered to protect the process of fair use.¹⁹⁶ All of these legal doctrines and infrastructures are likely to be costly and thus unavailable in the less developed world.

Indeed, many countries lack the needed resources and expertise to put in place *both* an anticircumvention regime and a follow-up correction mechanism. It is important to remember that many of these countries institute or revamp their intellectual property systems in the first place mainly because of the TRIPs Agreement or external pressure from the developed world, such as what they currently experience in their bilateral and plurilateral trade negotiations.¹⁹⁷ Oftentimes, they introduce reforms in the fear of losing trade benefits, export markets, and development aid.¹⁹⁸ If they had a choice to select the type of innovation systems they wanted to build, an anticircumvention regime would be very unlikely to be a top priority. After all, economists have shown empirically that countries with limited imitative capacity often do not benefit from a strong intellectual property regime.¹⁹⁹

Even if these countries have the needed expertise to introduce correction mechanisms after they completed their reforms, they may have exhausted their resources after strengthening the intellectual property system. Even worse, local policymakers may have used up their limited political capital for anticircumvention reforms, especially if the earlier reforms turn out to be unsuccessful.²⁰⁰ Under that scenario, local reformers will not only have to deal with resistance in the country and to justify the short-term economic losses, but they will also have lost credibility to introduce new reforms. After the failure of the earlier reforms, the resistance to the later reforms is likely to be severe even if the goals of those follow-up reforms are to correct the imbalance of the earlier ones.

195. See Besek, *supra* note 36, at 509-10 (discussing circumvention service providers).

196. See generally Timothy K. Armstrong, *Digital Rights Management and the Process of Fair Use*, 20 HARV. J.L. & TECH. (forthcoming 2006), http://ssrn.com/abstract_id=885371.

197. See Peter K. Yu, *TRIPS and Its Discontents*, 10 MARQ. INTELL. PROP. L. REV. 369, 373-75 (2006) (discussing the coercive narrative of the origins of the TRIPs Agreement). *But see* Edmund W. Kitch, *The Patent Policy of Developing Countries*, 13 UCLA PAC. BASIN L.J. 166 (1994) (suggesting that less developed countries agreed to stronger intellectual property protection because they found such protection in their self-interests). Although I agree with Professor Kitch's arguments about how the TRIPs Agreement can be in the self-interests of less developed countries, especially those with strong imitative capacities, I have serious doubts that these countries saw the strengthening of intellectual property standards as pursuits of their own self-interests during the TRIPs negotiations.

198. See Yu, *The International Enclosure Movement*, *supra* note 170; *see also* Frederick Abbott, *The Future of IPRs in the Multilateral Trading System*, in *TRADING IN KNOWLEDGE: DEVELOPMENT PERSPECTIVES ON TRIPS, TRADE AND SUSTAINABILITY* 36, 43 (Christophe Bellmann et al. eds., 2003) (stating that many less developed countries remain "highly dependent on the developed countries as the source of capital, whether it is provided through the IMF or World Bank, or through investment bankers and securities exchanges").

199. See, e.g., MASKUS, *supra* note 189, at 116-19.

200. See Yu, *The International Enclosure Movement*, *supra* note 170.

3. Unintended Consequences

An anticircumvention regime may create unintended consequences that would greatly hurt consumers in less developed countries. For example, it may require new supporting technology and equipment that may be nonexistent or highly unaffordable in less developed countries. Even in the developed world, consumer advocates have been worried that the introduction of copy-protected CDs, which may not be playable on older car stereos, personal computers, and CD players, may force consumers to buy new hardware they do not otherwise need or cannot afford. Indeed, when Sony released Celine Dion's album as an encrypted CD in 2002, consumer advocates called for record companies to properly label those CDs to avoid confusion and to allow consumers to choose away from those products.²⁰¹ Two California consumers even filed a class action lawsuit against the major record labels.²⁰²

While it is already problematic in developed countries to require consumers to purchase new devices that support the technological measures employed, it would be particularly disturbing if the anticircumvention regime required consumers in less developed countries to purchase new end devices that they could not find or afford. By definition, less developed countries have few resources, and people there have very limited disposable income. Some may even have a difficult time meeting such basic needs as clean drinking water, food, shelter, electricity, schools, and basic health care. While it is hard, though not impossible, to explain why people in such circumstances need copyrighted Hollywood movies or popular music, technological measures have also been used to restrict access to basic educational products and research materials. Thus, an anticircumvention regime that renders household products obsolete is likely to have a very significant impact on less developed countries—much greater than the impact on its developed counterparts.

4. Backdoor Lawmaking

The anticircumvention regime that the United States exported abroad may come back to haunt the American people.²⁰³ The WIPO Internet Treaties are a good example of what I have called “backdoor lawmaking”—a process of outsourcing the legislative process to an in-

201. See George Cole, *Celine Dion and the Copycats*, FIN. TIMES, July 19, 2002, at 11; Kevin Hunt, *Record Industry Opens Attack on Consumer Rights*, HARTFORD COURANT, May 23, 2002, at 21; Peter K. Yu, *How the Motion Picture and Recording Industries Are Losing the Copyright War by Fighting Misdirected Battles*, FINDLAW'S WRIT: LEGAL COMMENTARY, http://writ.news.findlaw.com/commentary/20020815_yu.html (Aug. 15, 2002).

202. See Jon Healey & Jeff Leeds, *Record Labels Grapple with CD Protection*, L.A. TIMES, Nov. 29, 2002, 3, at 1 (reporting that “two California consumers . . . have filed a class-action lawsuit against the five major record companies, alleging that copy-protected CDs are defective products that shouldn't be allowed on the market”).

203. Anupam Chander recently published an article expressing similar concerns. See Chander, *supra* note 137, at 206 (expressing concern that the United States “may be exporting our all-too-narrow vision of intellectual property to many of our trading partners”).

ternational forum of unelected representatives in an effort to create laws that the domestic legislature would not have otherwise enacted.²⁰⁴ This type of lawmaking is rent seeking at its best.

As far as anticircumvention protection is concerned, there are two different sets of backdoors—or “double backdoors” as I have sometimes called them. The United States began by going to a multilateral forum—WIPO in this case²⁰⁵—to create international standards based on laws that its domestic legislature was reluctant to enact (first backdoor).²⁰⁶ These resulting standards traveled back to the United States in the form of international obligations that provided the needed momentum for the enactment of the DMCA. Then, it used bilateral or plurilateral free trade agreements to induce other countries that have yet to ratify or implement the WIPO Internet Treaties to enact laws that implement DMCA-like standards (second backdoor). Eventually, these bilateral or plurilateral standards will return to the United States to further affect its domestic legislative process. In both scenarios, harmonization and international legal obligations provided the domestic legislature with politically acceptable justifications to enact laws that it had originally deemed unappealing from the domestic standpoint. What is particularly disturbing is

204. As I noted earlier:

From the standpoint of democratic governance, these bilateral agreements are particularly problematic, because they seek to circumvent the political process by using “negotiation backdoors” through which government officials can achieve what these officials otherwise could not achieve before Congress. By pushing controversial legislation into international fora, these officials are more likely to secure international agreements that, in turn, would convince Congress to enact implementing legislation that would not be adopted in the first place.

Peter K. Yu, *Currents and Crosscurrents in the International Intellectual Property Regime*, 38 *LOY. L.A. L. REV.* 323, 397-98 (2004).

205. As Pamela Samuelson noted:

The digital agenda that Clinton administration officials pursued in Geneva was almost identical to the digital agenda they had put before the U.S. Congress during roughly the same time period. Notwithstanding the fact that this digital agenda had proven so controversial in the U.S. Congress that the bills to implement it were not even reported out of committee, Clinton administration officials persisted in promoting these proposals in Geneva and pressing for an early diplomatic conference to adopt them. For a time, it appeared that administration officials might be able to get in Geneva what they could not get from the U.S. Congress, for the draft treaties published by WIPO in late August 1996 contained language that, if adopted without amendment at the diplomatic conference in December, would have substantially implemented the U.S. digital agenda, albeit with some European gloss. Had this effort succeeded in Geneva, Clinton administration officials would almost certainly have then argued to Congress that ratification of the treaties was necessary to confirm U.S. leadership in the world intellectual property community and to promote the interests of U.S. copyright industries in the world market for information products and services.

Samuelson, *U.S. Digital Agenda*, *supra* note 89, at 373-74; *see also* LITMAN, *DIGITAL COPYRIGHT*, *supra* note 14, at 129 (suggesting that, because of domestic resistance, Commissioner Bruce Lehman of the United States Patent and Trademark Office “decided to attack the problem the other way around . . . [and] focused his attention on getting his agenda adopted by the WIPO member nations, reasoning that when the United States signed the treaty, Congress would be obliged to adopt implementing legislation in accord with the White Paper’s recommendations”).

206. WTO would be another possible forum. In the case of members of the European Union, Brussels would be a usual forum.

that these pressing international standards were unlikely to have existed in the first place had the initiating country not “outsourced” the legislative process.

Even if the domestic legislature were able to resist the temptation of introducing harmonizing legislation, these laws might still enter the country in the form of customary international law when a sufficient number of countries have adopted the controversial provisions in their bilateral or plurilateral agreements and have expressly and consistently recognized these provisions as legal norms governing their state conduct. Although Congress may override these customary laws through legislation, the potential of their influence on the domestic legislative and judicial processes and their ability to shape international discussion are not to be ignored.

Moreover, the international agreements and the network of bilateral and plurilateral treaties might affect the country’s international obligations by “form[ing] the context for” the interpretation of treaties the United States has signed.²⁰⁷ Because of the increasing overlap between intellectual property and other issue-areas,²⁰⁸ governments and international organizations increasingly look to these agreements as part of the overall framework in an effort to avoid future conflicts in international obligations. In *United States—Section 110(5) of the US Copyright Act*, for example, the WTO Dispute Settlement Panel noted the need “to seek contextual guidance . . . when developing interpretations that avoid conflicts within this overall framework, except where these treaties explicitly contain different obligations.”²⁰⁹ In short, an international anticircumvention regime is not only harmful to importing less developed countries, but also to the developed exporters, like the United States.

If that is not enough, the United States’ obligations under the free trade agreements may make it difficult and costly for the country to reduce protection later when it finds that the anticircumvention regime has overprotected. As Anupam Chander reminded us recently:

FTA [free trade agreements] obligations, it must be remembered, generally apply equally to the United States. Thus, it is possible that the United States could run afoul of its own FTAs. The FTAs are not term-limited, though they do permit withdrawal. Should we con-

207. See Ruth Okediji, *TRIPS Dispute Settlement and the Sources of (International) Copyright Law*, 49 J. COPYRIGHT SOC’Y U.S.A. 585, 602-04 (2001).

208. See, e.g., Kal Raustiala, *Density & Conflict in International Intellectual Property Law* 40 U.C. DAVIS L. REV. (forthcoming 2007), http://ssrn.com/abstract_id=914606 (discussing the “intellectual property regime complex”); Symposium, *The International Intellectual Property Regime Complex*, 2007 MICH. ST. L. REV. 1 (forthcoming).

209. Panel Report, *United States—Section 110(5) of the US Copyright Act* ¶ 6.70, WT/DS/160/R (June 15, 2000). For discussions of the dispute, see generally Graeme B. Dinwoodie, *The Development and Incorporation of International Norms in the Formation of Copyright Law*, 62 OHIO ST. L.J. 733 (2001); 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).

clude in the future that the DMCA anti-circumvention rules are too constricting, we will have to renegotiate the FTA, flout the FTA, or conform to an uncongenial rule. Our FTA partners may often lack the internal economic incentive to seek to enforce the FTA's strict anti-circumvention terms (though they may take it as a license to re-do their own anti-circumvention excess), yet they may seek to enforce the FTA once partnered with interested multinational corporations engaged in rent-seeking.²¹⁰

III. FOUR OBSERVATIONS

As we plan for the future, it is important that we take heed of the disagreements described in Part I and the various concerns articulated in Part II. This Part provides four observations, which I hope will provide some helpful guidance toward the development of the next generation of DRM systems and the supporting legal regime. These suggestions also seek to find more common ground between the many stakeholders in the DRM debate.

A. Entrenched Laws and Lock-in Effects

Laws can be politically entrenched. Once entrenched, amending them would be difficult even if they had proven to be ineffective or harmful. A case in point is the Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases ("Directive"),²¹¹ which created a *sui generis* right in the producers of nonoriginal, noncreative databases to harmonize protection throughout the European Community.²¹² The European Commission recently evaluated the Directive for the first time and found empirically that the Community benefited very little from the ten-year-old Directive.²¹³ In fact, the Directive might have harmed the publishing and database industries in the European Union.²¹⁴

210. Chander, *supra* note 137, at 207.

211. 1996 O.J. (L 77) 20.

212. *Id.*

213. COMM'N OF THE EUROPEAN COMMUNITIES, FIRST EVALUATION OF DIRECTIVE 96/9/EC ON THE LEGAL PROTECTION OF DATABASES (2005) [hereinafter DATABASE DIRECTIVE EVALUATION], available at http://ec.europa.eu/internal_market/copyright/docs/databases/evaluation_report_en.pdf; see also James Boyle, *Two Database Cheers for the EU*, FT.COM, Jan. 2, 2006, <http://www.ft.com/cms/s/99610a50-7bb2-11da-ab8e-0000779e2340.html> (discussing the report). For an interesting exchange concerning the EU Database Directive among James Boyle, Thomas Hazlett, and Richard Epstein, see James Boyle, *A Natural Experiment*, FT.COM, Nov. 22, 2004, <http://www.ft.com/cms/s/4cd4941e-3cab-11d9-bb7b-00000e2511c8.html>.

214. As the report stated:

According to the *Gale Directory of Databases*, the number of EU-based database "entries" was 3095 in 2004 as compared to 3092 in 1998 when the first Member States had implemented the "sui generis" protection into national laws. More significantly, the number of database "entries" dropped just as most of the EU-15 Member States had implemented the Directive into national laws in 2001. In 2001, there were 4085 EU-based "entries" while in 2004 there were only 3095.

DATABASE DIRECTIVE EVALUATION, *supra* note 213, at 24. Although the Directive aimed to create a level playing field between U.S. and EU database industries, the report found that "[b]etween 2002

Notwithstanding these disturbing findings, the Commission provided three reasons for the retention of the Directive.²¹⁵ First, the Commission “has received strong representations from the European publishing industry that ‘sui generis’ protection is crucial to the continued success of their activities.”²¹⁶ As the Commission recognized in the report, “the attachment to the new right is a political reality that seems very true for Europe.”²¹⁷ Second, a repeal of the *sui generis* right “would require withdrawing, or ‘reverse,’ legislation and that might reopen the original debate on the appropriate standard of ‘originality.’”²¹⁸ Similarly, a reformulation of the scope of the right would “require the Community legislator to revisit the compromise underlying the two-tier protection introduced by the Directive.”²¹⁹ Third, “[r]emoving the ‘sui generis’ right and thereby allowing Member States to revert to prior forms of legal protection for all forms of ‘non-original’ databases that do not meet the threshold of ‘originality,’ might be more costly than keeping it in place.”²²⁰

Troublesomely, these three reasons can also be used to explain the retention of an ineffective anticircumvention regime. One can hardly deny that the beneficiaries of the regime—say, developers of DRM systems—would prefer to retain the status quo. It is also undeniable that revamping the regime would be costly and would require a reassessment of where to strike the balance between proprietary interests and public access needs. While the legislatures of less developed countries might reason differently from the European Commission and be more protective of the public interest, it is unlikely that these countries would be in a better position to resist pressure from the content industries and their supporting developed countries.

To make things worse, laws that seek to manipulate technology may create lock-in effects.²²¹ As Dan Burk noted, the DMCA “confers upon content owners a new exclusive right to control not only access to tech-

and 2004, the European share decreased from 33% to 24% while the US share increased from 62% to 72%. The ratio of European/US database production, which was nearly 1:2 in 1996, has become 1:3 in 2004.” *Id.* at 22.

215. In addition to maintaining the status quo, the Commission provided three other policy options: (1) repeal the Directive, (2) withdraw the *sui generis* right, and (3) amend the *sui generis* provisions. *See id.* at 25-27 (discussing the policy options); *see also* Boyle, *Two Database Cheers for the EU*, *supra* note 213 (criticizing the fourth policy option of maintaining the status quo).

216. DATABASE DIRECTIVE EVALUATION, *supra* note 213, at 24.

217. *Id.* at 25.

218. *Id.* at 6.

219. *Id.*

220. *Id.* at 27.

221. *See, e.g.*, Dan L. Burk, *Legal and Technical Standards in Digital Rights Management Technology*, 74 FORDHAM L. REV. 537, 568 (2005) [hereinafter Burk, *Legal and Technical Standards*] (noting that “like any other interoperable computer technology, DRM will tend toward a single standard, and simultaneously toward whatever concerns over monopolization or restraint of trade that come with such network effects”); Wagner, *supra* note 35, at 1122 (stating that “[t]he direct manipulation of technology could serve to ‘lock-in’ an unfortunate set of circumstances, could forestall developments that might lead to more socially beneficial arrangements or even have more general unintended spillover effects on technological change.”).

nologically protected works, but also . . . to control ancillary technologies related to content protection.”²²² Indeed, the statute grants

broad power to dictate technological format and interoperability. The very concept of a secure or managed digital environment contemplates that only approved or certified interoperation will occur: Unapproved devices or applications potentially compromise the security of the system. This type of interoperability control is a version of the technical standards problem that has been identified in other commentaries of computer technology.²²³

If these laws were entrenched, they would harm society more and might even hinder the modernization efforts of many less developed countries.

In addition, the existing anticircumvention regime has stifled encryption research worldwide by making it difficult for researchers to conduct and publish their research. As Joseph Liu pointed out, “even though academic encryption researchers can continue to conduct and publish some of their research under the DMCA without significant practical risk of criminal or civil liability, the DMCA significantly affects the manner in which that research is conducted.”²²⁴ The regime has also had the unintended effect of reducing incentives to create stronger and better DRM systems—something copyright holders need to protect their intellectual assets.²²⁵ As a National Research Council study warned us a few years ago,

[i]t is . . . possible that anticircumvention laws will be interpreted by distributors not as incentives to use effective protection measures but, rather, as incentives to do just the opposite—use insufficiently tested, possibly weak protection technology, and increase reliance on the police and the courts to punish people who hack around it. This would

222. Burk, *Anticircumvention Misuse*, *supra* note 102, at 1132.

223. *Id.* at 1138; *see also* WILLIAM W. FISHER, III, PROMISES TO KEEP: TECHNOLOGY, LAW, AND THE FUTURE OF ENTERTAINMENT 172 (2004) (contending that if “[t]he proposal of the record and movie companies that manufacturers of electronic equipment be obliged to embed encryption systems in their products [were] . . . adopted, it would limit the technological options available to the manufacturers”); Bechtold, *Present and Future*, *supra* note 3, at 619 (“More and more, manufacturers of hardware and software platforms use DRM components to prevent competitors from developing and marketing competing platforms. In particular, DRM technologies and anti-circumvention regulations are used to create proprietary interfaces to the platform, thereby foreclosing entry into the platform market.”).

224. Joseph P. Liu, *The DMCA and the Regulation of Scientific Research*, 18 BERKELEY TECH. L.J. 501, 503 (2003) [hereinafter Liu, *DMCA and Scientific Research*]; *see also* Peter K. Yu, *Is Anti-Piracy Law Stifling Cybersecurity Innovation?*, LEGAL TIMES, Mar. 29, 2004, at 20 (discussing how the DMCA has undermined cryptography and cybersecurity).

225. *See, e.g., DRM Symposium Transcript*, *supra* note 53, at 705 (recalling the following conversation: “I remember one conversation, ‘How good are these solutions?’ Answer: ‘Pretty good.’ I come back: ‘Nine months to break.’ ‘Mmm, maybe six.’”) (remarks of Professor David Farber, who recently retired from the University of Pennsylvania); Wagner, *Reconsidering the DMCA*, *supra* note 35, at 1126-27 (stating that the DMCA “will significantly suppress the incentives to use, develop, and distribute anticircumvention technologies of any kind” and that “the lasting contribution of the DMCA to the copyright law is as a set of rules that stabilized, moderated, and encouraged relatively weak forms of DRM”).

result in some cost shifting: Instead of owners and distributors paying for good technology to protect their property, the public at large would likely pay for a greater portion of this protection through the law-enforcement system, although some of the increased costs in enforcement may be borne by the antipiracy efforts of the various information industry associations.²²⁶

While there is no doubt that antitrust and unfair competition laws—assuming they exist in the relevant countries—may be used to curb market abuse by copyright holders and technology developers, commentators seem to agree that exceptions are still needed if DRM research is to be improved and if stronger and better DRM systems are to be developed.²²⁷ Such exceptions may have to be more encompassing and be extended beyond encryption research “to recognize [other] legitimate reasons for circumventing technical measures, such as to engage in research about non-encryption-based watermarking technologies and to analyze computer viruses or worms.”²²⁸

In sum, the the decision to introduce the anticircumvention regime needs to “be guided not by speculation, but by what is known”²²⁹—including those lessons from the DMCA experience. As Professor Kerr and others wrote cautiously about the choice Canada faces:

TPM [technological protection measures] and DRM technologies are still in relatively early stages of development, and new business models for the delivery of digital information products are still being beta-tested. Moreover, state of the art TPMs are still unable to distinguish between infringing and non-infringing uses. Consequently, TPMs are currently unable to provide selective access to works in situations in which such access would not result in copyright infringement.

Given all of the above, it is perhaps too early to predict whether the legal protection of TPMs is in fact necessary to the success of mass markets for digital works. It is perhaps also too early to determine whether the failure to adopt such measures would ultimately prove to be injurious to such markets. In fact, we do not even know whether the legal protection of TPMs might actually undermine the

226. DIGITAL DILEMMA, *supra* note 43, at 312. For a discussion of how the cryptology and security communities work, see generally *id.* at 313-18.

227. See, e.g., Liu, *DMCA and Scientific Research*, *supra* note 224, at 537 (stating that “a broader exemption under the DMCA for encryption research . . . would do a superior job of ensuring that basic scientific research is left unaffected by the DMCA”); see also Samuelson, *Intellectual Property and the Digital Economy*, *supra* note 44, at 524 (arguing that the DMCA “should be amended to provide a general purpose ‘or other legitimate purposes’ provision to avert judicial contortions in interpreting the statute”).

228. Samuelson, *DRM {and, or, vs.} the Law*, *supra* note 41, at 42.

229. Kerr et al., *supra* note 45, at 76; see also *id.* at 45 (suggesting that “Canada could choose not to confer additional legal protection to TPMs and simply allow them to flourish or fail in an unregulated environment until such time as there is more compelling evidence of a need to legislate”).

very aim of the TPM strategy by retarding the research and development of newer, more secure TPMs and other innovative means of distributing digital information products, thereby leading to sub-optimal consumption.²³⁰

What Professor Kerr and his colleagues stated is true not only for Canada, but for all other countries that have yet to introduce an anticircumvention regime or to ratify the WIPO Internet Treaties. After all, there has not been a significant reduction of the availability of digital copyrighted materials in those countries that have not done so—Canada being a very good example.²³¹ Nor has there been a significant increase in the availability of digital copyrighted materials in those countries that have ratified the treaties or introduced anticircumvention legislation.

B. DRM v. TPM

It is important to distinguish between DRM and TPM—digital rights management systems and technological protection measures.²³² While the latter focuses narrowly on mechanisms used to *protect* copyrighted contents, such as passwords, encryption, digital watermarking, and other protection techniques,²³³ the former includes a larger set of technological tools that not only protect the content, but also monitor consumer behavior and facilitate payment for content usage.²³⁴ If DRM systems are to be properly designed, they should not only protect the copyrighted works from unauthorized access but also accommodate important interests of users and future creators. After all, as Stefan Bechtold reminded us, “[n]othing in the ‘nature’ of DRM requires that DRM be only used for restricting access to protected content or suppressing fair use privileges. Properly understood, DRM is a much more neutral technology than commonly acknowledged.”²³⁵

The distinction between DRM and TPM and the reduced emphasis on protection are important because exceptions and limitations in the

230. *Id.* at 42.

231. Thanks to Jeremy deBeer for this suggestion.

232. *Accord* Kerr, *supra* note 124 (stating that “[i]t is useful to distinguish between TPMs and DRMs”); *see also* Kerr et al., *supra* note 45, at 26 (describing DRMs that do not utilize TPMs). As Professor Kerr explained, “[w]hile TPMs are designed to *prevent* copying, DRMs are designed to *manage* copying by using various automation and surveillance technologies to identify content and technologically enforce certain licensing conditions. More and more, DRMs will be used to manage all rights reserved by content owners/providers usually on a take-it-or-leave-it basis.” Kerr, *supra* note 124.

233. *See generally* DIGITAL DILEMMA, *supra* note 43, at 153-76 (discussing technological protection); Kerr et al., *supra* note 45, at 13-23 (describing the various TPMs that can be used to control access to, and use of, copyrighted works).

234. “A trusted system is a system that can be relied on to follow certain rules. In the context of digital works, a trusted system follows rules governing the terms, conditions and fees for using digital works.” Mark Stefik, *Shifting the Possible: How Trusted Systems and Digital Property Rights Challenge Us to Rethink Digital Publishing*, 12 BERKELEY TECH. L.J. 137, 139 (1997).

235. Bechtold, *Present and Future*, *supra* note 3, at 602 (footnote omitted).

copyright regime are just as important as the rights themselves.²³⁶ If we equate DRM with TPM and consider DRM systems as “copyright boxes,”²³⁷ we are likely to lose sight of the important interests of users and future creators as well as the legitimate rights they have traditionally enjoyed. In doing so, we will also privilege the protection of rights over the maintenance of exceptions and limitations. An overemphasis on TPM may even backfire on content providers, because products that include many restrictions—or, as Hal Varian put it, “cripple-ware”²³⁸—are unlikely to be attractive.

In a symposium at Boalt Hall, Lawrence Lessig noted the additional distinction between DRM and DRE (digital rights expression).²³⁹ To Professor Lessig, the ability to express what rights the author chooses is just as important as a system that manages those rights. What he did not mention (but is likely to agree with²⁴⁰) is that, if we are to ensure that DRM systems truly reflect the historical bargain struck in the copyright system, we need to build into them not just holder rights, but also consumer rights.²⁴¹ Otherwise, as Pamela Samuelson put it, a DRM system would become a “digital restrictions management” system that focuses on permissions alone.²⁴²

236. See JAMES BOYLE, *SHAMANS, SOFTWARE & SPLEENS: LAW AND THE CONSTRUCTION OF INFORMATION SOCIETY* 138 (1996) (noting that exceptions and limitations are “just as important as the grant of the right itself”).

237. STEFIK, *supra* note 164, at 55 (1999) (describing trusted systems as “copyright boxes”).

238. *DRM Symposium Transcript*, *supra* note 53, at 707 (terming this type of technological protection measures as “cripple-ware” because “[i]t inherently reduces the value of the product”) (remarks of Professor Hal Varian of the School of Information Management and Systems at the University of California at Berkeley); see also Marc Fetscherin, *Evaluating Consumer Acceptance for Protected Digital Content*, in *DIGITAL RIGHTS MANAGEMENT*, *supra* note 2, at 301, 315 (stating that the consumers’ frustrations over “the restrictions placed on how they can use content they own . . . are enough to encourage piracy”).

239. See *DRM Symposium Transcript*, *supra* note 53, at 728 (stating that “[t]he Creative Commons believes that we need to distinguish between this idea, DRM, and this idea, DRE”) (remarks of Professor Lawrence Lessig of Stanford Law School).

240. Cf. LESSIG, *CODE*, *supra* note 22, at 127 (introducing the concept of “copy-duty—the duty of owners of protected property to make that property accessible”).

241. See STEFIK, *supra* note 164, at 101 (stating that “[p]ublishers and consumers alike will be better served if publishers use trusted systems in a way that recognizes and responds to legitimate consumer expectations—for example, by creating digital contracts that preserve traditional notions of fair use”); Armstrong, *supra* note 196 (observing that “the efficacy of any DRM system for protecting fair use depends in large measure on the extent to which the system grants parties other than the copyright holder . . . a say in whether any individual use, or category of uses, will be permitted”); Bechtold, *Digital Rights Management*, *supra* note 161, at 363 (stating that “[f]or an emerging information society, the goal should not be a DRM environment which protects the legitimate interests of rights holders only, but a symmetric DRM environment which protects the legitimate interests of both rights holders and users”); Dam, *supra* note 54, at 411 (contending that, “[f]or content providers, workable technological arrangements to accommodate fair users would be a win-win solution”); Samuelson, *DRM {and, or, vs.} the Law*, *supra* note 41, at 42 (stating that “[i]f DRM systems were about digital management of rights, they would need to be designed so users could express their rights under copyright, too”).

242. See *id.* (noting that DRM “technologies are not really about the management of digital ‘rights’ but rather about management of certain ‘permissions’ to do X, Y, or Z with digital information”); *id.* (stating that “[a]n alternative phrase for DRM is ‘digital restrictions management,’ given

In the past few years, the content, computer, and home electronics industries devoted a considerable amount of effort in developing TPM. It is high time that they start thinking about the next generation of DRM systems that would include digital rights language to facilitate the expression of *both* consumer rights and holder rights.²⁴³

C. Machine-Interpretable Noninfringing Uses

It is important to distinguish between machine-interpretable and machine-uninterpretable noninfringing uses. The fact that the scope and boundaries of these uses, such as the fair use privilege, are uncertain and that software code at the current state of technology may not be able to capture the full range of exceptions and limitations in the copyright system does not mean that we should not build legitimate uses into the DRM systems.²⁴⁴

Consider, for example, the fair use privilege, “an elusive legal doctrine” that Judge Learned Hand has described as “the most troublesome in the whole law of copyright.”²⁴⁵ So far, commentators have pointed out the considerable mismatch between technology and this legal doctrine. As Edward Felten noted, “[f]air use is one of the starkest examples of the mismatch between what the law requires and what technology can do. Accurate, technological enforcement of the law of fair use is far beyond

its use by copyright industries to restrict user rights”). As Barbara Fox and Brian LaMacchia observed:

Current digital rights management (DRM) systems take a very limited view of the set of rights they need to manage. Typically, they make decisions using a closed-world assumption: Only actions explicitly authorized by content owners or their delegate(s) are allowed, and the only “rights” are those explicitly granted by them and presented to the DRM system. Most DRM systems do not even acknowledge the possible existence of rights other than the content owner’s to license a particular work.

Barbara L. Fox & Brian A. LaMacchia, *Encouraging Recognition of Fair Uses in DRM Systems*, COMM. ACM, Apr. 2003, at 61, 61.

243. See Susanne Guth, *Rights Expression Languages, in* DIGITAL RIGHTS MANAGEMENT, *supra* note 2, at 101-12 (discussing digital rights expression language); Kerr et al., *supra* note 45, at 27-28 (discussing Extensible Rights Mark-up Language (XrML)); Stefik, *supra* note 234, at 140-41 (discussing digital rights language).

244. See generally Burk & Cohen, *supra* note 45 (proposing a mixed fair use infrastructure that includes automatic fair use defaults and key escrow elements); Bygrave, *supra* note 124, at 446 (explaining the need to “build[] mechanisms into the systems’ architecture which preserve, where possible, consumer anonymity, and which allow for pseudonymity as a fall-back option where anonymity is not feasible for legal or technical reasons”); Cohen, *DRM and Privacy, supra* note 32, at 609-16 (discussing how to build intellectual privacy into the design of DRM technologies); cf. Sklyarov Symposium Transcript, *supra* note 62, at 853 (stating that “[the] idea that tools are not able to distinguish between what is a fair use and what is not a fair use, and therefore we just have to outlaw fair use altogether, somehow gets short shrift”) (remarks of Robin Gross, former attorney with the Electronic Frontier Foundation).

245. *Dellar v. Samuel Goldwyn, Inc.*, 104 F.2d 661, 552 (1939) (Hand, J.); MARSHALL LEAFFER, UNDERSTANDING COPYRIGHT LAW § 10.02, at 470 (4th ed. 2005) (stating that the fair use privilege is “an elusive legal doctrine, reputed to be the most troublesome in copyright law”); see also Lipton, *Solving the Digital Piracy Puzzle, supra* note 71, at 121 (“Fair use has always been a problematic concept within copyright law. Although it is an important defense against a claim of copyright infringement, its precise boundaries have never been clear.”).

today's state of the art and may well remain so permanently."²⁴⁶ Indeed, as he described colorfully, "[a] DRM system that gets all fair use judgments right would in effect be a 'judge on a chip' predicting with high accuracy how a real judge would decide a lawsuit challenging a particular use. Clearly, this is infeasible with today's technology."²⁴⁷

While Professor Felten is right that software codes may not be able to fully capture the fair use privilege—at least with the current state of technology—his concerns will be greatly alleviated if we assume that software codes can capture only *some* of its benefits under the fair use privilege. Put differently, instead of looking at the glass as half empty, we can consider it half full. As Barbara Fox and Brian LaMacchia, both software architects from Microsoft, maintained:

[The limitation that no one can mathematically model fair use, as it is understood today,] should not stop us from attempting to identify a useful subset we might approximate in code. That is, we can take a purely pragmatic engineering approach to what is on its face an "irresistible force meets immovable object" paradox: Focus first on defining and modeling a useful subset of fair use rights in some policy language, then add these expressions to the policy evaluators of DRM systems.²⁴⁸

Congress, thus far, has been satisfied with intermediate technological fixes. For example, although the DMCA mandates automatic gain control copy technology for analog videocassette recorders, it includes restrictions on the use of encoding to prevent or limit consumer copying.²⁴⁹ Likewise, the Audio Home Recording Act of 1992 requires that

246. Edward W. Felten, *A Skeptical View of DRM and Fair Use*, COMM. ACM, Apr. 2003, at 57, 59. Similarly, Professor Samuelson noted:

Thus far, digital rights expression languages (RELs) lack semantics to allow the expression of concepts like fair use. DRM cannot accommodate user rights without REL vocabularies capable of expressing them. Even if RELs developed semantics to express user rights, content owners may abjure expressing them unless forced to do so by law or competition.

Samuelson, *DRM {and, or, vs.} the Law*, *supra* note 41, at 42 (footnote omitted); *see also* Burk & Cohen, *supra* note 45, at 56 (stating that "[a]t 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"); Kerr et al., *supra* note 45, at 31 (stating that "the technologies employed by DRMs are not yet sufficiently sophisticated to mirror the law of copyright because TPMs themselves remain incapable of distinguishing between infringing and non-infringing uses of digital works"); Reese, *supra* note 108, at 629 (stating that "[t]echnological protection measures that control reproduction or performance of a work, however, are unlikely to be well calibrated to the actual contours of, for example, copyright owners' reproduction or public performance rights").

247. Felten, *supra* note 246, at 58; *see also* Burk & Cohen, *supra* note 45, at 55 (expressing their pessimism over the ability of "system designers . . . to anticipate the types of uses that would be considered fair by a court"); *id.* at 59 (stating that "[a]t present, only human intelligence, reviewing the unique circumstances of a particular use, can determine whether it is likely to be fair").

248. Fox & LaMacchia, *supra* note 242, at 62. For a recent comparative assessment of the existing and proposed DRM systems in relation to its ability to protect fair use, *see* Armstrong, *supra* note 196.

249. 17 U.S.C. § 1201(k) (2004).

digital audio recording machines be equipped with a Serial Copy Management System to provide copyright and generation status information and to prevent the recording devices from producing a chain of perfect digital copies through “serial copying.”²⁵⁰ None of these provisions is close to replicating the fair use privilege, but they at least strike some balance between proprietary interests and public access needs in the digital environment.

The limited scope of this Article does not allow me to fully describe how I would build noninfringing uses into the DRM systems. However, this section offers a brief sketch of what a more balanced DRM system would look like. As I mentioned earlier, it is important to distinguish between machine-interpretable and machine-uninterpretable noninfringing uses. Under this proposal, software code would be used to accommodate machine-interpretable noninfringing uses, while the determination of the machine-uninterpretable noninfringing uses would remain in the province of courts. As technology advanced and computer programming became more sophisticated, DRM systems would be able to accommodate more noninfringing uses. The domain of machine-interpretable noninfringing uses would therefore expand, leaving fewer and fewer copyright matters to courts.

One may compare this proposal to prior efforts in developing fair use guidelines in the United States, which have thus far been largely unsuccessful.²⁵¹ Unlike those efforts, however, this proposal seeks to create a continuous process that may alleviate some of their shortcomings. To better understand my proposal, consider the core minimum approach advocated by the Committee on Economic, Social and Cultural Rights in the human rights area. That approach, which inspired the proposal here, was set up primarily to help countries fulfill their obligations under the International Covenant on Economic, Social, and Cultural Rights in times of resource constraints.²⁵² In *General Comment No. 3*, the Com-

250. *Id.* § 1002.

251. See, e.g., Ann Bartow, *Educational Fair Use in Copyright: Reclaiming the Right to Photocopy Freely*, 60 U. PITT. L. REV. 149, 160 (1998) (noting that, “[t]hrough Congress specifically declined to incorporate these Guidelines into the Copyright statute, courts have generally held (and publishers have gleefully conceded) that educational photocopying that meets the Guidelines constitutes fair use of copyrighted works”); Kenneth D. Crews, *The Law of Fair Use and the Illusion of Fair-Use Guidelines*, 62 OHIO ST. L.J. 599, 701 (2001) (“One can only find failure in guidelines that have missed their constructive goals and served destructive ends. The vast range of parties with an interest in proper application of fair use have been poorly served by existing guidelines, and they would be better served had the guidelines never existed.”). For a comprehensive discussion of the development of fair use guidelines, see *id.*

252. Article 2(1) of the International Covenant of Economic, Social, and Cultural Rights provides:

Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.

mittee stated that “a minimum core obligation to ensure the satisfaction of, at the very least, minimum essential levels of each of the rights is incumbent upon every State party.”²⁵³ The interpretive comment did not stop there, however. It continued to state that, once countries have satisfied this core minimum obligation, they have to take “deliberate, concrete and targeted” steps towards the full realization of the rights in the Covenant.²⁵⁴

While the Committee was concerned with *physical and economic* resource constraints concerning the implementation of international human rights obligations, we are struggling with *technical* resource constraints regarding our ability to design DRM systems that capture the full range of exceptions and limitations in the copyright system as well as the dynamic nature of many copyright doctrines.²⁵⁵ A core minimum approach therefore will allow us to ensure the satisfaction of, at the very least, minimum essential levels of noninfringing uses. For example, we can begin by “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.”²⁵⁶ As technology improves—and more technical resources become available, just like the availability of more physical resources in the human rights context—we can strive to achieve full realization of these exceptions and limitations. By developing DRM systems to accommodate as many noninfringing uses as technology allows, this process will help approximate the rights consumers have traditionally enjoyed in the physical space.

One concern with the core minimum approach, as Dan Burk and Julie Cohen suggested, is that such an approach would encourage minimalist interpretation of important safeguards and the creation of a right ceiling. As they explained:

We are . . . skeptical . . . 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

ICESCR, *supra* note 69, art. 2(1) (emphasis added); *see also* UDHR, *supra* note 67, art. 22 (stipulating that “the economic, social and cultural rights indispensable for [one’s] dignity and the free development of his [or her] personality” are to be realized “in accordance with the organization and resources of each State”).

253. Comm. on Economic, Social and Cultural Rights, *General Comment No. 3: The Nature of States Parties Obligations (Art. 2, Par. 1)* ¶ 10, U.N. Doc. E/1991/23 (Dec. 14, 1990), available at [http://www.unhcr.ch/tbs/doc.nsf/\(Symbol\)/94bdbaf59b43a424c12563ed0052b664?OpenDocument](http://www.unhcr.ch/tbs/doc.nsf/(Symbol)/94bdbaf59b43a424c12563ed0052b664?OpenDocument).

254. *Id.* ¶ 2; *see also* ICESCR, *supra* note 69, art. 2(1) (requiring each state party “to take steps, . . . to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures”).

255. *See, e.g.*, Besek, *supra* note 36, at 493 (stating that “[f]air use by design” techniques . . . [do not] reflect the dynamic nature of the doctrine”); Burk & Cohen, *supra* note 45, at 56 (“[F]air use is a dynamic, equitable doctrine designed to respond to changing conditions of use. Programmed fair use functionality, in contrast, is relatively static.”).

256. Burk & Cohen, *supra* note 45, at 55.

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 [Conference on Fair Use] discussions. 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. To the contrary, such guidelines were intended to delineate fair use minima: a floor rather than a ceiling. 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.²⁵⁷

Professors Burk and Cohen are rightly concerned about minimalist interpretation and the ceiling effect. Indeed, those issues have continued to dominate discussion in the human rights context. In regards to the core minimum approach, human rights activists have been particularly concerned that “the identification of minimum core content will reveal to State parties how little they have to do in order to be in compliance with their obligations, and that States will do that minimum and nothing more.”²⁵⁸ However, it is important to remember that Professors Burk and Cohen did not reject the use of technology defaults. Rather, they were skeptical that such use *alone* would give the necessary protection and therefore added a key escrow system to complement those defaults in their proposed mixed fair use infrastructure. As Professor Burk pointed out later, their concern was mainly that “technological controls tend to be relatively blunt instruments for control of digital content, unable to accommodate copyright fair use without the re-introduction of human discretion.”²⁵⁹ Because courts under my proposal will still provide the needed human discretion when they make determination of machine-uninterpretable noninfringing uses, their concern will be greatly reduced.

Nevertheless, there still remains their concern about minimalist interpretation and a broader question of how to build machine-interpretable noninfringing uses into DRM systems. To alleviate their concern, we need to be particularly cautious about the process through which we build noninfringing uses into DRM systems. The fact that the process may create an unwanted ceiling does not mean that we should not create the process at all. Rather, it means that we need to be careful about the design of the building process.

257. *Id.* at 57.

258. Audrey R. Chapman & Sage Russell, *Introduction to CORE OBLIGATIONS: BUILDING A FRAMEWORK FOR ECONOMIC, SOCIAL AND CULTURAL RIGHTS* 1, 9 (Audrey Chapman & Sage Russell eds., 2002).

259. Burk, *Legal and Technical Standards*, *supra* note 221, at 551.

To do so, we need to develop a process that brings together copyright holders, technology developers, consumer advocates, civil libertarians and other stakeholders. To some extent, this process reminds one of Mark Stefik's proposed Digital Property Trust, which "would be governed by representatives of the various stakeholders—including publishers, trusted system vendors, financial institutions, lawmakers, librarians, and consumers—and would interact in an appropriate and organized way with governing bodies and law enforcement agencies in different countries."²⁶⁰ The integrity of this process is particularly important in light of the historical lack of direct consumer representation in the copyright lawmaking process. Even today, "[n]ot all standards processes include end user representation, and even in those that do, there is no assurance that end user grievances, once aired, will prospectively shape the standards that are brought to market."²⁶¹

Representation, however, is not the only major concern regarding the design of my proposed process. Although public choice scholarship has widely criticized the lack of representation, there is surprisingly very limited discussion about how legislatures have made laws without fully understanding technological development. Indeed, laws tend to be drafted by lawyers and lobbyists through a lengthy deliberative process with only limited advice from technology developers in the form of comments, congressional testimonies, and commissioned studies.²⁶² As a result, the drafters may not know exactly what can and cannot be done technically. As Representative Zoe Lofgren (D-Cal.), a lawyer by training, recalled humorously, "I looked at the [DMCA] bill and I saw some problems, but the bigger problem in retrospect that I see was, on the

260. Stefik, *supra* note 234, at 156. This proposal was later refined in STEFIK, *supra* note 164, at 100-01. As he explained, "[i]n DPT, fair use is treated as a licensed privilege analogous to a driver's license, rather than as a legal defense. From a legal perspective, this is a substantial reframing of the fair-use concept that takes into account the greater risks of misappropriation in the digital arena." *Id.* at 100.

261. Cohen, *DRM and Privacy*, *supra* note 32, at 616. Indeed, "[m]any other DRM standards projects utilize neither open standards nor open membership. These include the motion picture industry's DVD Content Control Association, Microsoft's Next Generation Secure Content Base project, Intel's LaGrande project, and a host of smaller private efforts to develop proprietary DRM technologies." *Id.* at 616 n.113.

262. In the past, Congress benefited from the assistance of the Office of Technology Assessment, which was abolished in 1995. Among the studies conducted in the intellectual property area were those concerning computer software, home copying, and intellectual property in the digital age. See Pamela Samuelson, *Toward a "New Deal" for Copyright in the Information Age*, 100 MICH. L. REV. 1488, 1499 n.48 (2002) (reviewing LITMAN, *supra* note 14) (listing intellectual property-related studies conducted by the Office of Technology Assessment). In fact, Pamela Samuelson suggested that Congress could promote public interest by "establish[ing] something akin to the Office of Technology Assessment to provide it with independent advice about policy options when legislating on intellectual property and other issues responding to challenges presented by new technologies." *Id.* at 1499.

committee, I was the tech expert. I mean we're in trouble when that occurs. I'm a lawyer, not a techie."²⁶³

To make matters worse, laws tend to be reactive and therefore lag behind technological development. Even the DMCA, which David Nimmer has characterized as "proleptic,"²⁶⁴ failed to anticipate the latest technological developments. For example, in its first DMCA rulemaking proceeding in 2000, the Copyright Office noted "[t]he merger of technological measures that protect access and copying does not appear to have been anticipated by Congress."²⁶⁵ As Part II described, Congress's inability to anticipate these technologies and the courts' failure to uphold the congressional intent has rendered the statutory distinction between access-control and use-control technologies virtually meaningless. That distinction has also created a difficult situation concerning region codes used in DVDs and video games, because regional encoding, as Nimmer pointed out, "constitutes neither an access control (inasmuch as buyers of the disc obtain the lawful right to access it, at least under certain circumstances) nor a copying control (inasmuch as disabling the regional coding does not implicate the copyright owner's rights as defined in the Copyright Act)."²⁶⁶

Likewise, even though one of the stated goals of the DMCA is to reduce digital piracy, the drafters of the DMCA failed to anticipate the extensive unauthorized copying problem created by file-sharing technologies. As the United States Court of Appeals for the District of Columbia Circuit reminded us in *Recording Industry Association of America v. Verizon Internet Services*,²⁶⁷ "P2P software was 'not even a glimmer in anyone's eye when the DMCA was enacted.'"²⁶⁸

In light of these deficiencies, the process needs to include technology developers—not just as experts for their testimonies, but as participants who will help distinguish machine-interpretable noninfringing uses from their uninterpretable counterparts and then build them into DRM systems. As Fox and LaMacchia noted:

The two open issues in establishing a safe harbor are: how to create machine-interpretable expressions that adequately model a set (or subset) of fair use rights; and how to get the stakeholders (content owners, DRM system builders, and Congress, as the representative of

263. Zoe Lofgren, *Edited Transcript of the David Nelson Memorial Keynote Address: A Voice from Congress on DRM*, 18 BERKELEY TECH. L.J. 495, 498-99 (2003).

264. David Nimmer, *Back From the Future: A Proleptic Review of the Digital Millennium Copyright Act*, 16 BERKELEY TECH. L.J. 855 (2001).

265. Copyright Office, Library of Congress, Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. 64,556, 64,558 (2000).

266. NIMMER & NIMMER, *supra* note 146, § 12A.06[D][2].

267. 351 F.3d 1229 (D.C. Cir. 2003).

268. *Recording Indus. Ass'n of Am.*, 351 F.3d at 1238 (quoting *In re Verizon Internet Servs., Inc.*, 240 F. Supp. 2d 24, 38 (D.D.C. 2003)).

the people's interest in the social bargain of copyright) to work together on defining the boundaries of a subset of fair use rights that would be safe to implement.²⁶⁹

While the first issue is important and remains a vital project for technology developers,²⁷⁰ my proposal focuses mainly on the latter—how to get the stakeholders to work together on defining the boundaries of a subset of noninfringing uses. To do so, one needs to have a dynamic process. First, we need to allow technology developers to explain what machines can and cannot interpret. While it is undoubtedly important for technology developers to continue to improve the recognition of noninfringing uses, my proposal uses the core minimum approach and relies on existing technology.

The next step is for stakeholders to come to an agreement on the minimum essential levels of noninfringing uses. As demonstrated by the collapse of CONFU²⁷¹ and other similar efforts and the continued rent-seeking copyright lawmaking process, this part of the process is probably the most difficult. While copyright holders will no doubt have a strong interest in developing the next generation of DRM systems that consumers will embrace, as well as in the migration of illegal downloaders to DRM-compliant systems, it is naïve to assume that they will easily come to agreement with communications providers, consumer advocates, and civil libertarians on the boundaries of noninfringing uses. Thus, the participation of Congress or courts—either as a mediator or an adjudicator—may be necessary. Under that scenario, noninfringing uses will be built into the system using both the “by design” approach and the “by mandate” approach.²⁷²

To make the process manageable, it is important that the discussion is restricted to existing laws, including interpretation of statutes, case law, and treaty obligations. Such discussion is already difficult enough, even without introducing issues that have not been anticipated by Congress and courts. In examining the exceptions and limitations, it is also

269. Fox & LaMacchia, *supra* note 242, at 63.

270. The vitality of this project is obvious. As Stefan Bechtold noted: “Whether a DRM system respects fair use or not depends, in particular, on the design of the rights expression language [REL]. If fair use privileges and the other legitimate interests of information users cannot be expressed in the REL, such interests simply do not exist with the DRM system.” Bechtold, *Present and Future*, *supra* note 3, at 608.

271. For discussions of CONFU, see Crews, *supra* note 251, at 626-35; Gregory K. Klingsporn, Note, *The Conference on Fair Use (CONFU) and the Future of Fair Use Guidelines*, 23 COLUM.-VLA J.L. & ARTS 101 (1999).

272. *Cf.* Besek, *supra* note 36, at 491-94 (discussing both the “fair use by design” and “fair use by mandate” approaches). As June Besek defined, “[f]air use by design’ refers to situations in which the design of a technical solution builds in some ability to take advantage of copyright exemptions.” *Id.* at 491. In contrast, “[f]air use by mandate’ describes circumstances in which rightholders are directed to enable non-infringing uses but not necessarily given specific instructions as to how that should be done.” *Id.* at 492.

important that the participants explore customary usage in addition to exceptions that have already been codified in the copyright statute.²⁷³

Once the stakeholders have agreed on the minimum essential levels of noninfringing uses, it is important for technology developers to recognize these uses in software code. Should they encounter any problems, the process will allow them to ask the stakeholders for clarification or to explain the technological limitation so that the participants can reconsider the coding request. This step is not completed until the agreed-upon noninfringing uses have been built into DRM systems. Then the cycle repeats itself, and more noninfringing uses will be built into the system as technology advances.

There are at least two potential objections to this approach, in addition to the usual criticism that the approach is unable to capture the full spectrum of noninfringing uses, to which I responded earlier, as well as the argument that the stakeholders can never reach a mutually acceptable agreement. First, as Joseph Liu has noted with respect to the fair use privilege,

if we actually tried to spell out, in the law, in a detailed manner, instead of the four factors, what exactly copyright and fair use would look like, I think you would soon find a statute that would begin to resemble the tax code in its complexity because it would be volumes and volumes and volumes of very detailed regulations depending on who you are, why you're using it, which context, and all the rest.²⁷⁴

When this criticism is combined with Jessica Litman's criticism of the incomprehensible nature of current copyright law, a tax-code version of the fair use privilege seems very unappealing, even if it is interpretable by machines.²⁷⁵ As Professor Litman noted, "We can continue to write copyright laws that only copyright lawyers can decipher, and accept that only commercial and institutional actors will have good reason to comply with them, or we can contrive a legal structure that ordinary individuals can learn, understand and even regard as fair."²⁷⁶ However, Professor Liu only highlighted the complexity of the fair use privilege,

273. See Litman, *Lawful Personal Use*, *supra* note 106 (explaining that some lawful personal uses may not have been codified as exceptions in the copyright statute); see also Lunney, *supra* note 15 (discussing private copying in relation to the DMCA); Michael J. Madison, *A Pattern-Oriented Approach to Fair Use*, 45 WM. & MARY L. REV. 1525 (2004) (advancing a pattern-oriented approach to fair use decisions).

274. *DRM Symposium Transcript*, *supra* note 53, at 731-32 (remarks of Professor Joseph Liu of Boston College Law School); see also Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1637-38 (2003) (stating that "industry-specific rules and exceptions [in the copyright model] have led to a bloated, impenetrable statute that reads like the tax code").

275. See LITMAN, *supra* note 14, at 145 (stating that "[t]he DMCA is long, internally inconsistent, difficult even for copyright experts to parse and harder still to explain"); see also FISHER, *supra* note 223, at 93 (describing the DMCA as "[a]n enormous, gangling, and poorly edited piece of legislation").

276. Jessica Litman, *Revising Copyright Law for the Information Age*, 75 OR. L. REV. 19, 39 (1996).

which is true with or without this proposal, while Professor Litman was mainly concerned about whether humans could read and understand copyright laws. Her concern, I suspect, would be considerably alleviated if computers are to read and execute the “code.” After all, computers have handled far more complex application programs, and the widespread usage of tax preparation software strongly suggests the technological feasibility of this approach.

The second objection is that, even if we are able to build into the system a subset of noninfringing uses under the copyright system, the system will not work, because there is no guarantee that there will be zero leakage in the system. As Richard Epstein noted, it is hard to find an intermediate fix in the digital world, “because once one pristine copy gets out, then there are a billion pristine copies that are out there.”²⁷⁷ As far as DRM systems are concerned, “all it takes is ‘one leak’ to neutralize a TPM entirely,”²⁷⁸ and this leak can come from anyone from anywhere in the world.

Admittedly, this proposal would not address this problem. Although it may take seventeen hours to reproduce the latest Harry Potter novel²⁷⁹—and significantly less if more perpetrators are involved—the publisher’s revenue stream can be significantly reduced as soon as that reproduction becomes available on the computer. However, we have to question whether it is realistic to expect perfect protection, just like we have to question whether it is realistic, or even possible, to find perfect, hacker-proof encryption technology. With more than six billion Internet users in the world,²⁸⁰ and many more in the future, there is always the possibility of having “one pristine copy” being leaked to the public.²⁸¹ If we are going to aim for a system that guarantees zero leakage, that system may never be found.

Thus, the question cannot be whether we can prevent that copy from being leaked to the public, but whether we can contain the leakage to ensure reasonable compensation for copyright holders. This alternative question makes a lot of sense, because copyright holders do not need to capture the full social value of their creation and completely prevent free

277. *DRM Symposium Transcript*, *supra* note 53, at 755 (remarks of Professor Richard Epstein of University of Chicago Law School).

278. von Lohmann, *supra* note 41, at 641.

279. *DRM Symposium Transcript*, *supra* note 53, at 755 (remarks of Jerry Berman of the Center for Democracy and Technology).

280. *Internet Usage Statistics—The Big Picture: World Internet Users and Population Stats*, <http://www.internetworldstats.com/stats.htm> (last visited Sept. 5, 2006).

281. See BIDDLE ET AL., *supra* note 41 (holding the belief that “at least for some classes of user, and possibly for the population at large, efficient darknets will exist”); Yen, *supra* note 71, at 691 (“[N]o law—not even a complete ban on circumvention technology—can guarantee the security of copyright. Piracy has always existed, yet copyright-based industries have flourished.”). *But see* Besek, *supra* note 36, at 477 (noting that “[s]ome piracy has always been a cost of doing business, but there comes a point at which it is realistic—and unfair—to expect paying customers to subsidize widespread free use”).

riding.²⁸² Indeed, zero leakage has never been a goal of copyright law, which was introduced primarily “to stimulate artistic creativity for the general public good” by allowing authors to obtain a reasonable return on their investment.²⁸³

In sum, a two-step approach—technology first, then courts—seems to be the best compromise we can have today, and it is worth considering developing such a system as we explore the next generation of DRM systems. As Charles Clark titled his well-cited chapter, “the answer to the machine is in the machine.”²⁸⁴ As long as we do not need to give up exceptions and limitations of the copyright system, using computers as the first step seems to be very appealing.

From the standpoint of less developed countries, this approach is even more attractive because it avoids the costly correction mechanisms involved in other proposals, especially if the multistakeholder process is set up as part of the legislative process (which already exists) and if the software code used in DRM systems, or at least the specific portion concerning the machine-interpretable noninfringing uses, is revealed. The different laws and institutions that are involved in this process may also help these countries tailor protection to their own needs, interests, and goals.

Unfortunately, this proposal would not address my earlier concern that a new anticircumvention regime might require consumers to purchase end devices that support the technological measures employed.²⁸⁵ Thus, the best option for many less developed countries is not to introduce any anticircumvention laws at all, unless they have concrete evidence that those laws would benefit the countries. However, if they have no choice but to do so, either because of changing international norms, external pressure, or benefits in other trade areas, this proposal—coupled with technical assistance in circumvention tools and economic assistance in purchasing new end devices—may provide an acceptable solution.

D. Market Responsiveness

Consumer interests are important, and the success of DRM systems will depend on the satisfactory accommodation of these interests. It is therefore no surprise that this Summit was entitled “From Creator to Consumer: Working Together in the Digital World.” When the old Napster was discussed in the file-sharing context, the service was often criti-

282. See discussion Part I.B.

283. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 432 (1984) (quoting *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975)).

284. Charles Clark, *The Answer to the Machine Is in the Machine*, in *THE FUTURE OF COPYRIGHT IN A DIGITAL ENVIRONMENT* 139 (P. Bernt Hugenholtz ed., 1996).

285. Thanks to Michael Mireles for pointing this out.

cized for its illegality and its unresponsiveness to the plight of artists and consumers. As jazz artist Herbie Hancock noted:

So far, [Napster]'s even worse than the labels. On the way to making millions for its owners and investors, Napster has yet to give anything to artists other than the chance to spread their music, for free, and whether they like it or not. Its supporters hide behind claims that labels misuse artists and consumers, as if that entitled them to take everything they want absolutely free. *Excuse me, but* just because record executives give artists a bad deal doesn't mean that everyone else can then go and do worse.²⁸⁶

Regardless of what impression one has of the old Napster, one can hardly deny that the service was appealing to consumers because it gave them what they wanted. Apart from free (and often illegal) music downloads, Napster also allowed consumers to find obscure music and special remixes that were unavailable in the market.²⁸⁷ As I noted elsewhere, "Napster succeeded because it supplied a market solution to an emerging demand. . . . Shawn Fanning was inspired to create Napster by his college roommate's frustration in searching for MP3s on the Web. Napster responded to the market instead of chasing it."²⁸⁸

The same can be said of DRM systems. Indeed, technology developers constantly have to deal with their systems' market responsiveness. As Emery Simon, an attorney with the Business Software Alliance, recalled:

The software industry has used DRMs for twenty-five years. It goes through a cycle. The software industry tightens up the DRMs and consumers scream, because they can't do very much with the software when it fails, or they want to reload it. Companies loosen up on the DRM, and the piracy goes way up, and then they tighten up on it. That has been the cycle, and that continues to be the cycle, and we're reconciled to that cycle. What we do in that cycle is we abandon technologies that consumers hated the worst. I'll give you an example. There is something called a dongle, a little piece of hardware that people attach to the back of the PC with which the PC has to shake hands in order to run the software. People hated it. Nobody uses a dongle anymore. So yes, there are DRMs that are hated by the marketplace, and are taken out of the marketplace in response to the market.²⁸⁹

286. Herbie Hancock, *Preface* to JOHN ALDERMAN, *SONIC BOOM: NAPSTER, MP3, AND THE NEW PIONEERS OF MUSIC*, at xvii, xviii (2001).

287. See Yu, *P2P and the Future of Private Copying*, *supra* note 8, at 699-701 (explaining why record companies may not have the rights to release all of the content consumers found on the old Napster and other file-sharing engines).

288. *Id.* at 742.

289. *DRM Symposium Transcript*, *supra* note 53, at 750 (remarks of Emery Simon of the Business Software Alliance); see also Kerr et al., *supra* note 45, at 31 (recalling that "in the early

Indeed, technology developers, and those who incorporate DRM systems into their products, are constantly struggling with the trade-offs between cost and effectiveness and between protection and inconvenience.²⁹⁰ If the systems are too complicated and restrictive, they would jeopardize the user experience and make content inaccessible. The costly technology also would raise product prices, thereby reducing consumer demand. However, if the systems are too simple and easy to break, they do not provide sufficient protection for copyright holders.

Consider region codes used in DVDs and video games. Designed to direct machines to allow access to the protected content only if the product was coded to be played in the authorized geographic area, these special codes are important to copyright holders, because they allow movie producers to segment the international market. In doing so, they enable the scheduling of DVD releases based on the timing of the theatrical release or the progress of the relevant promotional campaign.²⁹¹ They also facilitate price discrimination and allow rights holders to respond to different licensing arrangements and local censorship regulations.

From the standpoint of consumers, however, region codes can be annoying, especially to frequent travelers or foreign film or anime aficionados, whose interests have yet to generate a big enough market to facilitate domestic distribution. When these consumers make a purchasing decision, they not only have to decide whether they want the products, but also where they want to enjoy the products and whether they have the needed playback device to do so. After all, products that are purchased in Asia (with a region code of 2, 3, 5, or 6) are very unlikely to be playable in machines purchased in the United States (with a region code of 1).²⁹² Indeed, the use of region codes has led the Australian Competition and Consumer Commission to investigate whether such usage would breach the Trade Practices Act.²⁹³

1980s many companies that sold software applications employed a form of copy protection to prevent the floppy disks on which their applications were sold from being copied" and that "[m]assive consumer resistance to this approach led to the abandonment of this TPM and yet software companies subsequently found the risk of illegal copying to be within acceptable limits").

290. See DIGITAL DILEMMA, *supra* note 43, at 153 (noting "inherent trade-offs between the engineering design and implementation quality of a system on the one hand and the cost of building and deploying it on the other"); *id.* at 164 (stating that "[a] good mechanism is one that provides the degree of disincentive desired to discourage theft but remains inexpensive enough so that it doesn't greatly reduce consumer demand for the product"); von Lohmann, *supra* note 41, at 643 (noting that "[w]here alternative channels exist, customers of legitimate services will respond to restrictions imposed by TPMs by seeking out darknet channels").

291. See, e.g., Randal C. Picker, *Mistrust-Based Digital Rights Management* 15 (U. Chicago Law & Economics, Olin Working Paper Series, No. 291, 2006), http://ssrn.com/abstract_id=899155.

292. The six region codes are: "1. USA and Canada; 2. Europe, Middle East, South Africa and Japan; 3. Southeast Asia and East Asia; 4. Central and South America, Mexico, Australia and New Zealand; 5. Eastern Europe, Indian subcontinent, Africa, North Korea and Mongolia; and 6. China." Besek, *supra* note 36, at 457 n.284.

293. Caitlin Fitzsimmons, *Restricting DVDs 'Illegal' Warns ACCC*, AUSTRALIAN IT, Mar. 27, 2001, at 33; see also Cohen, *DRM and Privacy*, *supra* note 32, at 615 (noting that "[t]he more deeply

Today, it is common for the content industries to describe how digital technologies have greatly reduced their market. While this claim may be true to some extent, one question they rarely raise is whether consumers are, in fact, purchasing the same products—with the same usage terms and conditions. If they do not, one may have to question whether the market demand was reduced because of the digital challenge or because of the increased usage restrictions that have made the product less appealing. Indeed, the adverse impact of these restrictions on consumers has been so severe that Representative Rick Boucher (D-Va.) introduced the Digital Media Consumers' Rights Act of 2005 to amend the Federal Trade Commission Act to ensure proper labeling of copy-protected compact discs.²⁹⁴

As DRM systems become increasingly deployed to protect copyrighted works, rights holders need to be conscious of the trade-offs between cost and effectiveness and between protection and inconvenience. They need to be careful about what usage restrictions or protection mechanisms they put on the products, especially if such mechanisms could harm the users' computers (think Sony rootkit!). They also need to be mindful of laws that are introduced to protect consumers. If they fail to do so, the new technologies not only will harm their markets by reducing customer satisfaction, but will bring them legal troubles outside the intellectual property area.

Interestingly, if the content industries and technology developers begin to take market-related concerns more seriously, they are also less likely to adopt draconian technological protection measures that would severely limit consumer access to the product. As Douglas Lichtman reminded us, "a point [that is] often missed in discussions of DRM [is that] content owners do not necessarily want airtight control over their work, and so there is no reason to expect that they will use extreme forms of DRM even if extreme forms were feasible."²⁹⁵ Moreover, if some content providers find that greater access would be in their own interest, they may want to encourage other content providers to do so through industry standards.²⁹⁶ To compete for customers, some content

embedded in software and hardware DRM functionality becomes, the harder it will be to avoid by purchasing noncompliant equipment"); see also Bechtold, *Present and Future*, *supra* note 3, at 629 (noting that "[b]oth the European and the Australian competition authorities have investigated whether the regional code management system in DVD players is used to overcharge European and Australian customers for DVD discs compared to U.S. customers"); see also Cohen, *DRM and Privacy*, *supra* note 32, at 615 (noting that "[t]he more deeply embedded in software and hardware DRM functionality becomes, the harder it will be to avoid by purchasing noncompliant equipment").

294. H.R. 1201, 109th Cong. (2005). For a brief discussion of similar legislation in the 108th Congress, see Declan McCullagh & Milana Homsí, *Leave DRM Alone: A Survey of Legislative Proposals Relating to Digital Rights Management Technology and Their Problems*, 2005 MICH. ST. L. REV. 317, 319-20 (2005).

295. Doug Lichtman, *Defusing DRM*, IP L. & BUS., Feb. 2006, at 24.

296. As Kenneth Dam explained:

[S]ome content providers may find that fair use buttons or related devices are in their own interest and therefore may want to encourage other content providers to use similar

providers may also find it worthwhile to reduce user restrictions in their products or to facilitate greater transformative uses.²⁹⁷

CONCLUSION

In the future, DRM systems are likely to be used in products that are important to us in our digital life. They will appear in not only an Adobe e-book or an Apple iPod, but also in our car, our school, our kitchen, and our living room.²⁹⁸ There is a growing tendency for the content industries to invoke copyright liability whenever their works were used without authorization. There is also an increasing trend for manufacturers of household products that incorporated software code to use anticircumvention laws to protect their products from competition. If we do not have balanced DRM-related laws and good DRM systems that accommodate consumer interests and if we allow rights holders to invoke intellectual property principles in every instance of unauthorized circumvention of DRM systems, we are creating a recipe for disaster. Intellectual property protection is important, but not more important than how we live our daily life. As a senior official from the Department of Homeland Security reportedly reminded the entertainment industries following Sony's recent rootkit debacle, "[i]t's very important to remember that it's your intellectual property, it's not your computer."²⁹⁹

devices. If so, the development of industry standards is likely to be a preferable and more flexible approach, allowing different kinds of content providers to approach the fair use issue in quite different ways, thereby avoiding the deficiencies of a one-kind-fits-all legislative or rule-making approach.

Dam, *supra* note 54, at 405.

297. *Id.* at 411 (stating that "it is probable that some kinds of content providers, at least in the realm of ideas, will want to facilitate transformative uses so long as acknowledgment of their own work is made").

298. *See, e.g.*, Chander, *supra* note 137, at 208 (stating that, "in an environment in which silicon chips are embedded in more and more of our most ordinary products, potentially copyrightable material can be found in the most unexpected places"); Lipton, *Law of Unintended Consequences*, *supra* note 102, at 512 (observing that "more and more digital technology is now being incorporated into physical items from large scale industrial machinery, to car motors, to basic household appliances ranging from digital pianos, to stereo systems, to the humble toaster").

299. Carrie Kirby, *Sony Halts Anti-Piracy Software*, S.F. CHRON., Nov. 12, 2005, at C1.

THE “ROOTKIT DEBACLE”:
THE LATEST CHAPTER IN THE STORY OF THE RECORDING
INDUSTRY AND THE WAR ON MUSIC PIRACY

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ABSTRACT

In the age of digital music, illicit copying or burning of CDs is a rampant problem that undermines the rights of copyright holders, record labels, and artists alike. The recording industry has attempted to address this problem by manufacturing and releasing CDs with various types of digital rights management (DRM) technologies. Most recently, Sony BMG introduced CDs containing DRM software that was intended, among other things, to limit the number of copies of the CD the user could make, and prevent the user from sharing the content of the CD on peer-to-peer networks. However, the manner in which this software operated was highly controversial, for example because it collected information from the user’s computer and installed a “rootkit” on the user’s hard drive that made the computer susceptible to viruses. This latest effort to copy-protect CDs, which has come to be known as the “rootkit debacle,” has raised numerous legal issues that are examined in this article, including Sony BMG’s potential liability under certain federal and state laws, as well as the potential liability of consumers and security researchers under the Digital Millennium Copyright Act. The article also proposes a solution for striking a balance between the recording industry’s right to protect its intellectual property and music fans’ right to enjoy their CDs.

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INTRODUCTION

Over the past decade, the recording industry's war on piracy has focused on music downloaded from the Internet and file sharing. As a result of recent court victories, the recording industry now appears to have the upper hand in the on-line file sharing battle. While this battle certainly is not over, this respite has given the record labels an opportunity to focus on another alleged culprit in the struggles of the music business: the copying or "burning" of compact discs (CDs).

The recording industry is well aware of the impact that burned CDs have had on its business. As one industry leader said, "[m]usic copied onto blank recordable CDs is becoming a bigger threat to the bottom line of record stores and music labels than online file-sharing."¹ Indeed, for several years now, the major music labels have been experimenting with digital rights management (DRM) and other anti-piracy technologies that, among other things, would prevent consumers from converting their CDs into computer files, limit the number of copies of a CD a consumer could make, and/or render CDs unplayable on certain types of audio equipment.

Nevertheless, until recently, discussions about whether CDs included DRM were reserved for Internet bloggers, outspoken consumer groups, and serious music fans. In 2005, that all changed when Sony BMG (Sony) released dozens of albums by popular artists with DRM software installed on the CD.² The purpose of this software was to thwart music piracy and protect Sony's intellectual property, while at the same time providing customers with flexibility in playing their music. Specifically, the software allowed customers to make up to three copies of the CD and play the content on multiple platforms, while attempting to prevent excessive copying and sharing of music on peer-to-peer websites.³

1. *Copying Music Now Threatens Business Like File-Sharing Did*, ASSOCIATED PRESS (New York), Aug. 15, 2005, at 12.

2. *See Sony Tests Technology to Limit CD Burning*, REUTERS, June 1, 2005, <http://news.cnet.co.uk/digitalmusic/0,39029666,39189658,00.htm>; *see also* Wikipedia, 2005 Sony CD Copy Protection Scandal §1, http://en.wikipedia.org/wiki/2005_Sony_CD_copy_protection_controversy (last visited Sept. 8, 2006).

3. *Id.*

Although Sony claims its copy-protected CDs contained warnings, most consumers did not become aware of the software until after they had purchased the CDs. To exacerbate matters, the software worked by secretly installing a "rootkit" on a purchaser's hard drive when the purchaser first loaded the CD on a drive connected to a computer. These rootkits exposed the users' computers to hackers who could introduce viruses and then exploit those viruses to their advantage. Moreover, the software, which opponents claim is spyware, kept track of what consumers did with the purchased music and then communicated that information back to Sony.⁴

In early November 2005, the news of Sony's DRM software exploded on the Internet and, soon thereafter, Sony pulled approximately fifty titles from retail stores.⁵ Though some people find DRM inherently objectionable, the widespread outrage may have had more to do with the manner in which the software operated than with the purposes it served. In any event, Sony's use of this specific DRM tool has disillusioned consumers, lawmakers, and artists alike. Consequently, several consumer class action lawsuits and one law enforcement action have been filed against Sony.⁶ Settlements have now been reached in many of these cases, and Sony has agreed, among other things, to replace CDs containing DRM software with unprotected versions and to stop using the specific type of DRM software at issue in these lawsuits.⁷

But this is not the end of the story. The "rootkit debacle" has raised numerous legal questions that remain unanswered. These questions are sure to rear their heads again, especially given that Sony and the other record labels have made clear that they are not abandoning future efforts to protect CDs from unfair copying. This article attempts to resolve these unanswered questions.

Part I of this article provides a background of the recording industry's war against music piracy over the past several years. Part II describes Sony's latest effort to copy-protect CDs, which has become

4. Mark Russinovich, *Sony, Rootkits and Digital Rights Management Gone Too Far*, SYSINTERNALS BLOG, Oct. 31, 2005, <http://www.sysinternals.com/blog/2005/10/sony-rootkits-and-digital-rights.html>; Mark Ward, *Sony's Music Arm Has Been Accused of Using the Tactics of Virus Writers to Stop its CDs Being Illegally Copied*, BBC.com, <http://news.bbc.co.uk/2/hi/technology/4400148.stm>; Matthew Fordahl, *Sony to Offer Patch To Reveal Hidden Copy-protection Software*, ASSOCIATED PRESS (San Jose, Calif.), Nov. 12, 2005.

5. *Sony-BMG Flushes DRM Down the Toilet*, SILICON VALLEY SLEUTH, Nov. 15, 2005, http://www.siliconvalleysleuth.com/2005/11/sonybm_g_flushes.html.

6. *Sony Sued Over Copy-protected CDs*, BBC.com, Nov. 10, 2005, <http://news.bbc.co.uk/2/hi/technology/4424254.stm>; Sony BMG CD Technologies Settlement, Apr. 7, 2006 (last updated), <http://www.sonybmgcdtechsettlement.com>.

7. See Sony BMG, Important Legal Notices/Software Update Notice, <http://cp.sonybmg.com/xcp> (last visited Sept. 15, 2006). "If You Bought, Received or Used a SONY BMG Music Entertainment CD Containing Either XCP or Media Max Content Protection Software, Your Rights May Be Affected By a Class Action Settlement, And You Should Download Updates For That Software." *Id.*

known as the “rootkit debacle.” Part III analyzes the legal questions raised by the Sony rootkit debacle, including whether: (i) Sony violated certain anti-fraud and spyware-related laws by distributing CDs with copy-prevention software; (ii) Sony’s copy-protected CDs comported with copyright law, namely the fair use doctrine; and (iii) consumers’ removal of the copy-prevention software or distribution of information about how to remove such software violated the Digital Millennium Copyright Act. Finally, Part IV proposes a solution that attempts to strike a balance between the recording industry’s right to protect its intellectual property and a consumer’s right to enjoy purchased music.

I. BACKGROUND: THE MUSIC INDUSTRY’S WAR ON PIRACY

Less than ten years ago the music business was booming. In 1999, CD sales totaled \$14.6 billion with approximately 1.5 billion units shipped worldwide.⁸ The business grew at an annual rate of greater than 6 %, and everyone involved made a lot of money.⁹

Since 1999, the recording industry has experienced a serious downward trend. By 2003 the number of units shipped was down 31 %, ¹⁰ and CD sales had fallen to \$11.2 billion.¹¹ Consequently, in an effort to save money, record labels have laid off employees, ditched artists, cut tour and video budgets, and reissued old albums rather than produce and promote new ones.¹² While numerous factors have contributed to this decline, the major culprit is music piracy—both in the form of file sharing and CD burning.¹³ Thus, over the past several years, the recording industry has invested significant time and resources waging war against these pirates in an attempt to regain the success it once enjoyed.

8. Jefferson Graham et al., *Hammering Away at Piracy*, USA TODAY, Sept. 11, 2003, at 1D; NARM Consumer Research Initiative Phase One: Consumer Profiles & Retail Experience, Prepared for: National Association of Recording Merchandisers, Mar. 2006, at 11, available at <http://www.slyck.com/misc/NARMNPDStudy0603.pdf#search=%22NARM%20Consumer%20Research%20Initiative%20Phase%20One%3A%20Consumer%20Profiles%20%26%20Retail%20Experience%22> [hereinafter NARM].

9. Graham et al., *supra* note 8, at 1D.

10. NARM, *supra* note 8, at 11.

11. Kristina Groennings, *Costs & Benefits of the Recording Industry’s Litigation Against Individuals*, 20 BERKELEY TECH. L.J. 571, 573 (2005).

12. Hillary M. Kowalski, *Peer-to-Peer File Sharing & Technological Sabotage Tactics: No Legislation Required*, 8 MARQ. INTELL. PROP. L. REV. 297, 301 (2004); David Segal, *A New Tactic in the Download War: Online “Spoofing” Turns the Tables on Music Pirates*, WASH. POST, Aug. 21, 2002, at A1.

13. Some have blamed the decline in record sales on the nation’s economic downturn. See Peter K. Yu, *P2P & the Future of Private Copying*, 76 U. COLO. L. REV. 653, 765 n.15 (2005). Others contend that people are buying less music because they have so many other entertainment options. See NARM, *supra* note 8, at 16.

A. The First Phase: On-Line File Sharing

1. The Battle Against Indirect Infringers

Thus far, the recording industry's war on piracy has focused primarily on indirect infringers, *i.e.*, companies whose products facilitate the downloading and file sharing of copyrighted music. The most well known of these alleged indirect infringers was Napster, a peer-to-peer file sharing service that utilized a centralized index of music files and allowed those files to be transferred from one Napster user's computer to another.¹⁴ Napster's emergence in late 1999 coincided with the sharp decline in CD sales. The Recording Industry Association of America ("RIAA") responded on behalf of its members by suing Napster on the grounds of contributory and vicarious copyright infringement.¹⁵ After years of protracted litigation, the RIAA defeated Napster, ultimately forcing it into bankruptcy.¹⁶

Although the Napster litigation was a success for the recording industry, it did not put an end to on-line file sharing. Instead, Napster users migrated to decentralized file sharing services such as Grokster.¹⁷ Such services did not have a centralized index like Napster, but rather, distributed software that allowed users to share electronic files through peer-to-peer networks.¹⁸ In 2001, the RIAA filed suit against Grokster and StreamCast Networks, another software distributor, asserting the same theories as in the *Napster* case.¹⁹ The district court granted summary judgment in favor of the software companies because (i) their software was capable of substantial non-infringing use, and (ii) they had no actual knowledge of infringement by their customers.²⁰ The Ninth Circuit affirmed.²¹

The United States Supreme Court granted certiorari in the *Grokster* case and reversed.²² In so doing, the Court found that close to 90% of

14. Mark F. Radcliffe & Jill Sazama, *Napster & Hollywood: Controlling Intellectual Property in an Age of Peer-to-Peer File Sharing and Digital Video Recorders*, Georgetown Univ. Law Ctr. CLE, 2002 WL 32152238, at *2 (Nov. 14-15, 2002).

15. See Complaint for Contributory and Vicious Copyright Infringement at 2, *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896 (N.D. Cal. 2000), *affirmed by* 239 F.3d 1004 (9th Cir. 2001) available at http://www.riaa.com/news/filings/pdf/napster/Napster_Complaint.pdf. Soon after it sued Napster, the recording industry also brought a lawsuit against MP3.com, which had launched "myMP3.com," a service that allowed users to play songs that the users "owned" from MP3.com's servers. Radcliffe & Sazama, *supra* note 14, at *2. However, MP3.com did not have the consent of the copyright owners to make these copies or provide this service. *Id.* The record labels and other copyright owners were granted injunctive relief against MP3.com and the cases were quickly settled. *Id.*; see generally RIAA, <http://www.riaa.com/news/filings/mp3com.asp> (last visited Sept. 15, 2006).

16. *Napster, Inc.*, 114 F. Supp. 2d at 899. In 2003, Napster was re-launched as a legal, subscription-based on-line music store. See Yu, *supra* note 13, at 669-70.

17. Groennings, *supra* note 11, at 573.

18. *Id.*

19. *MGM Studios, Inc. v. Grokster, Ltd.*, 259 F. Supp. 2d 1029, 1031 (C.D. Cal. 2003).

20. *Grokster*, 259 F. Supp. 2d at 1041-43.

21. *MGM Studios, Inc. v. Grokster, Ltd.*, 380 F.3d 1154, 1157 (9th Cir. 2004).

22. *MGM Studios, Inc. v. Grokster, Ltd.*, 125 S. Ct. 2764, 2270 (2005).

the files downloaded with defendants' software were copyrighted.²³ The Court further found that defendants promoted their software as an alternative to Napster, and thus, encouraged users to engage in infringing activity.²⁴ Accordingly, the Supreme Court held that the software companies were liable for their customers' infringement, reversed the summary judgment, and remanded for further proceedings.²⁵ As a result of the Supreme Court's decision, the parties settled the case and Grokster was shut down.²⁶

2. The Battle Against Direct Infringers

In August 2003, the music industry made the bold and controversial decision to bring copyright suits against direct infringers, *i.e.*, individuals who engage in music downloading and file sharing. For the most part, the RIAA filed these suits against individuals who were heavy users, meaning they had distributed more than a thousand music files on peer-to-peer networks.²⁷ As of February 2006, approximately 17,765 of these individual copyright infringement lawsuits had been filed.²⁸

The media, public, and legal commentators have been highly critical of this litigation strategy, for example because the RIAA has sued college students, deceased persons, and a family that did not own a computer.²⁹ It is clear, however, that these lawsuits have raised public awareness of the illegality of music downloading and file sharing. Moreover, studies indicate that the user bases of those services that have been targets of the litigation (*e.g.*, KaZaa and Morpheus) have decreased dramatically since the RIAA started its campaign in 2003.³⁰

3. Technological Measures

In addition to filing lawsuits, the recording industry has utilized various technological measures to battle individual downloaders and file sharers. The most effective, and perhaps most controversial, of these is

23. *Grokster*, 125 S. Ct. at 2772.

24. *Id.* at 2773.

25. *Id.* at 2782-83.

26. *See* RIAA, http://www.riaa.com/news/newsletter/110705_2.asp (last visited Sept. 15, 2006). The settlement includes a permanent injunction against the software companies prohibiting direct or indirect infringement of any copyrighted works. The injunction also requires the software companies to cease distributing their products and operating their systems. *Id.*

27. Yu, *supra* note 13, at 666.

28. RIAA site, <http://www.riaa.com/news/newsletter/default.asp> (last visited Sept. 15, 2006).

29. Groennings, *supra* note 11, at 590-91; Yu, *supra* note 13, at 660-61; RIAA website, <http://www.riaa.com> (last visited Sept. 25, 2006); Anders Bylund, *RIAA Sues Computer-Less Family*, 234 *Others, for File-Sharing*, ARS TECHNICA, Apr. 24, 2006, <http://arstechnica.com/news.ars/post/20060424-6662.html>.

30. NARM, *supra* note 8, at 14. However, some studies show that "though litigation caused a decrease in the use of networks . . . targeted by the lawsuits, overall file-sharing has remained unchanged, as users of those sites simply migrated to more secure and anonymous file-sharing systems." Groennings, *supra* note 11, at 587; *see also* Thomas Karagiannis et al., *Is P2P Dying or Just Hiding?*, GLOBAL INTERNET AND NEXT GENERATION NETWORKS, Nov. 2004, at 1, 6, <http://www.caida.org/publications/papers/2004/p2p-dying/>.

"spoofing." Spoofing is a technique whereby the record industry inserts decoy music files into peer-to-peer networks, thus forcing file sharers to differentiate between the genuine and "fake" files.³¹ Some of these "fake" files contain high-pitched screeching sounds, long silences, or repeated loops of the song's chorus.³² Others contain a message from the artist reminding the file sharer that unauthorized downloading is illegal and harms, not only the record companies, but the artists as well.³³

Another tactic that reportedly has been used is interdiction.³⁴ Music companies flood peer-to-peer networks with false requests in order to clog up the network, thereby denying other users the ability to access and download music files.³⁵ The hope is that peer-to-peer users ultimately will get frustrated enough to stop using these services, and will switch to a legitimate site like iTunes or will purchase the CD at a retail outlet.³⁶

B. The Second Phase: CD Copying or "Burning"

1. Identifying the Problem

Unlike the on-line file sharing battle, the recording industry has not engaged in any sort of litigation campaign, either against indirect or direct infringers, to stop individuals from copying CDs from friends or acquaintances. The reasons for this are simple. There are no secondary infringers like Napster or Grokster assisting these individuals in copying CDs; all these individuals need is a borrowed CD and a computer.³⁷ Fur-

31. Sue Zeidler, *Music Labels Plant Online Decoys, Mull Lawsuits*, ELECTRONIC MUSICIAN, July 5, 2002, http://emusician.com/news/emusic_music_labels_plant/index.html; Katie Dean, *Academics Patent P2P Spoofing*, WIRED NEWS, May 8, 2004, <http://www.wired.com/news/digiwood/0,1412,63384,00.html>.

32. Groennings, *supra* note 11, at 593.

33. *Id.*; Yu, *supra* note 13, at 726-27.

34. Kowalski, *supra* note 12, at 303; Dean, *supra* note 31; Karagiannis et al., *supra* note 30, at 6.

35. Kowalski, *supra* note 12, at 303; Dean, *supra* note 31.

36. Other technological measures that have been contemplated include a program called a "freeze" and a program called a "silence." Kowalski, *supra* note 12, at 302-03.

37. Because of the digital format, copying CDs, unlike records or cassettes, can be accomplished quickly and easily and result in a very high quality duplicate. See, e.g., Amy K. Jensen, *Copy Protection of CDs: The Recording Industry's Latest Attempt at Preventing the Unauthorized Digital Distribution of Music*, 21 J. MARSHALL J. COMPUTER & INFO. L. 241, 244 (2003). CDs can be copied on any computer with a CD-ROM or on a digital audio recording device, i.e., a CD burner or CDR. In 1992, however, Congress passed the Audio Home Recording Act of 1992 (AHRA), Pub. L. No. 102-563, 106 Stat. 4237 (codified at 17 U.S.C.A. §§ 1001-1010 (West 2006)), which "prohibits legal actions for copyright infringement based on the manufacture, importation, or distribution of digital audio equipment or media for private, noncommercial recording." Yu, *supra* note 13, at 706; see also Jennifer Norman, *Staying Alive: Can the Recording Industry Survive Peer-to-Peer?*, 26 COLUM. J.L. & ARTS 371, 380 (2003). The AHRA also prohibits infringement actions against the consumers of these products as long as they are being used for a noncommercial purpose. 17 U.S.C.A. § 1008. In exchange, the AHRA requires manufacturers of these products to pay compensatory royalties to copyright holders, 17 U.S.C.A. § 1003(a), and mandates that all such products include a Serial Copy Management System, which limits copying. 17 U.S.C.A. § 1002(c). In light of the AHRA, it would be particularly difficult for the recording industry to bring a lawsuit against the manufacturers and users of CD burners unless it could show that the equipment was not being used for private or noncommercial purposes. In any event, most people today copy CDs on

thermore, based on past experience, the recording industry has realized that suing the manufacturers of computers for contributory infringement is unlikely to advance their cause.³⁸

Nor has the RIAA launched a litigation campaign against individuals who copy CDs as it has against on-line file sharers because it would be extremely difficult, if not impossible, to identify these people. The RIAA tracks on-line infringers by their numerical IP address, files a "Doe" lawsuit using that IP address, and then subpoenas the internet service provider (ISP) to obtain the subscriber's identifying information.³⁹ By contrast, the RIAA has no way of knowing when someone borrows a CD from his friend, copies it onto his hard drive, and then downloads it onto a blank CD or MP3 player.

Yet the recording industry is well aware of the danger posed by these CD burners.⁴⁰ Record executives have long argued that CD burning has become so widespread in Europe that it is a bigger threat than unauthorized online file sharing.⁴¹ And a recent study prepared for the National Association of Recording Merchandisers (NARM), a trade organization that represents the interests of major music retailers, indicates that this also may be true in the United States.⁴² The study shows that, in 2004, only 43% of fans acquired their music by purchasing a physical CD, while 29% copied a CD, 22% used an illegal peer-to-peer network,

their computers, not with a CD burner, and it has been determined that the AHRA does not apply to computers. See *Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys. Inc.*, 180 F.3d 1072, 1081 (9th Cir. 1999).

38. In *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984), the Supreme Court held that, even though defendants were aware VCRs were being used to commit infringement, the sale of VCRs could not give rise to contributory infringement because the VCR was capable of commercially significant noninfringing uses, namely time-shifting. Here, manufacturers of computers and CDRs could similarly prove that their products are capable of commercially significant noninfringing uses, and thus, any lawsuit against them is likely to fail. See *id.*

39. Groennings, *supra* note 11, at 574. This is a much more tedious process than the RIAA initially used. *Id.* at 573. When the RIAA first started filing these individual lawsuits, it relied on the subpoena power of § 512(h) of the Digital Millennium Copyright Act (DMCA). *Id.* at 574. Under § 512(h), before filing the lawsuit, the RIAA could provide the ISP with "\$35, a copy of notification, the proposed subpoena, and a sworn declaration that the information sought was for the sole purpose of protecting copyright," and the ISP was compelled to disclose the subscriber's identifying information. *Id.* However, in *RIAA v. Verizon Internet Services, Inc.*, 351 F.3d 1229, 1237 (D.C. Cir. 2003), the D.C. Circuit Court of Appeals held that ISPs like Verizon are not subject to the subpoena power of § 512(h) because the statute "does not authorize the issuance of a subpoena to an ISP acting as a mere conduit for the transmission of information sent by others." *Id.* Thus, ISPs fall under the safe harbor provision of the DMCA, and copyright holders cannot force them to provide subscriber information without first filing a lawsuit. *Id.* at 1236.

40. *Copying Music Now Threatens Business Like File-Sharing Did*, *supra* note 1, at 12.

41. Jon Healey & Jeff Leeds, *Record Labels Grapple with CD Protection*, L.A. TIMES, Nov. 29, 2002, 3, at 1; see also *Sony's 'Copy-Proof' CD Fails to Silence Hackers*, USA TODAY, May 20, 2002, available at <http://www.usatoday.com/money/tech/2002-05-20-copyproof-cd.htm> (stating that Germany is "rife with illegal CD burning").

42. NARM, *supra* note 8, at 12. This study was prepared by the NPD group, a research organization based in New York that is concerned with the digital music market. See Thomas Mennecke, *Is the Physical CD Still a Viable Market?*, Mar. 15, 2006, <http://www.slyck.com/news.php?story=1125>.

and 6% used legitimate on-line music sites.⁴³ Therefore, the recording industry has taken a different approach to try to stop illegal copying of CDs: digital rights management.

2. Digital Rights Management: The Solution to CD Burning?

Digital rights management (DRM) is a technology used to protect ownership of digital content by restricting the actions an authorized recipient may take with respect to that content.⁴⁴ In other words, DRM systems include "secure packaging and delivery software designed to prevent purchasers and third parties from making unauthorized uses of digital works."⁴⁵

For years, the recording industry has been attempting to prevent or limit unauthorized copying by producing CDs with an effective DRM system. So far, however, those attempts have been unsuccessful.⁴⁶ In 2000, for example, the Secure Digital Music Initiative (SDMI), an international organization of record labels, hardware manufacturers, and software manufacturers, challenged computer programmers and researchers to break the digital audio watermark technologies they had developed to prevent the unauthorized copying of CDs.⁴⁷ "Digital watermarks contain data, such as copyright information, that identifies a work and is incorporated into the work itself; watermarking allows the content owner to track the use of his work and ensure payment."⁴⁸

Edward Felten, a professor of computer science and public affairs at Princeton University, participated in the contest.⁴⁹ Professor Felten's team was able to remove the watermark within just a few weeks, which proved embarrassing for the recording industry.⁵⁰ To make matters worse, when Professor Felten attempted to present his findings about the watermark at a conference in 2001, the RIAA and SDMI threatened to

43. NARM, *supra* note 8, at 12.

44. Austin Russ, *Digital Rights Management Overview*, SECURITY ESSENTIALS, VOL. 1.2e (July 2001), available at http://www.sans.org/reading_room/whitepapers/basics/434.php.

45. Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J. L. & TECH. 41, 48 (2001).

46. The film industry, too, has experienced problems with its use of DRM on digital video discs (DVDs). In the 1990s, it developed the Content Scrambling System (CSS) to encrypt and prevent illegal copying of DVDs. However, Jon Lech Johansen, a Norwegian teenager, cracked the CSS code and posted his findings on the Internet. See *Norwegian Teen Raided by Police in DVD Suit*, Jan. 25, 2000, <http://archives.cnn.com/2000/TECH/ptech/01/25/dvd.charge/index.html>. Criminal charges were brought against Johansen, but he was ultimately acquitted. See Iain Thomson, *Norwegian Court Clears 'DVD Jon,'* Jan. 8, 2003, <http://www.vnunet.com/vnunet/news/2121179/norwegian-court-clears-dvd-jon>.

47. Robin D. Gross, *Digital Millennium Dark Ages*, ELECTRONIC FRONTIER FOUNDATION, Nov. 7, 2001, http://www.eff.org/IP/DMCA/Felten_v_RIAA/20011107_eff_felten_article.html; Brad King, *Real Progress in Secure Music*, WIRED NEWS, June 7, 2001, at 2, http://www.wired.com/news/mp3/0,44365-1.html?tw=wn_story_page_next1.

48. Terri Branstetter Cohen, *Anti-Circumvention: Has Technology's Child Turned Against Its Mother?*, 36 VAND. J. TRANSNAT'L L. 961, 973-74 (2003).

49. Gross, *supra* note 47.

50. *Id.*; Groennings, *supra* note 11, at 592.

sue him under the anti-circumvention provisions of the Digital Millennium Copyright Act, which prohibits “circumvent[ing] a technological measure that effectively controls access to a work protected under” the copyright statute.⁵¹

No lawsuit was ever brought against Professor Felten; instead, Professor Felten sued for a declaratory judgment that publication of his paper would not violate the Digital Millennium Copyright Act.⁵² In response to the lawsuit, the RIAA and SDMI assured Professor Felten that they would not bring a lawsuit against him.⁵³ Ultimately, the case was dismissed for lack of subject matter jurisdiction, and Professor Felten subsequently published and presented his paper without any further resistance from the RIAA or SDMI.⁵⁴ Needless to say, the recording industry decided against distributing CDs with the watermarking technology.

In 2001, record labels began releasing CDs that included copy-protection technology intended to prevent consumers from listening to the CD on a computer and/or copying its contents onto the computer's hard drive.⁵⁵ Specifically, these CDs included a decoy data track on the outer edge of the CD.⁵⁶ Because of the way hard drives are programmed, a computer will continuously attempt to read this data track first before moving on to the audio tracks.⁵⁷ Thus, these copy-protected CDs could be played on standard CD players, but not on computers, certain portable devices, DVD players, and even some car stereos.⁵⁸

The problems created by these copy-protected CDs resulted in more negative publicity for the record companies. Many consumers returned the CDs and demanded replacements without the anti-copying technology.⁵⁹ Others chose to fix it themselves—and all they needed was a magic marker or some tape.

51. 17 U.S.C.A. § 1201(a); Gross, *supra* note 47; Andrea L. Foster, *Princeton Cryptographer's Challenge to Music Industry Draws Computer Scientists' Support*, THE CHRONICLE OF HIGHER EDUCATION, Aug. 16, 2001, <http://chronicle.com/free/2001/08/2001081602t.htm>; Letter from Matthew J. Oppenheim, Esq., Senior Vice President, Recording Industry Association of America, to Professor Edward Felten [sic], Princeton University (Apr. 9, 2001), available at http://www.eff.org/IP/DMCA/Felten_v_RIAA/20010409_riaa_sdmi_letter.html.

52. Gross, *supra* note 47.

53. Foster, *supra* note 51.

54. Gross, *supra* note 47; Transcript of Final Hearing at 48, *Felten v. RIAA*, No. 01 CV 2669, (D. N.J. 2001), available at http://www.eff.org/IP/DMCA/Felten_v_RIAA/20011128_hearing_transcript.pdf.

55. See *Simple Crack Revealed for CD Copy Protection*, MEDIALINE, May 22, 2002, http://www.medialinenews.com/issues/2002/may/news0522_7.shtml.

56. *Id.*

57. *Sony's 'Copy-Proof' CD Fails to Silence Hackers*, *supra* note 41.

58. *Id.*; *CD Crack: Magic Marker Indeed*, WIRED NEWS, May 20, 2002, <http://www.wired.com/news/technology/0,1282,52665,00.html>; Healey & Leeds, *supra* note 41, at 2.

59. John Borland, *Customers Put Kibosh on Anti-Copy CD*, CNET NEWS, (Nov. 19, 2001), <http://news.com.com/2100-1023-276036.html>; *Universal to Protect U.S. Album Release*, REUTERS, Nov. 28, 2001, <http://news.com.com/2100-1023-276341.html>.

When the additional track is hidden from the computer's laser by ink from a marker, a piece of electrical tape, or a piece of a self-stick memo, the computer does not attempt to read the additional track and moves on to the tracks that store the actual content, as if the CD were an ordinary audio disc.⁶⁰

News of this "easy fix" quickly spread on the Internet, once again embarrassing the music companies that had invested significant time and resources developing this technology.⁶¹

II. THE STORY OF THE SONY ROOTKIT

A. Sony's Copy Protection Technology⁶²

1. MediaMax⁶³

Despite the previous failed attempts, the recording industry did not give up on finding a marketable and secure anti-copying technology. To that end, the record labels, including Sony, sent their engineers back to the drawing board to try to find a solution to the threat posed by CD burning.⁶⁴ As a result, in the fall of 2003, Sony began releasing CDs with a new anti-copying technology called "MediaMax."⁶⁵

Sony released CDs with two versions of the MediaMax software, 3.0 and 5.0, both of which were developed by SunnComm Technologies ("SunnComm").⁶⁶ MediaMax was like the previous generation of copy-prevention DRM in that it was intended to prevent consumers from using personal computers for unauthorized CD burning.⁶⁷ Unlike earlier DRM, however, MediaMax did not completely prohibit playing CDs on a com-

60. Cohen, *supra* note 48, at 995 n.7.

61. See *CD Crack: Magic Marker Indeed*, *supra* note 58.

62. See generally J. Alex Halderman & Edward W. Felten, *Lessons from the Sony CD DRM Episode* (Feb. 14, 2006), <http://itpolicy.princeton.edu/pub/sonydrm-ext.pdf> (providing a more detailed technical analysis).

63. There are two versions of the MediaMax software: 3.0 and 5.0. Settlement Agreement ¶ I.A-B, In re Sony BMG CD Techs. Litig., No. 1:05-cv-09575-NRB (S.D.N.Y. 2005), available at <http://www.sonybmgcdtechsettlement.com/pdfs/SettlementAgreement.pdf> [hereinafter Settlement Agreement]. For the most part, these versions are the same and will be discussed together. Where necessary, this article will distinguish between the two versions.

64. See Healey & Leeds, *supra* note 41, at 2.

65. Settlement Agreement, *supra* note 63, ¶ I.A-B; J. Alex Halderman, *Analysis of the MediaMax CD3 Copy-Prevention System*, (Oct. 6, 2003), <http://www.cs.princeton.edu/~jhalderm/cd3/>. Sony distributed a total of 37 titles with the MediaMax 3.0 software and 27 titles with the 5.0 version, including albums by popular artists such as the Dave Matthews Band, the Foo Fighters, Dido, Alicia Keys, and Sarah McLachlan. See Settlement Agreement, *supra* note 63, Ex. A.

66. Settlement Agreement, *supra* note 63, ¶ I.A-B. SunnComm is "a leader in digital content security and enhancement for optical media." Press Release, SunnComm International, SunnComm's MediaMax CD-3 Technology Passes International Test With "Flying Colors," (Aug. 27, 2003), available at <http://www.sunncomm.com/press/pressrelease.asp?prid=20030827630> [hereinafter SunnComm Press Release].

67. See Halderman, *supra* note 65.

puter, but instead, limited the number of copies a user could make.⁶⁸ Specifically, it permitted users to do the following: (i) copy tracks onto the user's hard drive that could be played back without the original CD; (ii) burn tracks onto a blank CD up to three times; (iii) download tracks to certain portable devices;⁶⁹ and (iv) email tracks to friends who could listen to them for ten days.⁷⁰

While the purpose and goal of the MediaMax DRM appear fair, the methods used to implement it, arguably, were not. When a CD containing the MediaMax program was inserted in a computer, an End User License Agreement (EULA) automatically appeared on the screen.⁷¹ The EULA stated:

As soon as you have agreed to be bound by the terms and conditions of the EULA, this CD will automatically install a small proprietary software program (the "SOFTWARE") onto your computer. The SOFTWARE is intended to protect the audio files embodied on the CD, and it may also facilitate your use of the DIGITAL CONTENT. Once installed, the SOFTWARE will reside on YOUR COMPUTER until removed or deleted . . . [T]he SOFTWARE will not be used at any time to collect any personal information from you, whether stored on your computer or otherwise.⁷²

68. Consolidated Amended Class Action Complaint ¶ 24, *In re Sony BMG CD Techs. Litig.*, No. 1:05-cv-09575-NRB (S.D.N.Y. 2005), available at <http://www.sonybmgcdtechsettlement.com/pdfs/ConsolidatedAmendedComplaint.pdf> [hereinafter Sony Complaint].

69. CDs containing the MediaMax software are only compatible with Sony and Microsoft products and software, so those are the only portable devices that the tracks can be loaded onto. *Id.*

70. Halderman, *supra* note 65; Mike Snider, *Anti-Swap CD Hits the Racks, U.S.A. TODAY*, Sept. 22, 2003, at 6D, available at http://www.usatoday.com/tech/news/techinnovations/2003-09-22-copycd_x.htm. The MediaMax EULA describes the function of the DRM as follows:

This CD contains technology that is designed to prevent users from making certain, unauthorized uses of the DIGITAL CONTENT, including, without limitation, the following: (1) making and storing more than one (1) copy of the DIGITAL CONTENT in each available file format on the hard drive of YOUR COMPUTER; (2) accessing the DIGITAL CONTENT on YOUR COMPUTER (once you have installed a copy of it on the hard drive of YOUR COMPUTER) using a media player that is not an APPROVED MEDIA PLAYER; (3) transferring copies of the DIGITAL CONTENT that reside on the hard drive of YOUR COMPUTER on to portable devices that are not APPROVED PORTABLE DEVICES; (4) burning more than three (3) copies of the DIGITAL CONTENT stored on YOUR COMPUTER (ATRAC OpenMG file format only) onto AtracCDs; (5) burning more than three (3) copies of the DIGITAL CONTENT onto recordable compact discs in the so-called "Red Book"-compliant audio file format; and (6) burning more than three (3) backup copies of this CD (using the burning application provided on the CD) onto recordable CDs and burning or otherwise making additional copies from the resulting backup copies.

Melcon v. Sony BMG Music Entm't, No. C 05 5084 MHP (N.D. Cal. Dec. 8, 2005), Ex. A at 2-3, available at http://www.eff.org/IP/DRM/Sony-BMG/ND_cal_complaint.pdf [hereinafter Melcon Complaint].

71. Settlement Agreement, *supra* note 63, ¶ 1.G. The copy-prevention software only installs if the Windows "Autorun" feature is enabled, which it generally is because that is the default setting. Halderman & Felten, *supra* note 62, at 5.

72. Melcon Complaint, *supra* note 70, ¶ 21 & Ex. A.

In fact, however, the MediaMax software files (which consisted of more than a dozen files at approximately 15 MB) are loaded onto the computer *before* the user is given the opportunity to accept the EULA.⁷³

MediaMax employs a temporary protection measure in order to prevent the user from copying music when the EULA is being displayed (*i.e.*, when the CD is first inserted in the computer).⁷⁴ This "temporary" protection measure installs and activates the anti-copying software before the EULA is even presented to the user.⁷⁵ The software, therefore, is installed without obtaining the user's consent.

Even worse, if the user rejects the EULA, the MediaMax software remains on the hard drive.⁷⁶ Although rejecting the EULA is supposed to deactivate the software, that is not always the case.⁷⁷ In certain situations, the software remains permanently active.⁷⁸ For example, if the user inserts a MediaMax 3.0 CD and then later inserts a MediaMax 5.0 CD (or vice versa), the software will be active despite the user's prior decision to decline the EULA.⁷⁹ Similarly, inserting a 5.0 CD, rebooting your computer, and then inserting the same album or another CD with the 5.0 software will lead to the same result.⁸⁰

The MediaMax software also loads a type of device driver onto the computer's hard drive to prevent copying.⁸¹ With respect to the 3.0 version, "[t]he driver examines each CD placed in the machine, and when it recognizes the protected title, it actively interferes with read operations on the audio content."⁸² Similarly, the 5.0 version causes a "kernel-level driver" to be installed on the computer, the purpose of which is "to block CD ripping and copying applications from reading the audio tracks on MediaMax CDs."⁸³

In addition to the obvious problems with the manner in which it was installed, the MediaMax software caused other concerns, namely, that it exchanged information between the user's computer and Sony.⁸⁴ More specifically, the MediaMax program collects personal information, including (i) the user's IP address, (ii) the type of operating system on the user's computer, (iii) the version of Internet Explorer installed on the user's computer, and (iv) the title of the MediaMax CD that the user cur-

73. Settlement Agreement, *supra* note 63, ¶ I.G.

74. Halderman & Felten, *supra* note 62, at 7.

75. *Id.*; Settlement Agreement, *supra* note 63, ¶ I.G.

76. Halderman & Felten, *supra* note 62, at 7.

77. *See id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. Halderman, *supra* note 65.

82. *Id.*

83. Melcon Complaint, *supra* note 70, ¶ 18.

84. *Id.* ¶ 25; Sony Complaint, *supra* note 68, ¶ 27.

rently has loaded on his computer.⁸⁵ In light of this evidence, the statement in the EULA that “the software will not be used at any time to collect any personal information from you, whether stored on YOUR COMPUTER or otherwise,”⁸⁶ appears inaccurate.

2. XCP

In January 2005, Sony began releasing CDs with a different DRM system known as Extended Copy Protection or XCP.⁸⁷ Various versions of XCP were designed and licensed to Sony by First 4 Internet Ltd. (“F4i”),⁸⁸ a developer of content management technology based in the United Kingdom.⁸⁹ Like MediaMax, the purpose of the XCP technology was to limit, but not preclude, the use of personal computers to copy CDs.⁹⁰ For instance, XCP allowed users to make up to three copies of the CD, but tracks could only be played with the media player that was included with the CD and could only be downloaded to certain types of portable players.⁹¹

Also like MediaMax, the way that XCP installed itself and operated was fraught with complications. When an XCP CD was inserted in a computer, a EULA automatically appeared on the screen.⁹² Among other things, the EULA provided:

Before you can play the audio files on YOUR COMPUTER or create and/or transfer the DIGITAL CONTENT to YOUR COMPUTER, you will need to review and agree to be bound by an end user license agreement or “EULA” [I]f you do not agree to be bound by these terms and conditions, you will not be able to utilize the audio files or the DIGITAL CONTENT on YOUR COMPUTER.⁹³

85. Melcon Complaint, *supra* note 70, ¶ 25; Sony Complaint, *supra* note 68, ¶ 27. The MediaMax software also allegedly contains an advertising program called “Perfect Placement.” SunnComm described this program in a 2005 press release:

This unique feature centrally serves up dynamic promotional content controlled by the record label to reserved spaces located throughout MediaMax interface while a user is enjoying their CD on the computer Imagine an artist’s album is coming out and the record company has the ability to announce this event to all those playing the artist’s previously released album on their computer.

Melcon Complaint, *supra* note 70, ¶ 32.

86. See Melcon Complaint, *supra* note 70, ¶ 22 & Ex. A.

87. Sony Complaint, *supra* note 68, ¶ 23. Sony released a total of 52 albums with XCP software. Settlement Agreement, *supra* note 63, Ex. A.

88. Settlement Agreement, *supra* note 63, ¶ 1.B.

89. F4i Company Page, <http://www.first4internet.co.uk/company.aspx> (last visited Sept. 15, 2006).

90. Sony Complaint, *supra* note 68, ¶ 24.

91. Russinovich, *supra* note 4; Sony, *Rootkits and Digital Rights Management Gone Too Far*, SYSINTERNALS BLOG (Oct. 31, 2005), <http://www.sysinternals.com/blog/2005/10/sony-rootkits-and-digital-rights.html>; see also Sony Complaint, *supra* note 68, ¶ 24. The XCP EULA explaining what the user could and could not do with the CD was exactly the same as on the MediaMax EULA. See Melcon Complaint, *supra* note 70, Ex. B, Art. 2-3.

92. Settlement Agreement, *supra* note 63, ¶ 1.G.

93. Melcon Complaint, *supra* note 70, Ex. B at ¶ 2.

Hence, if the user wanted to play the CD on a computer, he had no choice but to accept the EULA. Once the user accepted the EULA, it would not be displayed again when another CD with XCP software was loaded onto that user's computer.⁹⁴ So the user was given just one opportunity to read the following language:

As soon as you have agreed to be bound by the terms and conditions of the EULA, this CD will automatically install a small proprietary software program . . . onto YOUR COMPUTER. The SOFTWARE is intended to protect the audio files embodied on the CD, and it may also facilitate your use of the DIGITAL CONTENT. Once installed, the SOFTWARE will reside on YOUR COMPUTER until removed or deleted. However, the SOFTWARE will not be used at any time to collect any personal information from you, whether stored on YOUR COMPUTER or otherwise.⁹⁵

Unlike MediaMax, XCP did not use a temporary protection measure that installed software before the EULA was accepted by the user. Instead, XCP prevented copying during the installation process by monitoring the list of applications that were running on the user's computer at the time the EULA was being displayed in order to determine if the user was running a "blacklisted" ripping and copying application.⁹⁶ If such an application was found, the EULA was replaced with a warning instructing the user to close the offending application within 30 seconds or the XCP installation would terminate and the CD would be ejected.⁹⁷

Once installed, however, the XCP software was far more dangerous than the MediaMax program because it "contains a potentially harmful 'rootkit' which renders the user's computer more vulnerable to 'malware' promulgated by third parties, including 'viruses,' 'Trojan Horses' and 'spyware,' than the computers would have been had the XCP Software not been installed."⁹⁸ The XCP EULA says nothing about this rootkit.⁹⁹

A rootkit is "a set of software tools frequently used by a third party (usually an intruder) after gaining access to a computer system. These tools are intended to conceal running processes, files or system data, which helps an intruder maintain access to a system without the user's

94. Sony Complaint, *supra* note 68, ¶ 28.

95. Melcon Complaint, *supra* note 70, Ex. B ¶ 3.

96. Halderman & Felten, *supra* note 62, § 4.2.1.

97. *Id.* The warning stated:

The installation cannot continue because there are applications running which need to be closed. Please manually close all programs shown in the list below, or click "Close Applications Now" to do it automatically. If you do not close these down within the allowed period then the installation will terminate until you next insert the disc.

Id.

98. Settlement Agreement, *supra* note 63, ¶ 1.E.

99. Melcon Complaint, *supra* note 70, Ex. B.

knowledge.”¹⁰⁰ Rootkits are not visible to a computer’s operating system, nor can they be detected by antivirus and security software.¹⁰¹

Here, the Sony rootkit functioned by integrating itself in the computer’s operating system and then concealing all files that began with “\$sys\$,” which included the XCP copy-prevention software.¹⁰² The danger of this “cloaking mechanism” is that any file can be made invisible to the user by assigning it a name that begins with “\$sys\$.”¹⁰³ Consequently, users who have played Sony CDs containing XCP software on their computers are left vulnerable to hackers.¹⁰⁴

Not only did the XCP software install this rootkit, but, contrary to the EULA, it also gathered personal information from the user’s computer.¹⁰⁵ Like the MediaMax software, the XCP program communicated the user’s IP address and the title of the CD the user was currently playing to Sony.¹⁰⁶ Additionally, when Sony’s server received the information about what CD was being played, it “automatically check[ed] for updates to the album art and lyrics for that album, . . . [which] uses the bandwidth that would otherwise be available to the user’s computer for other tasks.”¹⁰⁷ Thus, both the MediaMax and XCP systems “phone home” with personal information regarding Sony’s consumers.¹⁰⁸

B. *The Discovery of Sony’s Copy Protection Technology*

1. Alex Halderman and the MediaMax Software

When CDs with the MediaMax copy-prevention system were released in September 2003, it was not a secret. SunnComm issued a press release lauding its new technology,¹⁰⁹ and numerous newspaper articles

100. Security Reference Guide, *The Sony Rootkit: What It Is and How to Remove It*, INFORMIT.COM, para. 4 (Sept. 15, 2006), <http://www.informit.com/guides/content.asp?g=security&seqNum=192&rl=1> (citation omitted).

101. Melcon Complaint, *supra* note 70, ¶ 52.

102. Sony Complaint, *supra* note 68, ¶ 35; Melcon Complaint, *supra* note 70, ¶¶ 51-53.

103. Sony Complaint, *supra* note 68, ¶ 35.

104. *Id.* ¶ 36; Nancy Lang-Feldman, *Sony’s Rootkit Is All Evil*, COMPUTER SHOPPER, ¶ 4 (Mar. 2006), http://shopper.cnet.com/4002-7409_9-6457527.html.

105. Settlement Agreement, *supra* note 63, ¶ I.E; Sony Complaint, *supra* note 68, ¶ 27.

106. Melcon Complaint, *supra* note 70, ¶¶ 59-60; Sony Complaint, *supra* note 68, ¶ 27.

107. Melcon Complaint, *supra* note 70, ¶ 59.

108. Bruce Schneier, *Real Story of the Rogue Rootkit*, WIRED NEWS, (Nov. 17, 2005), <http://www.wired.com/news/privacy/0,1848,69601,00.html>.

109. SunnComm Press Release, *supra* note 66, ¶¶ 2-4. The press release stated:

MediaMax CD3 products passed all tests and met the toughest standards. . . . It achieved a very high level of playability combined with an incredible level of security for the music. . . . [T]he functionality and security level offered by the MediaMax technology was pushed to the limit. The testing results were able to verify playability on consumer electronic devices, stability of the product on computers and robustness of the security features to protect content against unauthorized copying when used with CD ripper programs [sic].

were written on the topic.¹¹⁰ Moreover, the MediaMax CDs contained warnings. For example, the album cover stated: "This CD is protected against unauthorized duplication. It is designed to play on standard playback devices and an appropriately configured computer (see system requirements on back). If you have questions or concerns visit <http://www.sunncomm.com/support/bmg>."¹¹¹ And the face of the CD itself stated: "This disc is protected against unauthorized duplication."¹¹²

However, consumers were not warned about the manner in which the MediaMax program operated (*i.e.*, that the software files were installed even if the EULA was declined), nor were they aware the software was communicating personal information to Sony.¹¹³ That changed in October 2003 when J. Alex Halderman, a Ph.D. student in computer science at Princeton University, published a paper analyzing the MediaMax software.¹¹⁴ Not only did Halderman describe how the MediaMax software worked, he explained that a user can easily bypass the software by holding down the shift key for a few seconds while loading a CD onto the computer.¹¹⁵

Once again, the record industry's hopes for a marketable and secure copy-protection system were quickly dashed. Mr. Halderman's publica-

110. *U.S. Firm Hopes Anti-Piracy CD Will Rock Blackmarket*, BUS. TIMES, ¶ 1 (Sept. 26, 2003), http://web.archive.org/web/20031024232303/http://it.asia1.com.sg/newsdaily/news006_20030926.html (reporting "SunnComm Technologies Inc. said on Wednesday it has designed a revolutionary CD with embedded anti-piracy technology that it hopes will rock the black-market trade in pirated music"); Frank Ahrens, *BMG Offers Legal Song Sharing*, WASH. POST, Sept. 23, 2003, at E1; Jon Healey, *BMG is Releasing Copy-Protected CDs*, LA TIMES, Sept. 13, 2003, at C3.

111. Halderman, *supra* note 65, § 2. The "systems requirements" on the back of the CD provided:

THIS CD IS ENHANCED WITH MEDIAMAX SOFTWARE. Windows Compatible Instructions: Insert disc into CD-ROM drive. Software will automatically install. If it doesn't, click on 'LaunchCd.exe.' MacOS Instructions: Insert disc into CD-ROM drive. Click on "Start." Usage of the CD on your computer requires your acceptance of the End User License Agreement and installation of specific software contained on the CD. Windows System Requirements: Windows 98/2000/XP, Internet Explorer 5.5 or later, Windows Media Player 7.1 or compatible player. Mac System Requirements: Mac OSX 10.1, Power Mac G3/G4, iMac, eMac, Powerbook G3/G4, iBook with 128 Mb of RAM, Windows Media Player for Mac OSX, Internet Explorer 5.2, Monitor capable of displaying 800x600 screen resolution & 256 colors (64K colors recommended), 12x or faster multi-session-enabled CD-ROM drive, Flash Player 6. Digital files on this CD will also play on portable devices supporting secure WMA files. Certain computers may not be able to access the enhanced portion of this disc. None of the manufacturers, developers, or distributors make any representation or warranty, or assumes any responsibility, with respect to the enhanced portion of this disc.

Id.

112. *Id.*

113. Halderman & Felten, *supra* note 62, §§ 4.2.2, 6.

114. Halderman, *supra* note 65. Mr. Halderman is a student of Professor Felten's and was part of the team that removed the digital watermark in response to the SDMI challenge in 2000. See *supra* Part I.B.2; see also <http://www.cs.princeton.edu/~jhalderm/>.

115. Halderman, *supra* note 65, § 3. Halderman also reported that, only four days after the release of *Comin' From Where I'm From* by Anthony Hamilton (Arista Records/BMG), a CD containing the MediaMax DRM, he searched peer-to-peer networks and discovered that every song from that album was available to be downloaded. *Id.*

tion was particularly devastating for SunnComm, whose stock fell nearly 25% within forty-eight hours of the paper hitting the Internet.¹¹⁶ SunnComm responded by threatening to sue Halderman for violation of the anti-circumvention provisions of the Digital Millennium Copyright Act.¹¹⁷ Ultimately, however, SunnComm decided against filing suit against Mr. Halderman, presumably because doing so would turn an already bad situation into a complete public relations nightmare.¹¹⁸

2. Mark Russinovich and the XCP Software

In late October 2005, Mark Russinovich, a computer security analyst, discovered a hidden software program on his computer that he believed was a rootkit.¹¹⁹ Mr. Russinovich was able to trace the software program to a Sony CD he had recently played on his computer.¹²⁰ Mr. Russinovich then attempted to remove the rootkit, but realized he could not do that without compromising his computer system.¹²¹

After further investigation, Mr. Russinovich also discovered that the XCP software “engage[ed] in ‘phone home’ behavior.”¹²² Specifically, the software connected to Sony’s servers and provided the customer’s IP address,¹²³ as well as a code associated with the CD that the customer was listening to on his computer.¹²⁴

On October 31 and November 4, 2005, Mr. Russinovich published his findings about the Sony rootkit in great detail on his weblog.¹²⁵ News of Sony’s potentially dangerous software program spread quickly on the

116. *SunnComm Says Pointing to Shift Key “Possible Felony,”* Oct. 9, 2003, available at <http://yro.slashdot.org/article.pl?sid=03/10/09/2211259&mode=nested&tid=123&tid=126&tid=141&tid=172&tid=188&tid=93&tid=99>; *SunnComm Threatens Suit Over Shift Key Circumvention*, Oct. 10, 2006, available at <http://grop.law.harvard.edu/article.pl?sid=03/10/10/0917244>; Kevin Maney, *Debate Heats Up As Student Spots Hole In CD Protection*, USA TODAY, available at http://www.usatoday.com/money/industries/technology/2003-10-26-princeton-cover_x.htm.

117. Tony Smith, *SunnComm to Sue “Shift Key” Student for \$10 Million*, THE REGISTER, Oct. 9, 2003, available at http://www.theregister.co.uk/2003/10/09/sunncomm_to_sue_shift_key.

118. Declan McCullagh, *SunnComm Won’t Sue Grad Student*, CNET NEWS, Oct. 10, 2005, <http://news.com.com/2100-1027-5089448.html> (“SunnComm’s threats had drawn enormous attention in a short time, with some legal analysts saying a lawsuit would represent an egregious abuse of the DMCA.”); *SunnComm Technologies Reverses Decision to Bring Legal Action Against Princeton Researcher*, Oct. 10, 2003, <http://www.sunncomm.com/press/pressrelease.asp?prid=200310101150>.

119. Affidavit of Mark Russinovich in Support of Plaintiffs’ Motion for Final Approval of Class Action Settlement ¶ 7, at 2; *In re Sony BMG CD Tech. Litig.*, Case No. 1:05-cv-09575-NRB, ¶ 7 (S.D.N.Y. 2006) [hereinafter Russinovich Affidavit], available at <http://www.sonybmgcdtechsettlement.com/pdfs/RussinovichAffISOFinalApp-4-5-06.pdf>; see also Nate Mook, *Lawsuit Fights Back Against Sony DRM*, BETANEWS, Nov. 10, 2005, http://www.betanews.com/article/Lawsuit_Fights_Back_Against_Sony_DRM/1131635264 (“Russinovich first reported on the software after his company’s security tool recognized a “rootkit” on his machine.”).

120. Russinovich Affidavit, *supra* note 119, ¶¶ 7-8, at 2.

121. *Id.* ¶ 11; Andrew Kantor, *Sony: The Rootkit of All Evil?*, USA TODAY, Nov. 17, 2005, available at http://www.usatoday.com/tech/columnist/andrewkantor/2005-11-17-sony-rootkit_x.htm.

122. Russinovich Affidavit, *supra* note 119, ¶ 14, at 4-5.

123. Settlement Agreement, *supra* note 63, ¶ 1.E.

124. Russinovich Affidavit, *supra* note 119, ¶ 14, at 4-5.

125. *Id.* ¶¶ 7, 14 & Exs. B & C.

Internet, and ultimately to the mainstream media.¹²⁶ On November 10, 2005, Symantec Corporation, a computer security company, announced that it had discovered the first XCP-related virus, which "tears down firewalls and gives hackers access to personal computers."¹²⁷ The public was outraged and demanded a response from Sony.¹²⁸

C. Sony's Response to Discovery of the Rootkit

Sony's initial response to Mr. Russinovich's discovery was to deny any wrongdoing and defend its software.¹²⁹ During an interview on National Public Radio, Thomas Hesse, President of Sony's Global Digital Business, said: "Most people I think don't even know what a rootkit is, so why should they care about it?"¹³⁰ Mr. Hesse further indicated that the software was only included on about twenty titles, when in fact, the number was closer to fifty.¹³¹ He also admitted that the software was cloaked "so would-be pirates can't find it and remove it."¹³² Finally, Mr. Hesse said that "no information ever gets gathered about the user's behavior. No information ever gets communicated back. . . . This is purely about restricting the ability to burn MP3 files in an unprotected manner."¹³³

After further media exposure and numerous customer complaints, Sony released a program that was supposed to remove the XCP "cloaking mechanism," as well as uninstall tools for both the MediaMax and

126. Sony Complaint, *supra* note 68, ¶ 34; Mook, *supra* note 119.

127. Sony Complaint, *supra* note 68, ¶ 38; Gregg Keizer, *Sony Issues Patch As Hackers Pounce on Rootkit*, INFORMATIONWEEK, Nov. 3, 2005, <http://informationweek.com/shared/printableArticleSrc.jhtml?articleID=173402819>.

128. See Nate Mook, *Sony to Help Remove Its DRM Rootkit*, BETANEWS, Nov. 2, 2005, http://www.betanews.com/article/Sony_to_Help_Remove_its_DRM_Rootkit/1130965475.

The comments to this news story demonstrate the outrage felt by many members of the public. *Id.* Some swore off purchasing CDs, others vowed never to buy another Sony product, and some viewed Sony's conduct as an excuse to download music illegally. As one person explained, "This is now a reason for me to only download music illegally. They are shooting their own feet off with this crap." *Id.*

129. Interview with Thomas Hesse, National Public Radio, Nov. 4, 2005, available at <http://www.npr.org/templates/story/story.php?storyId=4989260> [hereinafter NPR Interview]. There is evidence that Sony learned about the rootkit and the potential problems it could cause about a month before Mr. Russinovich published his findings on the Internet. See Steve Hamm, *Sony BMG's Costly Silence*, BUS. WEEK, Nov. 29, 2005, http://www.businessweek.com/technology/content/nov2005/tc20051129_938966.htm. John Guarino, owner of a small PC repair shop in New York, had been removing a mysterious rootkit from his clients' hard drives for months. *Id.* He investigated the problem using a rootkit detector software manufactured by a Finnish company called F-Secure. *Id.* Using that software, he was able to confirm on September 30, 2005, that the rootkit was caused by Sony copy-protected CDs. *Id.* Mr. Guarino notified F-Secure who conducted its own investigation. *Id.* On October 4, F-Secure told Sony about the rootkit, and Sony, in turn, asked F4i to investigate. Within approximately two weeks, F-Secure provided a full report to Sony regarding the rootkit, and described XCP as a "major security risk." *Id.* Nevertheless, it was Mark Russinovich, not Sony, who informed the public about the rootkit problem on October 31, 2005. *Id.*

130. NPR Interview, *supra* note 129.

131. See Settlement Agreement, *supra* note 63, Ex. A.

132. NPR Interview, *supra* note 129.

133. *Id.*

XCP copy-prevention software.¹³⁴ However, as Mr. Russinovich and others discovered, these software patches actually created additional risks to users' computers.¹³⁵ Consequently, on or about November 15, 2005, Sony announced that it would recall all CDs containing the XCP software and would institute a consumer exchange program for those who had already bought the copy-protected CDs.¹³⁶ There was no similar recall or exchange program with respect to MediaMax CDs.

D. Sony Rootkit Litigation

1. Consumer Class Action Suits

On November 1, 2005, the day after Mr. Russinovich published his findings about the rootkit on the Internet, the first of many class action lawsuits was filed against Sony and the manufacturers of the MediaMax and XCP software.¹³⁷ These lawsuits alleged that Sony's "manufacture, sale and distribution of DRM-enhanced music CDs, especially in the absence of appropriate warnings and disclosure,"¹³⁸ violated the Computer Fraud and Abuse Act, 18 U.S.C. § 1030, the consumer fraud, false advertising, and/or deceptive trade practices laws of several states, and state and federal common law.¹³⁹ Because several of these lawsuits were

134. Russinovich Affidavit, *supra* note 119, ¶¶ 16-17; Sony Complaint, *supra* note 68 ¶¶ 39-40. However, Sony made it difficult to obtain the XCP uninstall tool. Russinovich Affidavit, *supra* note 119, ¶¶ 17-18.

135. Russinovich Affidavit, *supra* note 119, ¶ 16; Sony Complaint, *supra* note 68, ¶¶ 47-49; Electronic Frontier Foundation, EFF Does Not Recommend Patch at This Time (Dec. 6, 2005) available at http://www.eff.org/news/archives/2005_12.php; see also Halderman & Felten, *supra* note 63, at 22-23.

136. Tom Sanders, *Sony Backs Out of Rootkit Anti-Piracy Scheme*, VNUNET.COM, Nov. 15, 2005, <http://www.vnunet.com/vnunet/news/2146053/sony-backs-root-kit-anti-piracy>; Russinovich Affidavit, *supra* note 119, ¶ 20. As of late November, however, CDs containing XCP software were still available in stores. See Arik Hesseldahl, *Spitzer Gets on Sony BMG's Case*, *New York Attorney General has turned his attention to Sony BMG's copyright fiasco*, BUSINESS WEEK ONLINE, Nov. 29, 2005, http://businessweek.com/technology/content/nov2005/tc20051128_573560.htm.

On November 29, 2005 the New York Attorney General Elliot Spitzer found through his investigators that despite the recall of November 15 Sony BMG CDs with XCP were still for sale in New York City music retail outlets. Spitzer said 'It is unacceptable that more than three weeks after this serious vulnerability was revealed, these same CDs are still on shelves, during the busiest shopping days of the year,' 'I strongly urge all retailers to heed the warnings issued about these products, pull them from distribution immediately, and ship them back to Sony.' On November 30, 2005, Massachusetts Attorney General Tom Reilly issued a statement saying that Sony BMG CDs with XCP were still available in Boston despite the Sony BMG recall of November 15. Attorney General Reilly advised consumers not to purchase the Sony BMG CDs with XCP and said that he was conducting an investigation of Sony BMG.

Wikipedia, *Sony CD Copy Protection Controversy*, http://en.wikipedia.org/wiki/2005_Sony_CD_copy_protection_controversy; see also Hesseldahl, *supra* note 136.

137. Settlement Agreement, *supra* note 63, ¶¶ I.C., I.D. (listing lawsuits filed to date against Sony).

138. Memorandum of Law in Support of Plaintiffs' Motion for Final Approval of Class Action Settlement at 6, *In re: Sony BMG CD Techs. Litig.*, Case No. 1:05-cv-09575 (NRB) (S.D.N.Y. 2006), available at <http://www.sonybmgcdtechsettlement.com/pdfs/MEMOOFLOWISOFINALAPPROVAL4-6-06.pdf> [hereinafter Final App. Motion].

139. *Id.*; Settlement Agreement, *supra* note 63, ¶ I.1. Many of the lawsuits that were filed in California also asserted California's Consumer Protection Against Computer Spyware Act, Cal. Bus.

filed in the United States District Court for the Southern District of New York, on December 1, 2005, those actions were consolidated and lead counsel was appointed (hereinafter "Consolidated Action").¹⁴⁰

In late December, the parties in the Consolidated Action reached a settlement. On December 28, 2005, the Settlement Agreement was filed with the court in conjunction with the parties' request for preliminary approval of the settlement.¹⁴¹ In exchange for a release of all claims related to the MediaMax or XCP software, defendants agreed, among other things, to:

- (i) Recall all XCP CDs;
- (ii) Maintain an ongoing exchange program so customers could receive the CD they purchased without the copy-protection software;
- (iii) Distribute a free, effective uninstall tool for both the MediaMax and XCP software programs;
- (iv) Provide cash awards and free music downloads to class members;
- (v) Agree not to use DRM software to collect personal information;¹⁴²
- (vi) Improve disclosures on future copy-protected CDs; and
- (vii) Have an independent third party test any future copy-protection software for security risks.¹⁴³

The settlement benefits for customers affected by the XCP software are clearly better than for those customers who purchased MediaMax CDs. For example, XCP customers can elect to receive cash where MediaMax customers are limited to free downloaded music.¹⁴⁴ Moreover, Sony did not agree to recall MediaMax CDs as it did with XCP CDs. The apparent reason for this is because plaintiffs believe that "MediaMax, while harmful, does not pose the same level of danger to end users and their computer systems as XCP, because MediaMax does not contain

& Prof. Code § 22947-22947.6. See, e.g., Melcon Complaint, *supra* note 70, ¶ 160 (N.D. Cal. Dec. 8, 2005).

140. Final App. Motion, *supra* note 138, at 7.

141. Settlement Agreement, *supra* note 63, at 1; see also FED. R. CIV. P. 23(e)(1)(A) ("The court must approve any settlement, voluntary dismissal, or compromise of the claims, issues, or defenses of a certified class.").

142. However, "Personal Data" as defined in the Settlement Agreement "does not include the IP address of the computer's Internet connection or any information with respect to an album title, artists and tracks, or other non-personally identifiable information, that is routinely logged by SONY BMG in connection with enhanced or connected CDs." Settlement Agreement, *supra* note 63, ¶ II.H (emphasis added). Cf. *infra* Part III.B.2. (arguing that such data does constitute personally identifiable information).

143. Settlement Agreement, *supra* note 63, ¶¶ III.B-C, K, M, S, IV.B.3.f, h; Final App. Motion, *supra* note 138, at 9-10. Sony recently settled class action suits in Canada on terms substantially identical to those in the U.S. settlement. See *Sony BMG Settles Canadian 'Rootkit' Cases*; *Tex. Suit Continues*, CONSUMER ELECTRONICS DAILY, Sept. 1, 2006, available at 2006 WLNR 15459519 [hereinafter *Sony BMG Settles Canadian 'Rootkit' Cases*].

144. Settlement Agreement, *supra* note 63, ¶¶ III.C, E-F.

a rootkit that installs hidden files on an end user's system and evades detection from firewalls, anti-spyware and anti-virus software."¹⁴⁵

On January 6, 2006, the Court conditionally certified the class and granted preliminary approval.¹⁴⁶ As of April 6, 2006, only two objections had been filed.¹⁴⁷ On May 22, 2006, the court held a fairness hearing, and subsequently granted final approval of the settlement.¹⁴⁸ Class members have until the end of 2006 to file claims,¹⁴⁹ so it is unclear at this point what the total cost of this settlement will be for defendants.

2. Government Inquiries

The rootkit incident not only caught the attention of the plaintiffs' class action bar, it spurred numerous government inquiries as well. Since December 2005, Sony has been the subject of an inquiry by the Federal Trade Commission and has been investigated by numerous state attorney generals and other governmental authorities throughout the United States.¹⁵⁰ Indeed, Stewart Baker, the assistant secretary for policy in the Department of Homeland Security, directed the following comments at Sony in response to the rootkit incident: "It is very important to remember that it's your intellectual property—it's not your computer. And in pursuit of protection of intellectual property, it's important not to defeat or undermine the security measures that people need to adopt in these days."¹⁵¹

To date, however, only one law enforcement action has actually been filed against Sony. On November 21, 2005, the Texas Attorney General, Greg Abbott, sued Sony under that state's Consumer Protection against Computer Spyware Act of 2005, Tex. Bus. & Com. Code § 48.001 *et seq.*¹⁵² This is the first suit that has ever been brought under the recently enacted spyware law.¹⁵³ The Texas action, which concerns

145. Russinovich Affidavit, *supra* note 119, ¶ 23.

146. Final App. Motion, *supra* note 138, at 10.

147. *Id.* at 18.

148. Anne Broache, *Sony Rootkit Settlement Gets Final Nod*, CNET NEWS, May 22, 2006, http://news.com.com/Sony+rootkit+settlement+gets+final+nod/2100-1030_3-6075370.html; *see also* FED. R. CIV. P. 23(e)(C) ("The court may approve a settlement, voluntary dismissal, or compromise that would bind class members only after a hearing and on finding that the settlement, voluntary dismissal, or compromise is fair, reasonable and adequate.").

149. Welcome to the Information Web Site for the Sony BMG CD Technologies Settlement, <http://www.sonybmgcdtechsettlement.com/ImportantDates.htm> (last visited September 2, 2006) [hereinafter Welcome to the Information Website].

150. Settlement Agreement, *supra* note 63, ¶ 1.M; *see, e.g.*, Kurt Opsahl, *Florida AG's Office Enters Sony BMG DRM Fray*, DEEP LINKS NOTEWORTHY NEWS FROM AROUND THE INTERNET, Jan. 3, 2006, <http://www.eff.org/deeplinks/archives/004292.php>; *Sony BMG Settles Canadian 'Rootkit' Cases*, *supra* note 143.

151. Russinovich Affidavit, *supra* note 119, ¶ 19.

152. Plaintiff's Original Petition, ¶¶ 14-16, *State of Texas v. Sony BMG Music Entm't, LLC*, No. GV505065 (126th Tex. Dist. Ct. Nov. 21, 2005), *available at* http://www.oag.state.tx.us/newspubs/releases/2005/112105sony_pop.pdf [hereinafter Texas Petition]; *Texas Sues Sony BMG for Spyware*, COMPUTER & INTERNET LAWYER, Feb. 2006, at 31.

153. *Texas Sues Sony BMG for Spyware*, *supra* note 152, at 31.

only the XCP software, makes claims similar to those asserted in the consumer class action lawsuits discussed in the previous section.¹⁵⁴

Sony is currently in negotiations with Attorney General Abbott and other law enforcement agents to try to settle these matters. In fact, the Settlement Agreement in the Consolidated Action provides that: "The Parties expect that, by the date of the Fairness Hearing, SONY BMG will have entered into an enforceable, nationwide agreement resolving one or more of the Government Inquiries."¹⁵⁵ But the fairness hearing has come and gone and yet no settlement has been reached and the Texas action continues to proceed.¹⁵⁶

Sony has been able to resolve the litigation resulting from the rootkit debacle rather quickly. But this is not the end of the story. The rootkit debacle has disillusioned consumers, lawmakers, and artists alike. Moreover, it has raised numerous legal questions that are sure to arise the next time Sony or another record label releases copy-protected CDs.

III. LEGAL QUESTIONS RAISED BY THE SONY ROOTKIT DEBACLE

The Sony rootkit debacle has raised numerous legal issues, and this section focuses on those at the heart of the controversy surrounding the recording industry's use of digital rights management (DRM) to protect its intellectual property. First, it analyzes Sony's potential liability for manufacturing and distributing CDs containing MediaMax and XCP software, including (i) whether it violated the Computer Fraud and Abuse Act and the Texas Consumer Spyware Act of 2005,¹⁵⁷ and (ii) whether Sony's copy-prevention software comported with copyright law, specifically the fair use doctrine. Second, this section examines the Digital Millennium Copyright Act of 1998, which prohibits the circumvention of DRM technology, and the potential legal exposure created by that statute for Sony customers and security researchers.

154. Compare Texas Petition, *supra* note 152, ¶¶ 7-13 and Sony Complaint, *supra* note 68, ¶¶ 1-4.

155. Settlement Agreement, *supra* note 63, ¶ IV.A.

156. Welcome to the Information Website, *supra* note 149; *Sony BMG Settles Candian 'Rootkit' Cases*, *supra* note 143.

157. There are numerous state law claims that were or potentially could have been asserted against Sony, such as trespass to chattels, unfair business practices, and fraud. See Sony Complaint, *supra* note 68, ¶¶ 68-99 (alleging non-disclosure, deceptive acts and practices, false advertising, breach of implied covenant of good faith and fair dealing, trespass to chattels, common law fraud, and negligent misrepresentation); Melcon Complaint, *supra* note 70, ¶¶ 90-114 (alleging material misrepresentations and omissions of fact, unconscionability and unreasonableness, and computer contamination in violation of California Penal Code § 502). Because evaluating every potential cause of action against Sony is beyond the scope of this article, it focuses on the Computer Fraud and Abuse Act, the only federal statute asserted against Sony, and the Texas Consumer Spyware Act, the only law that a government agency has alleged was violated by Sony's conduct. Texas Petition, *supra* note 152, ¶¶ 14-16; Sony Complaint, *supra* note 68, ¶¶ 58-67.

A. Sony's Potential Liability¹⁵⁸

1. Computer Fraud and Abuse Act

The Computer Fraud and Abuse Act (CFAA), which was enacted in 1984, was the first comprehensive federal computer crime statute.¹⁵⁹ The CFAA outlaws seven types of conduct: (1) knowingly accessing a computer without authorization, or exceeding authorized access, to obtain national security information;¹⁶⁰ (2) intentionally accessing a computer without authorization, or exceeding authorized access, to obtain information;¹⁶¹ (3) intentionally accessing without authorization a computer used by the federal government;¹⁶² (4) knowingly accessing a "protected computer" without authorization, or exceeding authorized access, with intent to defraud;¹⁶³ (5) intentionally accessing a "protected computer" without authorization and causing damage;¹⁶⁴ (6) knowing fraudulent trafficking of computer passwords;¹⁶⁵ and (7) transmitting communications that threaten to damage a "protected computer" with intent to extort.¹⁶⁶

The CFAA is a criminal statute that also provides for a civil cause of action.¹⁶⁷ Pursuant to section 1030(g), a civil lawsuit can be brought if (i) plaintiff suffered damage or loss due to a violation of the statute, and (ii) the conduct at issue involved one of the five factors listed in 18 U.S.C. § 1030(a)(5)(B).¹⁶⁸ The first factor—"loss to 1 or more persons during any 1-year period (and, for purposes of an investigation, prosecution, or other proceeding brought by the United States only, loss resulting from a related course of conduct affecting 1 or more other protected computers) aggregating at least \$5,000 in value"—is the one that litigants generally rely upon.¹⁶⁹

158. Sony likely would argue it was unaware of how the copy-prevention software operated, and therefore, should not be held liable for any damage it may have caused. This article presumes that Sony's attempt to make such an argument would fail.

159. 18 U.S.C.A. § 1030 (West 2006); Dodd S. Griffith, *The Computer Fraud and Abuse Act of 1986: A Measured Response to a Growing Problem*, 43 VAND. L. REV. 453, 474-82 (1990).

160. § 1030(a)(1).

161. § 1030(a)(2).

162. § 1030(a)(3).

163. § 1030(a)(4).

164. § 1030(a)(5).

165. § 1030(a)(6).

166. § 1030(a)(7).

167. § 1030(g).

168. *Southwest Airlines v. Farechase, Inc.*, 318 F. Supp. 2d 435, 439 (E.D. Tex. 2004) ("A careful reading of the statute shows that a civil plaintiff is not required to state a cause of action pursuant to subsection (a)(5), but merely to allege one of the factors enunciated in subsection (a)(5)(B).").

169. § 1030(a)(5)(B)(i). The other four factors are:

(ii) the modification or impairment, or potential modification or impairment, of the medical examination, diagnosis, treatment, or care of 1 or more individuals; (iii) physical injury to any person; (iv) a threat to public health or safety; or (v) damage affecting a computer system used by or for a government entity in furtherance of the administration of justice, national defense, or national security.

Id. § 1030(a)(5)(B)(ii)-(v).

a. Is there a cause of action under § 1030(a)(5)(B)?

In the Consolidated Action, plaintiffs asserted that Sony violated section 1030(a)(5)(B) of the CFAA by intentionally accessing customers' computers without authorization and, as a result of such conduct, causing damage—namely the “loss to 1 or more persons during any 1-year period . . . aggregating at least \$5,000 in value.”¹⁷⁰ To prevail on this claim, plaintiffs would have been faced with two potential stumbling blocks: the \$5,000 damage provision and the unauthorized access requirement.¹⁷¹

i. CFAA's \$5,000 Damage Provision

Under section 1030(a)(5) of the CFAA, plaintiffs must prove “damage” or “loss” of at least \$5,000.¹⁷² This is often an insurmountable barrier to the individual computer user because “[e]ven the most expensive personal computer costs much less than this.”¹⁷³ Moreover, it is not clear what type of damage or loss is sufficient to meet the CFAA's \$5,000 requirement. Some courts have held that the damage or loss must be related to investigating or remedying damage to a computer.¹⁷⁴ Others have concluded that damage to reputation or goodwill counts toward the damage threshold.¹⁷⁵ “The question this raises for the individual con-

170. Sony Complaint, *supra* note 68, ¶¶ 59-67.

171. The statute also provides that the defendant access a “protected computer,” which is limited to computers used by a financial institutions, the United States Government, or in interstate commerce or communication. See § 1030(e)(2). In the past, this requirement posed an additional hurdle because most computers were not used in these capacities. See, e.g., Benjamin J. Patterson, *Spyware Covertly Infringing on Your Internet Privacy While Circumventing the Federal Legislation Radar*, 54 DRAKE L. REV. 233, 249-50 (2005). However, if a computer is connected to the Internet, it more than likely is used in interstate commerce or communication. Although a significant number of Americans still do not use the Internet, most of those people do not have a computer. See Jim Downing, *Americans Who Use the Internet*, SMART MOBS, Oct. 6, 2005, available at http://www.smartmobs.com/archive/2005/10/06/americans_who_u.html; *Nearly 150 Million Adult Americans Use the Internet, Survey Says*, FOX.COM, Apr. 28, 2006, available at <http://www.foxnews.com/story/0,2933,193417,00.html>. Thus, while there may be some computers that are not connected to the Internet and, therefore, would not meet the “protected computer” requirement, they are a small minority. Downing, *supra* note 171; § 1030(e)(2). This is particularly true with respect to those individuals harmed by the Sony rootkit, because the vast majority of people who listen to music on their computers are also Internet users.

172. Whether a plaintiff claims “damages” or “losses” under the CFAA, courts have held that plaintiff is subject to the \$5,000 threshold. See *In re DoubleClick Inc. Privacy Litig.*, 154 F. Supp. 2d 497, 522 (S.D.N.Y. 2001).

173. Alan F. Blakley et al., *Coddling Spies: Why the Law Doesn't Adequately Address Computer Spyware*, 2005 DUKE L. & TECH. REV. 25, 33.

174. See, e.g., *Nexans Wires S.A. v. SARK-USA, Inc.*, 319 F. Supp. 2d 468, 473-74 (S.D.N.Y. 2004) (stating that costs unrelated to computer repair, such as travel costs for business that could have been conducted by telephone, do not constitute “loss” within the meaning of the CFAA); *Res-Dev, LLC v. Lot Builders Ass'n*, 6:04 cv_1374_Orl_31DAB, 2005 U.S. Dist. LEXIS 19099, at *9-12 (M.D. Fla. 2005) (“The CFAA’s ‘loss’ definition . . . list[s] costs that are similar in that they are all directly associated with, or with addressing, an unauthorized-computer-access event.”).

175. *America Online, Inc. v. LCGM*, 46 F. Supp. 2d 444, 451 (E.D. Va. 1998).

sumer is whether litigation and the necessity of experts to show the extent of loss are worth the chance of recovery."¹⁷⁶

Even where, as here, a class action has arisen, the damage provision can still pose a problem because courts are divided on whether plaintiffs' claims can be aggregated to meet the \$5,000 minimum.¹⁷⁷ In *Thurmond v. Compaq Computer Corporation*,¹⁷⁸ the court held that aggregation is not permitted under the CFAA because the statute requires damage to "a protected computer," *i.e.*, a *single* computer.¹⁷⁹ The court explained that "no one can bring a cause of action unless the defendant causes an aggregate of \$5,000 'damage' to a protected computer. If defendant causes such damage, then any injured person may bring a claim even if, his or her own 'damage,' is less than \$5,000."¹⁸⁰

In *In re DoubleClick Inc. Privacy Litigation*,¹⁸¹ the court analyzed the CFAA's legislative history and held that plaintiffs could only aggregate damages and losses across victims and time for a *single act* by the defendant.¹⁸² In reaching this conclusion the court relied on the fact that "damage" is defined as "any impairment to the integrity or availability of data, a program, a system, or information."¹⁸³ That Congress used the singular form of these words rather than the plural (*i.e.*, programs, systems) indicates that the statute should apply only to single acts.¹⁸⁴

By contrast, in *In re: America Online, Inc. (AOL)*,¹⁸⁵ the court held that the \$5,000 threshold applies to all computers that the defendant's unlawful conduct affected.¹⁸⁶ The court specifically considered, and rejected, the decisions in *Thurmond* and *DoubleClick* on the grounds that they were not binding precedent, they misread the statute, and they misinterpreted the legislative history.¹⁸⁷ The court further explained that interpreting the CFAA as *Thurmond* and *DoubleClick* courts did,

would lead to the absurd result that a party who accesses one computer without authorization, and thereby causes \$5,000 worth of damage to that one computer, would be guilty of violating the CFAA and, therefore, civilly liable. On the other hand, a party who accesses

176. Blakley et al., *supra* note 173, at 33.

177. Luke J. Albrecht, *Online Marketing: The Use of Cookies & Remedies for Internet Users*, 36 SUFFOLK U. L. REV. 421, 431-33 (2003).

178. 171 F. Supp. 2d 667, 681 (E.D. Tex. 2001).

179. § 1030(a)(5)(A)(iii) (emphasis added).

180. *Thurmond*, 171 F. Supp. 2d at 681.

181. 154 F. Supp. 2d 497 (S.D.N.Y. 2001).

182. *DoubleClick*, 154 F. Supp. 2d at 523-24.

183. § 1030(e)(8) (emphasis added).

184. *DoubleClick*, 154 F. Supp. 2d at 523.

185. 168 F. Supp. 2d 1359 (S.D. Fla. 2001).

186. *In re America Online, Inc.*, 168 F. Supp. 2d 1359, 1374 (S.D. Fla. 2001).

187. The *AOL* court also distinguished these cases on another ground: "Moreover, their precedent did not allow them to aggregate damages until the classes had been certified. In the Eleventh Circuit, the rule is opposite, for a case is treated as a class action until certification is denied." *Id.* at 1373.

millions of computers and causes only \$100 worth of damage to each computer would not be guilty of violating the CFAA.¹⁸⁸

In light of this split among district courts, it is unclear to what extent plaintiffs may aggregate their damages in alleging a CFAA violation. Nevertheless, in a lawsuit against Sony for damage caused by its copy-protection software, plaintiffs would be able to satisfy the \$5,000 minimum regardless of whether the court applied the *Thurmond*, *DoubleClick*, or *AOL* rule.

Under *Thurmond*, as long as plaintiffs can demonstrate that at least one class member suffered \$5,000 in "damage" or "loss" the threshold is met.¹⁸⁹ This includes "any reasonable cost to any victim, including the cost of responding to an offense, conducting a damage assessment, and restoring the data, program, system, or information to its condition prior to the offense"¹⁹⁰ Given the extreme difficulty customers experienced trying to remove (or have someone else remove) the software from their computer systems, it is highly likely that at least one individual suffered \$5,000 in damages.¹⁹¹

Plaintiffs also would have been able to demonstrate a "single act" as required by the court in *DoubleClick*.¹⁹² As alleged in the complaint: "SONY BMG's act of producing its master encoded tapes through which DRM CDs were made, was a single act that proximately resulted in damages greater than \$5,000."¹⁹³ At the very least, even if the production of MediaMax CDs was separate from the production of XCP CDs, each of these acts alone caused more than \$5,000 in damage to Sony customers.¹⁹⁴ Thus, plaintiffs would have satisfied the *DoubleClick* test.

Finally, there is no doubt that plaintiffs easily would have met the \$5,000 damage threshold under *AOL*, which allows the aggregation of all damage caused by defendants to any victim.¹⁹⁵ Sony manufactured more than 20 million CDs with MediaMax software, and more than 5 million with XCP software.¹⁹⁶ These CDs were installed on tens of thousands of

188. *Id.* at 1374.

189. *Thurmond*, 171 F. Supp. 2d at 681.

190. § 1030(e)(11).

191. Russinovich Affidavit, *supra* note 119, ¶ 11. Section 1030(e)(11) also provides for the recovery of consequential damages, including, but not limited to, lost revenue. § 1030(e)(11). However, section 1030(g) – the provision that grants plaintiffs the right to bring a civil action – says that "[d]amages for a violation involving only conduct described in subsection (a)(5)(B)(i) are limited to economic damages." *Id.* § 1030(g) (emphasis added). Courts have interpreted this provision to mean that "compensatory damages for such conduct will be awarded only for economic harm." *P.C. Yonkers, Inc. v. Celebrations the Party & Seasonal Superstore, LLC*, 428 F.3d 504, 511 (3d Cir. 2005).

192. *DoubleClick*, 154 F. Supp. 2d at 523.

193. Sony Complaint, *supra* note 68, ¶ 66.

194. *See id.*

195. *In re AOL*, 168 F. Supp. 2d at 1373-74.

196. Sony Complaint, *supra* note 68, ¶¶ 33, 44.

computers throughout the United States, and damages far exceeded the \$5,000 minimum.¹⁹⁷

ii. CFAA's Unauthorized Access Provision

Section 1030(a)(5)(B) additionally requires plaintiffs to demonstrate that defendant accessed a computer without authority.¹⁹⁸ More specifically, the subsection of the CFAA asserted against Sony provides that “[w]hoever . . . intentionally accesses a protected computer *without authorization*, and as a result of such conduct, causes damage; and . . . by [such] conduct . . . caused . . . loss to 1 or more persons during any 1-year period . . . aggregating at least \$5,000 in value . . . shall be punished”¹⁹⁹ In other words, the applicability of the CFAA depends on whether the owner of the CD consented to the installation of the Media-Max and/or XCP software on his computer.²⁰⁰

In cases like this one involving the installation of software, the question of consent generally turns on the End User License Agreement (EULA). A EULA is an agreement “between a producer and a user of computer software, which grants the user a software license.”²⁰¹ The EULA is usually presented to the user electronically, and installation of the software is conditioned upon the user accepting the EULA.²⁰² These types of agreements are often referred to as “shrinkwrap licenses.”²⁰³

The use of EULAs in connection with computer software has been the subject of great debate. Because EULAs are lengthy, contain overly restrictive, non-negotiable terms, and frequently are not read by users, many commentators have criticized the use of these agreements.²⁰⁴ In *Specht v. Netscape Communications Corporation*,²⁰⁵ the Second Circuit held that a EULA was unenforceable because “a consumer’s clicking on

197. See *id.* ¶¶ 60, 66.

198. § 1030(a)(5)(B).

199. § 1030(a)(5) (emphasis added). Plaintiffs also asserted claims under § 1030(a)(5)(A)(i) (“[w]hoever . . . knowingly causes the transmission of a program, information, code, or command, and as a result of such conduct, intentionally causes damage without authorization, to a protected computer”) and § 1030(a)(5)(A)(ii) (“[w]hoever . . . intentionally accesses a protected computer without authorization, and as a result of such conduct, recklessly causes damage”). Sony Complaint, *supra* note 68, ¶ 59(b), (c). For present purposes, however, it is only necessary to analyze subsection (iii) since that burden is the lowest for plaintiffs to overcome.

200. See Wayne R. Barnes, *Rethinking Spyware: Questioning the Propriety of Contractual Consent to Online Surveillance*, 39 U.C. DAVIS L. REV. 1545, 1565 (2006) (“[T]he fact that the CFAA only penalized ‘unauthorized’ computer access presupposes that any consent or authorization which has been given to the accessing entity will create a defense to liability under the CFAA.”).

201. Wikipedia, *Software License Agreement* (2006), http://en.wikipedia.org/wiki/software_license_agreement.

202. *Id.*

203. F. Lawrence Street & Mark P. Grant, *The Law of the Internet*, § 103[1] (Brian Elias et al. eds., Matthew Bender & Co., Inc., Release No. 9 2005) (1997).

204. See Michael L. Rustad & Thomas H. Koenig, *The Tort of Negligent Enablement of Cybercrime*, 20 BERKELEY TECH. L.J. 1553, 1562-63 (2005); see also Batya Goodman, Note, *Honey, I Shrink-Wrapped the Consumer: The Shrink-Wrap Agreement as an Adhesion Contract*, 21 CARDOZO L. REV. 319 (1999); Barnes, *supra* note 200, at 1547.

205. 306 F.3d 17 (2d Cir. 2002).

a download button does not communicate assent to contractual terms if the offer did not make clear to the consumer that clicking on the download button would signify assent to those terms."²⁰⁶

By contrast, other courts have upheld these agreements regardless of how unfair they may seem. In *i.Lan Systems, Inc. v. Netscout Service Level Corporation*,²⁰⁷ for example, the court held that clicking on the "I Agree" box was sufficient consent to form a contract.²⁰⁸ Similarly, in *ProCD, Inc. v. Zeidenberg*,²⁰⁹ the Seventh Circuit held that shrinkwrap licenses are enforceable because, in many common transactions, contracts are considered valid even though the consumer purchases the product before being presented with the detailed terms of the contract.²¹⁰

Here, the question whether acceptance of Sony's EULA provides the necessary "consent" or "authorization" under the CFAA depends not only on the terms of the EULA, but also on the manner in which the anti-copying software was installed and how it operated. Although the terms of the MediaMax and XCP EULA were essentially identical, as described above, there were differences in the installation and operation of the two software programs. Accordingly, MediaMax and XCP must be analyzed separately under the CFAA.

a.) MediaMax Was Installed "Without Authorization"

MediaMax attempted to protect the content on the CD from being ripped and copied while the EULA was being displayed by immediately installing, and at least temporarily activating, the anti-copying software.²¹¹ In other words, the MediaMax software was installed before the user accepted the EULA and, thus, "without authorization."²¹² Even if the user ultimately rejected the EULA, the software remained on his computer, and, in some cases, remained permanently active.²¹³

The facts of this case are far more egregious than in *Specht v. Netscape*²¹⁴ where the court determined there was no informed consent be-

206. *Specht*, 306 F.3d at 29-30; see also *Step-Saver Data Sys., Inc. v. Wyse Tech.*, 939 F.2d 91, 98 (3d Cir. 1991); *SoftMan Prods. Co. v. Adobe Sys., Inc.*, 171 F. Supp. 2d 1075, 1088 (C.D. Cal. 2001); *Arizona Retail Sys., Inc. v. Software Link, Inc.*, 831 F. Supp. 759, 765 (D. Ariz. 1993); *Klocek v. Gateway, Inc.*, 104 F. Supp. 2d 1332, 1341 (D. Kan. 2000); *U.S. Surgical Corp. v. Orris, Inc.*, 5 F. Supp. 2d 1201, 1206 (D. Kan. 1998).

207. 183 F. Supp. 2d 328 (D. Mass 2002).

208. *i.Lan*, 183 F. Supp. 2d at 338; see also *M.A. Mortenson Co. v. Timberline Software Co.*, 998 P.2d 305, 311-14 (Wash. 2000); *Caspi v. Microsoft Network, L.L.C.*, 732 A.2d 528, 532 (N.J. Super. Ct. App. Div. 1999).

209. 86 F.3d 1447 (7th Cir. 1996).

210. *ProCD*, 83 F.3d at 1452; see also *Lexmark Int'l Inc. v. Static Control Components, Inc.*, 387 F.3d 522, 563 n.10 (6th Cir. 2004); *Hill v. Gateway 2000, Inc.*, 105 F.3d 1147, 1149-50 (7th Cir. 1997); *Meridian Project Sys., Inc. v. Hardin Construction Co.*, 426 F. Supp. 2d 1101, 1107 (E.D. Cal. 2006).

211. Settlement Agreement, *supra* note 63, ¶ I.G.; Halderman & Felten, *supra* note 62, at 7.

212. Settlement Agreement, *supra* note 63, ¶ I.G.; Halderman & Felten, *supra* note 62, at 7.

213. Halderman & Felten, *supra* note 62, at 7.

214. *Specht*, 306 F.3d at 21-25.

cause the EULA did not make clear that clicking on the download button constituted acceptance of the contract.²¹⁵ Here, the user did not even have a chance to view the EULA, much less accept it, before the software was installed.²¹⁶ Thus, this case is similar to *Register.com, Inc. v. Verio, Inc.*²¹⁷ and *Softman Products Co. v. Adobe Systems, Inc.*²¹⁸

In *Register.com*, the plaintiff was a registrar of domain names, meaning it issued domain names to persons and entities preparing to establish web sites on the Internet.²¹⁹ In applying for a domain name applicants were required to submit certain information to Register.com (“Register”), including name, address, telephone number, and email address.²²⁰ This identifying information was referred to as “WHOIS information.”²²¹

The Internet Corporation for Assigned Names and Numbers (ICANN), a private non-profit corporation established by U.S. government agencies to administer domain names, requires companies like Register to update the WHOIS information daily and to make such information publicly available.²²² An entity submitting a “WHOIS query” to Register would receive the requested information together with the following message: “By submitting a WHOIS query, you agree that you will use this data only for lawful purposes and that under no circumstances will you use this data to support the transmission of mass unsolicited, commercial advertising or solicitation via email.”²²³

The defendant, Verio, Inc. (“Verio”), sells web site design, development, and operation services.²²⁴ In order to attract customers, Verio obtained daily updates from the WHOIS information, and then sent those individuals marketing information by email, telemarketing, and direct mail.²²⁵ As noted above, the terms and conditions that were included in Register’s query responses prohibited the use of WHOIS information to solicit by email.²²⁶ Accordingly, Register sued Verio for violation of the CFAA and trespass to chattels.²²⁷

In defense Verio argued that it was not bound by Register’s terms and conditions “because, in the case of each query Verio made, the [terms and conditions] did not appear until after Verio had submitted the

215. *Id.* at 29-30.

216. Settlement Agreement, *supra* note 63, ¶ I.G.

217. 356 F.3d 393 (2d Cir. 2004).

218. 171 F. Supp. 2d 1075 (C.D. Cal. 2001).

219. *Register.com*, 356 F.3d at 395.

220. *Id.*

221. *Id.*

222. *Id.*

223. *Id.* at 397.

224. *Id.* at 396.

225. *Id.* at 396-97.

226. *Id.*

227. *Id.* at 397.

query and received the WHOIS data."²²⁸ In other words, Verio contended it never received legally enforceable notice of Register's terms and conditions.²²⁹ Although the court ultimately rejected this argument, before doing so it explained: "If Verio had submitted only one query, or even if it had submitted only a few sporadic queries, that would give considerable force to its contention that it obtained the WHOIS data without being conscious that Register intended to impose conditions, and without being deemed to have accepted Register's conditions."²³⁰ Along those same lines, the dissenting judge concluded:

By the time Register.com presents its proposed terms, it has already given away that which it "owns" – access to its WHOIS database Thus, in the single submission scenario, an end-user would have had no opportunity to reject Register.com's terms and would be bound to comply with them irrespective of actual assent [T]he submission of a WHOIS query prior to the presentation of Register.com's proposed terms [is] insufficient to constitute a manifestation of assent.²³¹

Register.com, therefore, stands for the proposition that a party cannot assent to a contract before having the opportunity to review the terms and conditions of that contract.²³²

Similarly, in *Softman Products Co. v. Adobe Systems, Inc.*,²³³ Adobe Systems Inc. ("Adobe"), a developer and publisher of software, sued SoftMan Products Co. ("SoftMan"), a company that distributed computer software programs through its website www.buycheapsoftware.com, claiming that SoftMan was infringing Adobe's copyright and trademark as well as violating terms of its license by distributing Adobe's software in an unauthorized manner.²³⁴ There was no direct contractual relationship between Adobe and SoftMan, instead, Adobe claimed that SoftMan's distribution of the software violated the EULA that end-users are asked to assent to when they attempt to install Adobe software.²³⁵

Among other things, SoftMan contended that it was not bound by the terms of the EULA because it never assented to that agreement.²³⁶ The court agreed with SoftMan, holding that

there is only assent on the part of the consumer, if at all, when the consumer loads the Adobe program and begins the installation process. It is undisputed that SoftMan has never attempted to load the

228. *Id.* at 401.

229. *Id.*

230. *Id.*

231. *Id.* at 431 (Parker, J., dissenting).

232. *Id.* at 430-31 & n.43 (Parker, J., dissenting).

233. *SoftMan*, 171 F. Supp. 2d 1075.

234. *Id.* at 1079-80.

235. *Id.* at 1080.

236. *Id.* at 1087.

software that it sells. Consequently, the Court finds that SoftMan is not subject to the Adobe EULA.²³⁷

The holdings of *Register.com* and *SoftMan* make clear that Sony had no right to install the MediaMax software before the end-user even had an opportunity to view the EULA's terms and conditions. As such, Sony accessed its customers' computers without authority in violation of 18 U.S.C. § 1030(a)(5)(B).

b.) XCP Was Not Installed "Without Authorization"

The XCP software used a different tool to prevent ripping and copying during the installation process. As described in greater detail above, it searched for "blacklisted" ripping and copying applications, and precluded users who were running such applications from downloading the software and listening to the music on the CD. Consequently, the XCP software was not installed onto a user's computer until the EULA was accepted.

Nor did the XCP EULA suffer from the defects identified in *Specht v. Netscape*.²³⁸ The XCP EULA stated:

This End-User License Agreement ("EULA") is a legal agreement between you and SONY BMG MUSIC ENTERTAINMENT ("SONY BMG"), a general partnership established under Delaware law. By clicking on the "AGREE" button below, you will indicate your acceptance of these terms and conditions, at which point this EULA will become a legally binding agreement between you and SONY BMG.²³⁹

Because the EULA made clear that the user was assenting to the terms the rationale of *Netscape* does not apply.

Moreover, while it is true that the XCP EULAs did not fully disclose the nature of the software being installed,²⁴⁰ that alone is not enough to prove that Sony accessed the computers "without authorization." The decision in *In re: America Online*²⁴¹ is instructive on this point.²⁴² There, computer users sued AOL under section 1030(a)(5) of the CFAA (the same provision asserted against Sony) claiming that AOL 5.0, a software program that had been recently released, damaged computers and prohibited utilization of competitors' software.²⁴³ AOL moved to dismiss this claim on the grounds that its access was not "with-

237. *Id.*

238. *Specht*, 306 F.3d at 29-30.

239. Sony Complaint, *supra* note 68, ¶ 28.

240. See *supra* Part II.A. (discussing the details of the MediaMax and XCP EULAs and software features).

241. *In re AOL*, 168 F. Supp. 2d 1359.

242. *Id.* at 1359.

243. *Id.* at 1363-64.

out authorization" since "the consumers expressly authorized installation of AOL 5.0 on their computers."²⁴⁴ At most, AOL argued "it exceeded the scope of its authority by distributing defective software, but exceeding the scope of authorization is not a situation that is covered by 18 U.S.C. § 1030(a)(5), the only provision under which the consumers have brought suit."²⁴⁵

After examining the plain language of the statute, the court agreed with AOL.²⁴⁶ Section 1030(a)(5) requires that the access be "without authorization"; it says nothing about the access "exceeding authorization."²⁴⁷ By contrast, several provisions of the CFAA – namely, sections 1030(a)(1),²⁴⁸ (2),²⁴⁹ and (4),²⁵⁰ – specifically state that a violation occurs if defendant accesses a computer without authorization *or* if it exceeds authorized access.²⁵¹ The CFAA further provides that "exceeds authorized access" means "to access a computer with authorization and to use such access to obtain or alter information in the computer that the accessor is not entitled to so obtain or alter."²⁵² Hence, the *AOL* court decided Congress clearly intended to distinguish between "without authorization" and "exceeds authorized access."²⁵³

If Congress wanted section 1030(a)(5) to apply to defendants who exceed authorized access it would have included that term within the scope of section 1030(a)(5) as it did with the other subsections of 1030(a). "[W]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion."²⁵⁴ Thus, even though Sony and/or F4i may have "exceeded authorized access" by installing XCP software on customers' computers, the plain language of the statute and the cases interpreting it would likely preclude plaintiffs from recovering under section 1030(a)(5) of the CFAA.²⁵⁵

244. *Id.* at 1368.

245. *Id.* at 1368-69.

246. *Id.* at 1369-70.

247. § 1030(a)(5).

248. § 1030(a)(1) ("having knowingly accessed a computer without authorization or *exceeding authorized access* . . .") (emphasis added).

249. § 1030(a)(2) ("intentionally access a computer without authorization or *exceeds authorized access* . . .") (emphasis added).

250. § 1030(a)(4) ("knowingly and with intent to defraud, accesses a protected computer without authorization, or *exceeds authorized access* . . .") (emphasis added).

251. § 1030(a)(1), (a)(2), (a)(4).

252. § 1030(e)(6).

253. *In re AOL*, 168 F. Supp. 2d at 1369-70.

254. *Gozlon-Peretz v. United States*, 498 U.S. 395, 404 (1991) (quoting *Russello v. United States* 464 U.S. 16 (1983)).

255. See *Int'l Airport Ctrs., L.L.C. v. Citrin*, 440 F.3d 418, 420 (7th Cir. 2006) ("The difference between 'without authorization' and 'exceeding authorized access' is paper thin, but not quite invisible." (citations omitted)).

b. Is there a cause of action under other provisions of the CFAA?

Although the CFAA claims asserted against Sony in the Consolidated Action relied solely upon section 1030(a)(5)(B), Sony may also have violated other provisions of the CFAA. Subsection 1030(a)(2)(C), for example, prohibits intentionally accessing a computer without authorization, or exceeding authorized access, to obtain “information from any protected computer if the conduct involved an interstate or foreign communication.”²⁵⁶

The MediaMax and XCP EULA stated that “the SOFTWARE will not be used at any time to collect any personal information from you, whether stored on YOUR COMPUTER or otherwise.”²⁵⁷ Yet, in truth, both MediaMax and XCP contained “phone home” capabilities, meaning these software programs gathered information from users’ computers, including IP addresses and the title of the CD being played on the user’s computer, and communicated that information back to Sony.²⁵⁸ Under these circumstances, even if customers accepted the EULA, they clearly did not consent to Sony’s use of the software to collect personal information. Accordingly, Sony was accessing its customers’ computers without authorization or, at the very least, exceeding authorized access.

Subsection 1030(a)(2)(C) also requires the “conduct,” *i.e.*, the act of “accessing a computer,” to involve an interstate or foreign communication.²⁵⁹ Here, Sony accessed its customers’ computers with software that was included on CDs, which are products sold in interstate commerce, and then used that software to communicate information from the customer’s computer back to Sony and/or the software manufacturer.²⁶⁰ Such conduct plainly involves interstate communications, and, therefore, this requirement is satisfied. Hence, a cause of action should lie pursuant to section 1030(a)(2)(C).

Nevertheless, a question remains as to who can bring a lawsuit under section 1030(a)(2)(C) of the CFAA. While the government undoubtedly could bring a criminal action under this provision of the CFAA, it is not as clear whether a civil claim could be asserted as well. Section 1030(g) of the CFAA provides for a civil lawsuit where (i) the plaintiff suffered damage or loss due to a violation of the statute, and (ii) the con-

256. § 1030(a)(2)(C).

257. Sony EULA, <http://www.sysinternals.com/blog/sony-eula.htm> (last visited Sept. 7, 2006).

258. Sony Complaint, *supra* note 68, ¶ 27.

259. § 1030(a)(2)(C). See *C.H. Robinson Worldwide, Inc. v. Command Transp., LLC*, No. 05 C 3401, 2005 WL 3077998, at *4 (N.D. Ill. Nov. 16, 2005); *Charles Schwab & Co. v. Carter*, No. 04 C 7071, 2005 WL 2369815, at *8 (N.D. Ill. Sept. 27, 2005).

260. Sony Complaint, *supra* note 68, ¶¶ 30, 64.

duct at issue involved one of the five factors listed in 18 U.S.C. § 1030(a)(5)(B).²⁶¹

Many litigants, including plaintiffs in the Consolidated Action, apparently interpret this language to mean that a civil action under the CFAA can only be brought under section 1030(a)(5)(B).²⁶² And, in fact, at least one court has come to the same conclusion.²⁶³ In recent years, however, several courts have considered the issue and now the weight of authority leans heavily in the other direction.

In *P.C. Yonkers v. Celebrations the Party & Seasonal Superstore*,²⁶⁴ for example, the court held that a civil action could be stated under any provision of the CFAA as long as the plaintiff alleges one of the five factors enumerated in subsection (a)(5)(B), which includes a loss in excess of \$5,000.²⁶⁵ Moreover, in *I.M.S. Inquiry Management Systems, Ltd. v. Berkshire Information Systems, Inc.*,²⁶⁶ the defendant argued that plaintiff could not state a claim under section 1030(a)(2)(C) on the grounds that section 1030(g) does not provide a civil cause of action for violations of this subsection.²⁶⁷ The court rejected this argument, finding that:

The plain text of § 1030(g) does not provide or imply, and defendant offers no supporting case law for, such a restriction. Section 1030(g) affords a civil action for any CFAA violation, but requires an allegation of one of five enumerated factors in § 1030(a)(5)(B). Plaintiff's Amended Complaint satisfies § 1030(g) by elsewhere alleging the consequence described in § 1030(a)(5)(B)(i) (loss aggregating to at least \$5,000).²⁶⁸

Like the defendant in *I.M.S.*,²⁶⁹ (i) Sony exceeded authority in accessing its customers' computers, (ii) it obtained information from its customers by such conduct, (iii) that conduct involved interstate communications, and (iv) as a result of such conduct, Sony caused at least \$5,000 in loss or damage to its customers. Consequently, Sony, too, would be subject to civil suit under section 1030(a)(2)(C) of the CFAA for its conduct with respect to both the MediaMax and XCP software.

261. § 1030(g).

262. Sony Complaint, *supra* note 68, ¶¶ 59, 62.

263. *McLean v. Mortgage One & Fin. Corp.*, No. 04-1158, 2004 U.S. Dist. LEXIS 7279, at *5 (D. Minn. Apr. 9, 2004) (holding that section 1030(g)'s reference to subsection (a)(5)(B) limits civil relief to claims under subsection (a)(5)(B)).

264. 428 F.3d 504 (3d Cir. 2005).

265. *Yonkers*, 428 F.3d at 512.

266. 307 F. Supp. 2d 521 (S.D.N.Y. 2004).

267. *I.M.S.*, 307 F. Supp. 2d at 525-26.

268. *Id.* at 526.

269. Other courts similarly have determined that a civil cause of action lies under § 1030(a)(2)(C). See, e.g., *Theofel v. Farey-Jones*, 341 F.3d 978, 986 (9th Cir. 2003); *Chance v. Avenue A, Inc.*, 165 F. Supp. 2d 1153, 1158 (W.D. Wash. 2001); *In re Intuit Privacy Litig.*, 138 F. Supp. 2d 1272, 1279-80 (C.D. Cal. 2001).

2. Texas Spyware Act

Spyware is software that is covertly installed onto a computer, for example by bundling it with other software that the user downloads.²⁷⁰ Once installed, spyware transmits information from the user's computer to the servers of the entity responsible for installing the spyware.²⁷¹ "Spyware can monitor everything users do with their machines, not only their activities on the web, and transmit that information to an outside entity."²⁷² The use of spyware has grown dramatically in recent years. In fact, one study shows that more than 80% of personal computers in the United States are infected by spyware, although most users are unaware of it.²⁷³

Consequently, federal and state legislators have been working to enact laws to address this very serious threat. In 2005, the U.S. House of Representatives passed two spyware-related bills: (1) the Securely Protect Yourself Against Cyber Trespass Act,²⁷⁴ and (2) the Internet Spyware (I-Spy) Prevention Act of 2005.²⁷⁵ The Senate also is considering a spyware bill called the Spy Block Act,²⁷⁶ which was approved by the Senate Commerce Committee in 2005, but was not voted on by the full Senate.²⁷⁷ To date, however, no further action has been taken by Congress on any of these bills. According to one commentator, Congress may be revising the bills "in view of issues raised late in 2005 by Sony's Rootkit copy-protection software and the associated end-user-license-agreement."²⁷⁸

In the absence of federal legislation, some states, including Texas, have taken it upon themselves to outlaw spyware.²⁷⁹ The Texas Consumer Protection Against Computer Spyware Act ("Texas Spyware Act"), Tex. Bus. & Com. Code § 48.001 et seq., came into effect on September 1, 2005.²⁸⁰ Generally, the statute prohibits the following conduct: (1) unauthorized collection or culling of personally identifiable informa-

270. Laurel L. Poe, Comment, *The SPY Act: A Bandage for an Ever-Festering Sore or an Efficient Safeguard for the American Consumer?*, 22 T.M. COOLEY L. REV. 329, 331 (2005).

271. *Id.* at 335.

272. Blakley, *supra* note 173, at 28. See also Erica Pines, Note, *Spyware Regulation: National Legislation Should Prompt Industry Self-Policing*, 38 LOY. L.A. L. REV. 2219, 2219 (2005) ("Spyware can change individual computer settings, track personal information numbers, store credit card numbers, and access all personal data stored on a computer's hard drive, thereby shredding away every bit of privacy personal computer users think they have.").

273. Poe, *supra* note 270, at 329-30.

274. H.R. 29, 109th Cong. § 1 (2005).

275. H.R. 744, 109th Cong. § 1 (2005).

276. S. 687, 109th Cong. § 1(a) (2005).

277. Britt L. Anderson, *Is Anti-Spyware Legislation Congress's Killer App in 2006?*, 4 No. 2 INTERNET L. & STRATEGY 1, 4 (Feb. 2006).

278. *Id.*

279. Michael L. Baroni, *Spyware Beware*, 47 ORANGE COUNTY LAWYER 36, 38 (Apr. 2005) (stating that Utah and California have also enacted spyware-related laws).

280. TEX. BUS. & COM. CODE ANN. § 48.001 (West 2006).

tion;²⁸¹ (2) unauthorized access to or modifications of computer settings;²⁸² (3) unauthorized interference with installation or disabling of computer software;²⁸³ (4) inducement of computer user to install unnecessary software;²⁸⁴ and (5) copying and execution of software to a computer with deceptive intent.²⁸⁵ The Texas Spyware Act also provides for a civil right of action, which applies to users of personal and business computers, and permits private parties to obtain damages of \$100,000 for each violation.²⁸⁶

On November 21, 2005, the Texas Attorney General sued Sony for violation of the Texas Spyware Act – the first lawsuit under the new statute.²⁸⁷ Specifically, Texas asserts that, by marketing, distributing, and selling CDs with XCP software, Sony has violated section 48.053 of the Texas Spyware Act.²⁸⁸ That section, which concerns the unauthorized interference with installation or disabling of computer software, provides:

If a person is not the owner or operator of the computer, the person may not knowingly cause computer software to be copied to a computer in this state and use the software to:

(1) prevent, through intentionally deceptive means, reasonable efforts of the owner or operator of the computer to block the installation or execution of or to disable computer software by causing computer software that the owner or operator has properly removed or disabled to automatically reinstall or reactivate on the computer;

(2) intentionally misrepresent to another that computer software will be uninstalled or disabled by the actions of the owner or operator of the computer;

(3) remove, disable, or render inoperative, through intentionally deceptive means, security, antispyware, or antivirus computer software installed on the computer;

(4) prevent the owner's or operator's reasonable efforts to block the installation of or to disable computer software by:

281. § 48.051.

282. § 48.052.

283. § 48.053.

284. § 48.055(1).

285. § 48.055(2).

286. § 48.101(a), (b)(2)(B).

287. Texas Petition, *supra* note 152, ¶ 2; *Texas Sues Sony BMG for Spyware*, *supra* note 152, at 31; News Release, Attorney General Abbott Brings First Enforcement Action in Nation Against Sony BMG for Spyware Violations (Nov. 21, 2005), available at <http://www.oag.state.tx.us/oagNews/release.php?id=1266>.

288. Texas Petition, *supra* note 152, ¶¶ 14-16. Unlike the civil lawsuits discussed above, this case involves XCP only, not MediaMax. Texas Petition, *supra* note 152, ¶ 7.

- (A) presenting the owner or operator with an option to decline the installation of software knowing that, when the option is selected, the installation process will continue to proceed; or
- (B) misrepresenting that software has been disabled;
- (5) change the name, location, or other designation of computer software to prevent the owner from locating and removing the software; or
- (6) create randomized or intentionally deceptive file names or random or intentionally deceptive directory folders, formats, or registry entries to avoid detection and prevent the owner from removing computer software.²⁸⁹

Of particular importance to the case against Sony are the last two clauses. Subsection (5) prohibits a person from changing the name or location of software to prevent the computer user from finding and removing the software.²⁹⁰ Similarly, subsection (6) prohibits the creation of randomized or deceptive file names or folders to prevent removal of the software.²⁹¹ As discussed above, this is exactly what the rootkit installed by the XCP did: it concealed all files that began with “\$sys\$,” including the copy-prevention software, so that the files could not be located and removed. Indeed, Thomas Hesse, President of Sony’s Global Digital Business, admitted this during his NPR interview when he explained that the software was cloaked “so would be pirates can’t find it and remove it.”²⁹² It thus appears, based on the plain language of the statute, that Sony violated the Texas Spyware Law.²⁹³

3. Does Sony’s Copy-Prevention Software Violate Copyright Law?

Most people were outraged by the Sony rootkit incident because the software created security risks to and collected information from the user’s computer, *not* because Sony was limiting the number of copies of the CD the customer could make. Allegations that Sony was using spyware and causing serious damage to customers’ computers overshadowed the question whether Sony’s copy-protection software impinged on customers’ rights under copyright law, in particular the fair use doctrine. However, this is an important question to examine given Sony and the

289. TEX. BUS. & COM. CODE ANN. § 48.053 (West 2006).

290. § 48.053(5).

291. § 48.053(6).

292. NPR Interview, *supra* note 129.

293. It is important to note, however, that the Texas Spyware Act has never been “tested” in the courts, and therefore, Sony could assert certain defenses to invalidate the statute. In particular, Sony may argue that the Texas Spyware Act is unconstitutional because it violates the dormant commerce clause, which limits states’ authority to enact laws that unduly burden interstate commerce. *Cf. Pines, supra* note 272, at 2230-39 (analyzing California’s spyware act and concluding that it violates the dormant commerce clause).

other record labels are certain to continue to use DRM technology to copy-protect CDs.²⁹⁴

a. Fair Use Doctrine

Copyright law grants copyright owners the exclusive right to copy and distribute copyrighted works.²⁹⁵ "Fair use" is an exception to this exclusive right that allows copying for certain limited purposes, including commenting on, criticizing, reporting about, or parodying a copyrighted work.²⁹⁶ It is the fair use doctrine, for example, that allows a book critic to quote from the novel she is reviewing without obtaining permission from the copyright owner.²⁹⁷ Thus, fair use protects the public interest in a free exchange of ideas and discourse.²⁹⁸

Fair use is a deliberately imprecise and flexible doctrine. It "permits [and requires] courts to avoid rigid application of the copyright statute when, on occasion, it would stifle the very creativity which that law is designed to foster."²⁹⁹ There are no bright line rules for deciding whether certain conduct constitutes fair use.³⁰⁰ Instead, courts make that decision on a case-by-case basis by considering at least the following four factors:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole;

294. Settlement Agreement, *supra* note 63, ¶ IV.B (setting forth guidelines that Sony must follow in the future when developing DRM technology). As an RIAA Spokesperson recently explained:

DRM and copy protection are important parts of the creative process, serving to protect the work of musicians and labels and promote responsible personal use by fans. They are no silver bullet, nor were they ever intended to be. They are one component of a larger effort to protect our works from theft DRM is a key piece of the digital future, not just for music companies but also for movie studios, software companies and countless other intellectual property industries.)

Digital Rights Management (DRM): Media Companies' Next Flop?, Jan. 26, 2006, <http://forum.ecoustics.com/bbs/messages/34579/192800.html>; Richard Gooch, *Setting the Record Straight on DRM*, Feb. 3, 2006, <http://www.ifpi.org/site-content/press/20060203.html> ("DRM is the key to our successful digital music business. It enables consumers to get exactly what they pay for, and to pay for exactly for what they get. But to work in the future DRM will need support from our technology partners and from governments.").

295. 17 U.S.C.A. § 106(1), (3) (West 2006).

296. 17 U.S.C.A. § 107.

297. *See id.*

298. *See Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 575 (1994) (stating that the fair use doctrine is necessary "to fulfill copyright's very purpose, 'to promote the Progress of Science and useful Arts'").

299. *Campbell*, 510 U.S. at 577 (alteration in original) (quoting *Stewart v. Abend*, 495 U.S. 207, 236 (1990)).

300. *Id.*

and (4) the effect of the use upon the potential market for or value of the copyrighted work.³⁰¹

Because fair use has been left ambiguous so it can evolve over time, the doctrine is often misunderstood. By way of example, many people believe that “personal” or non-commercial use (*e.g.*, copying lawfully acquired copyrighted materials for one’s personal use) is always fair use.³⁰² This is not true.³⁰³ While courts have found that the fair use doctrine protects certain personal uses of copyrighted materials, there is no blanket statutory or common law rule protecting this behavior.³⁰⁴

The most well-known case addressing the question whether personal use falls within the fair use exception is *Sony Corporation of America v. Universal City Studios, Inc.*³⁰⁵ In that case, Universal and other copyright owners sued Sony for copyright infringement based on its manufacture of the video cassette recorder (“VCR”), a novel product at the time.³⁰⁶ Plaintiffs argued that Sony should be held liable because it knew or should have known that its customers would engage in infring-

301. 17 U.S.C.A. § 107.

302. See Fair Use, Wikipedia: The Free Encyclopedia, http://en.wikipedia.org/wiki/Fair_use (last modified Sep. 1, 2006) (discussing the doctrine of fair use in the United States). See also The Big Picture, DRM Crippled CD: A Bizarre Tale in 4 Parts, Oct. 31, 2005, http://bigpicture.typepad.com/comments/2005/10/drm_crippled_cd.html. As one music fan explained their understanding of fair use:

I am a buyer of CDs, and only rarely do [sic] I download tracks from Apple’s iTunes Music Store due to *sound quality*. I didn’t spend an obscene amount of money on a home audio system to listen to the mediocre audio quality of MP3s. The not-even-remotely-as-lossless-as-advertised-compression algorithms are hardly any better. MP3s and iPod quality music is fine for the beach or my commute on a train, but it’s something else entirely in my living room. *My fair use*: When I get a new CD, I rip it to iTunes, then transfer the music to my iPods; I make a backup copy (in case of loss). If I really like a disc, I make a copy for the car or the weekend house. If the disc is ‘youth-friendly,’ I’ll make a copy for my wife’s classroom. She teaches art, and I refuse to let her take any more original discs to school—they have all gotten destroyed. Incidentally, I am what the marketing people like to call an ‘influencer’ (i.e., think of Netflix, TiVo or Macintosh). I do not copy entire CDs for people, but I like to expose friends to news [sic] music—I will give them a song or two, with the recommendation that if they like it, they purchase the artist’s disc. I use P2P to check out stuff not available elsewhere, or to see if I want to purchase a full CD. I also like to make mixed playlists, which get burned for the car or for friends who are looking to hear new music, now that radio is dead. I believe all of the above is well within my rights as a consumer of the CDs that I legally purchased; If someone wants to try to convince me otherwise, please take your best shot.

Id.

Even worse, some people apparently believe that it is fair use to let your friends make pirated copies of CD’s. See *id.* (“[P]irating the album is the [sic] now the sole *best* way to get this album, because you can get a 100% compatible, full quality copy that you can’t even buy in the store.”).

303. See JOINT REPLY COMMENTS OF AAP: ASSOCIATION OF AMERICAN PUBLISHERS, ET AL., EXEMPTION TO PROHIBITION ON CIRCUMVENTION OF COPYRIGHT PROTECTION SYSTEMS FOR ACCESS CONTROL TECHNOLOGIES, at 39 (2006) [hereinafter JOINT REPLY], available at http://www.copyright.gov/1201/2006/reply/11metalitz_AAP.pdf.

304. See *id.* at 31-33, 39.

305. 464 U.S. 417 (1984).

306. *Sony Corp.*, 464 U.S. at 420.

ing activity, *i.e.*, the taping of copyrighted television programs and films.³⁰⁷

At trial, however, the evidence demonstrated that Sony's customers used their VCRs primarily to "time-shift," *i.e.*, to tape a program so that it could be viewed at a later, more convenient time, which the Court determined was a non-infringing fair use.³⁰⁸ The evidence further showed that Sony did not manufacture the VCR explicitly to encourage or cause its customers to tape copyrighted programs, nor did Sony take active steps to increase its profits from illegal taping.³⁰⁹ Thus, there was no basis to hold Sony liable for inducement of infringement, and the only theory available to plaintiffs was contributory infringement.³¹⁰ The Court went on to hold that, because the VCR is "capable of commercially significant noninfringing use" (*i.e.*, time-shifting programs), Sony could not be held liable for infringement based solely on distribution of the product.³¹¹

Another important case regarding "personal use" of copyrighted materials is *Recording Industry Association of America v. Diamond Multimedia Systems, Inc.*³¹² There, the Recording Industry Association of America (RIAA) sought a preliminary injunction against the manufacturer of the Rio, a portable MP3 player, on the grounds that the Rio did not meet the requirements for digital audio recording devices under the Audio Home Recording Act of 1992 (AHRA).³¹³ AHRA "prohibits legal actions for copyright infringement based on the manufacture, importation, or distribution of digital audio equipment or media for private, non-commercial recording."³¹⁴ AHRA also prohibits infringement actions against the consumers of these products as long as they are being used for a noncommercial purpose.³¹⁵

In return, AHRA requires manufacturers of these products to pay compensatory royalties to copyright holders,³¹⁶ and mandates that all such products include a Serial Copy Management System ("SCMS").³¹⁷ The SCMS "sends, receives, and acts upon information about the generation and copyright status of the files that it plays."³¹⁸ More specifically, the SCMS prevents digital audio equipment from making a chain of high

307. *Id.*

308. *Id.* at 423, 425.

309. *Id.* at 438.

310. *Id.* at 439-40.

311. *Id.* at 442.

312. 180 F.3d 1072, 1079 (9th Cir. 1999).

313. *Diamond Multimedia*, 180 F.3d at 1075.

314. Yu, *supra* note 13, at 706; *see also* Jennifer Norman, *Staying Alive: Can the Recording Industry Survive Peer-to-Peer*, 26 COLUM. J.L. & ARTS 371, 380 (2003).

315. 17 U.S.C.A. § 1008 (West 2006).

316. § 1003(a).

317. § 1002(a).

318. *Diamond Multimedia*, 180 F.3d at 1075.

quality digital copies; in other words, the user can make as many copies of an original recording as he wishes, but cannot make copies of copies.³¹⁹

The district court agreed that the Rio failed to comply with the AHRA because it did not include the SCMS, but denied RIAA's request for a preliminary injunction.³²⁰ On appeal, the Ninth Circuit held that the lower court erred in finding that the Rio was covered by AHRA because, in order to be a "digital audio recording device," the Rio must be able to reproduce a "digital music recording" either "directly" or "from a transmission."³²¹ The court further found that computer hard drives are not digital audio recording devices subject to the AHRA.³²²

Relying on *Sony Corporation of America v. Universal City Studios, Inc.*,³²³ the court then went on to hold that, under the fair use doctrine, the Rio was not an infringing device.³²⁴ "The Rio merely makes copies in order to render portable, or "space-shift," those files that already reside on a user's hard drive. Such copying is paradigmatic noncommercial personal use entirely consistent with the purposes of the [Copyright] Act."³²⁵

In sum, there is no bright-line test for determining what constitutes fair use, nor is there a blanket rule that all personal use is fair. But on a case-by-case basis, courts have decided that certain personal uses, including time-shifting and space-shifting, constitute fair and non-infringing use.

b. Did Sony's Copy-Prevention Software Allow Fair Use?

Up to this point, the DRM used by record labels has been "largely skewed in favor of the content owner at the expense of the consumer."³²⁶ Critics have called these systems "too draconian" because of the limitations they place on consumers' ability to play music.³²⁷ In other words, the recording industry has "los[t] sight of the fact that 'both . . . [the copyright owner and the consumer] have rights that need to be protected.'"³²⁸

With its copy-prevention software, Sony was attempting to strike this balance between protecting its intellectual property and allowing

319. Yu, *supra* note 13, at 707.

320. *Diamond Multimedia*, 180 F.3d at 1081.

321. *Id.* at 1081; See 17 U.S.C.A. § 1001(1), (3).

322. *Diamond Multimedia*, 180 F.3d at 1078.

323. 464 U.S. 417 (1984).

324. *Diamond Multimedia*, 180 F.3d at 1079.

325. *Id.* (citation omitted).

326. *Digital Rights Management (DRM): Media Companies' Next Flop?*, *supra* note 294.

327. *Id.*

328. *Id.* (third alteration in original) (quoting Kendall Whitehouse, Senior Director of Advanced Technology Development at the Wharton School of the University of Pennsylvania).

"responsible personal use by fans."³²⁹ Generally, the software allowed a consumer to do the following with his purchased music: (i) save one copy of the CD on his hard drive; (ii) play the CD on his computer using certain media players; (iii) download the CD to certain portable devices; and (iv) burn three backup copies of the CD.³³⁰ In addition, the Media-Max software allowed consumers to email tracks to friends who could listen to them for ten days.³³¹ Thus, the copy-prevention software was intended to allow users to space-shift their music for personal use (*i.e.*, listen to it on a computer, CD, or portable player), and to share music with friends, but not "'giv[e] it away forever."³³²

While this may have been Sony's intention, it was not the reality. The content on the copy-protected CDs could only be transferred to *certain* media players and portable devices (*i.e.*, those using Sony or Microsoft products), and could *not* be transferred to an iPod device or iTunes media player.³³³ Given that the iPod is the dominant portable device and that iTunes is one of the most popular media players,³³⁴ many purchasers of Sony's copy-protected CDs were denied the right to "space-shift" their music.

As discussed above, in *Recording Industry Association of America v. Diamond Multimedia Systems, Inc.*, the court specifically held that space-shifting legally purchased music to a portable MP3 player is permitted under the fair use doctrine.³³⁵ It is true that "there is no unqualified right to access works on any particular machine or device of the

329. *Id.*

330. The exact parameters of what activity was prohibited by the software were spelled out in the EULA. It said:

This CD contains technology that is designed to prevent users from making certain, unauthorized uses of the DIGITAL CONTENT, including, without limitation, the following: (1) making and storing more than one (1) copy of the DIGITAL CONTENT in each available file format on the hard drive of YOUR COMPUTER; (2) accessing the DIGITAL CONTENT on YOUR COMPUTER (once you have installed a copy of it on the hard drive of YOUR COMPUTER) using a media player that is not an APPROVED MEDIA PLAYER; (3) transferring copies of the DIGITAL CONTENT that reside on the hard drive of YOUR COMPUTER on to portable devices that are not APPROVED PORTABLE DEVICES; (4) burning more than three (3) copies of the DIGITAL CONTENT stored on YOUR COMPUTER (ATRAC OpenMG file format only) onto AtracCDs; (5) burning more than three (3) copies of the DIGITAL CONTENT onto recordable compact discs in the so-called "Red Book"-compliant audio file format; and (6) burning more than three (3) backup copies of this CD (using the burning application provided on the CD) onto recordable CDs and burning or otherwise making additional copies from the resulting backup copies.

Melcon Complaint, *supra* note 70, Ex. B.

331. Snider, *supra* note 70; Halderman, *supra* note 65, at 6.

332. Snider, *supra* note 70 (quoting William Whitmore of SunnComm).

333. Sony Complaint, *supra* note 68, ¶¶ 2, 24.

334. *Id.* ¶ 24; Daniel Greenberg, *Chasing Apple's Dominant iPod*, WASH. POST, Oct. 17, 2004, at F06; WebSiteOptimization.com, Apple's iTunes Player Climbs Streaming Media Charts, Mar. 15, 2006, <http://www.websiteoptimization.com/bw/0603/>.

335. *Diamond Multimedia*, 180 F.3d at 1079.

user's choosing."³³⁶ However, as Dr. Richard Gooch, the Deputy Director of Technology for IFPI,³³⁷ recently said: "[u]sers should be free to select among a wide range of devices and services from different suppliers while being safe in the knowledge that these will work properly together."³³⁸

Here, users were denied the right to choose from a wide variety of devices and were instead forced to listen to their copy-protected CDs on a portable device that was compatible with Sony or Microsoft products. For the significant number of customers whose portable device was an iPod, this meant they either had to go out and spend a few hundred dollars to purchase a new MP3 player or they had to accept that the content on their copy-protected CD could not be space-shifted.³³⁹ This was not an acceptable choice. Accordingly, Sony went too far in attempting to protect its copyrighted works, and as a result, impinged on its customers' right to fair use.

B. Potential Liability Under DMCA

Another issue raised by the Sony rootkit debacle concerns the Digital Millennium Copyright Act of 1998 (DMCA),³⁴⁰ a federal statute that broadly prohibits the circumvention of DRM technology.³⁴¹ More specifically, the question is whether (i) Sony customers who attempted to remove the copy-protection software from their computers, and (ii) individuals who provided information as to how to remove the copy-protection software to the public, are potentially liable under the DMCA.

1. The Background of the DMCA

In December, 1996, the World Intellectual Property Organization (WIPO) held a conference in Geneva, which led to the adoption of the WIPO Copyright Treaty.³⁴² "[T]he WIPO Copyright Treaty was created

336. JOINT REPLY, *supra* note 303, at 34 (quoting the 2000 recommendations of the Register of Copyrights, 65 Fed. Reg. 64556, 64569 (Oct. 27, 2000)).

337. The IFPI is the International Federation of Phonogram and Videogram Producers.

338. Gooch, *supra* note 294.

339. Cf. JOINT REPLY, *supra* note 303, at 34 (arguing that the fact that DVDs cannot be played on Linux operating systems is not a violation of fair use because "[c]opyright owners have never been legally required to enable access to their products from a multiplicity of platforms Over eighty million U.S. households now own a DVD player. DVD players can be purchased for less than fifty dollars and portable DVD players can be purchased for less than one hundred dollars."). The media companies are arguing that they should not have to make DVDs compatible with Linux systems because (i) most people do not have a Linux operated computer, and (ii) most people have a DVD player or could easily purchase one. *See id.* at 34-35. These arguments do not apply here: (i) most people have an iPod, not a Sony/Microsoft compatible MP3 player; (ii) most people do not have more than one MP3 player; and (iii) MP3 players are still relatively expensive. *See Sony Complaint, supra* note 68, ¶ 24 (describing iPod as "the dominant portable" MP3 player); Greenberg, *supra* note 334 (discussing the popularity of iPod and prices of rival MP3 players).

340. Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified in scattered sections of 5 U.S.C.A., 17 U.S.C.A., 28 U.S.C.A., and 35 U.S.C.A.).

341. *See* 17 U.S.C.A. § 1201.

342. Cohen, *supra* note 48, at 972.

to address the changing needs of copyright protection in a digital age," including digital rights management.³⁴³ More specifically, the Treaty required contracting states to "provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention."³⁴⁴

On October 12, 1998, Congress passed the DMCA, and President Clinton signed it into law.³⁴⁵ Among other things, the DMCA is designed to implement the WIPO Copyright Treaty.³⁴⁶ To that end, at the heart of the DMCA lies 17 U.S.C.A. section 1201(a)(1)(A), the anti-circumvention provision, which prohibits a person from "circumvent[ing] a technological measure that effectively controls access to a work protected under" the copyright statute.³⁴⁷ This includes activity to "descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner."³⁴⁸ In addition, sections 1201(a)(2) and 1201(b)(1) of the DMCA, sometimes referred to as the "anti-trafficking provisions," preclude the designing, manufacturing, importing, offering to the public, or trafficking of any technology, service, or device produced to circumvent such technological measures.³⁴⁹ Hence, a violation of the DMCA can occur even in the absence of copyright infringement.³⁵⁰

There are, however, seven narrow exemptions to the anti-circumvention provision of the DMCA, including for: (1) nonprofit libraries, archives, and educational institutions to gain access to copyrighted works to decide whether to acquire a copy of the work;³⁵¹ (2) law enforcement, intelligence, and other governmental entities to engage in any lawful investigative activities;³⁵² (3) reverse engineering of computer programs;³⁵³ (4) encryption research;³⁵⁴ (5) prevention of minors from accessing material on the Internet;³⁵⁵ (6) protection of personally identifying information;³⁵⁶ and (7) security testing.³⁵⁷ The DMCA further pro-

343. *Id.*

344. WIPO Copyright Treaty, art. 11, Apr. 12, 1997, S. Treaty Doc. No. 105-17, 36 I.L.M. 65.

345. Digital Millennium Copyright Act, 112 Stat. at 2860 (enacting the DMCA); Statement by President William J. Clinton upon signing H.R. 2281, 1998 U.S.C.C.A.N. 671 (Oct. 28, 1998) (signing the DMCA into law).

346. Digital Millennium Copyright Act, 112 Stat. at 2860.

347. 17 U.S.C.A. § 1201(a)(1)(A).

348. § 1201(a)(3)(A).

349. § 1201(a)(2)(A), (3)(A).

350. See Cohen, *supra* note 48, at 976.

351. § 1201(d).

352. § 1201(e).

353. § 1201(f)(1)-(4).

354. § 1201(g).

355. § 1201(h).

356. § 1201(i).

357. § 1201(j).

vides that “the Librarian of Congress, upon the recommendation of the Register of Copyrights,” is required to promulgate regulations every three years, exempting from the anti-circumvention provision, individuals who would otherwise be “adversely affected” in “their ability to make noninfringing uses.”³⁵⁸ The current regulations, which were adopted by the Librarian in 2003, carve out exceptions for the following four classes of works: (1) compilations of lists of web sites that are blocked by filtering software; (2) computer programs protected by dongles that cannot be accessed due to damage, malfunction, or obsolescence; (3) computer programs and video games in obsolete formats; and (4) literary works in eBook format that are unavailable to disabled persons.³⁵⁹

In rulemaking years, like 2006, the Copyright Office solicits comments from interested parties regarding proposed exemptions.³⁶⁰ This year, the Copyright Office received close to one hundred comments, some of which addressed the Sony rootkit incident.³⁶¹ In the spring of 2006, the Copyright Office held hearings regarding the proposed exemptions,³⁶² and it is scheduled to publish its final recommendation in October 2006.³⁶³

2. Did Sony Customers Violate the Anti-Circumvention Provisions of the DMCA By Removing the Copy-Prevention Software From Their Computers?

Once the news of the rootkit broke on the Internet, many Sony customers attempted to uninstall the copy-prevention software themselves or hired someone to do it for them.³⁶⁴ Some expressed concern that, by doing so, these customers may have been violating the DMCA, namely the anti-circumvention provision set forth in 17 U.S.C. § 1201(a)(1)(A).³⁶⁵ While these concerns are understandable, an analysis

358. 17 U.S.C.A. § 1201(a)(1)(B)-(C). In making this determination, the Librarian shall consider:

(i) the availability for use of copyrighted works; (ii) the availability for use of works for nonprofit archival, preservation, and educational purposes; (iii) the impact that the prohibition on the circumvention of technological measures applied to copyrighted works has on criticism, comment, news reporting, teaching, scholarship, or research; (iv) the effect of circumvention of technological measures on the market for or value of copyrighted works; and (v) such other factors as the Librarian considers appropriate.

§ 1201 (a)(1)(C)(i)-(v).

359. 37 C.F.R. § 201.40; Joseph P. Liu, *Regulatory Copyright*, 83 N.C. L. REV. 87, 124 & n. 252 (2004).

360. U.S. COPYRIGHT OFFICE, COMMENTS ON ANTICIRCUMVENTION EXEMPTIONS, <http://www.copyright.gov/1201/2006/comments/index.html> (last visited Sept. 2, 2006).

361. *Id.* (follow “Comment” hyperlinks).

362. U.S. COPYRIGHT OFFICE, ANTICIRCUMVENTION RULEMAKING HEARINGS SCHEDULE, <http://www.copyright.gov/1201/2006/index.html> (last visited Sept. 2, 2006).

363. *Id.*

364. See Mook, *supra* note 128.

365. MFC-in-the-box, Sony’s XCP Rootkit and the DMCA, Nov. 22, 2005, <http://mhc.insidestretch.com/2005/11/22/sonys-xcp-drm-rootkit-and-the-dmca/>; Declan McCullagh, *Perspective: Why They Say Spyware is Good for You*, CNET NEWS, Nov. 7, 2005, http://news.com.com/Why+they+say+spyware+is+good+for+you/2010-1071_3-5934150.html; Mark

of the DMCA indicates that the current exemptions to section 1201(a)(1) most likely would have shielded these customers from liability.

First, section 1201(j) provides an exemption for any "act of security testing," which means "accessing a computer, computer system, or computer network, solely for the purpose of good faith testing, investigating, or correcting, a security flaw or vulnerability, with the authorization of the owner or operator of such computer, computer system, or computer network."³⁶⁶ This exemption applies to Sony customers who, after learning about the security risks posed by the copy-prevention software, removed the files from their hard drives.

Second, individuals whose computers were affected by the MediaMax or XCP software also may have been able to invoke section 1201(i), the exemption relating to the protection of personally identifiable information. That exemption provides:

Notwithstanding the provisions of subsection (a)(1)(A), it is not a violation of that subsection for a person to circumvent a technological measure that effectively controls access to a work protected under this title, if—

(A) the technological measure, or the work it protects, contains the capability of collecting or disseminating personally identifying information reflecting the online activities of a natural person who seeks to gain access to the work protected.³⁶⁷

Both the MediaMax and XCP software had "phone home" capabilities, meaning it communicated certain information from the user's computer to Sony's servers.³⁶⁸ The information communicated to Sony included, among other things, the user's IP address.³⁶⁹

Computer users are assigned an IP address by their internet service provider or system administrator. No two IP addresses are the same. Although some users have dynamic IP addresses, many have static addresses that do not change over time. Thus, an IP address can be used to determine information about the computer user, including his name, address, etc.³⁷⁰ In fact, this is exactly how the record companies have identified "John Doe" defendants in their litigation campaign against individual file-sharers.³⁷¹ Because an IP address constitutes "personally identifying information" (or, at the very least, is an avenue to personally identifi-

Russinovich, *Sony's Rootkit First 4 Internet Responds*, Nov. 6, 2005, <http://www.sysinternals.com/blog/2005/11/sonys-rootkit-first-4-internet.html> (see replies).

366. 17 U.S.C.A. § 1201(j)(1), (2).

367. § 1201(i)(1)(A).

368. Russinovich Affidavit, *supra* note 119, ¶ 14; Settlement Agreement, *supra* note 63, ¶ E.

369. Settlement Agreement, *supra* note 63, ¶ E.

370. Melcon Complaint, *supra* note 70, ¶ 31.

371. See *supra* Part I.A.2.

able information), section 1201(i) should have protected Sony's customers from liability under the DMCA.

In sum, section 1201(i) and (j) almost certainly would have shielded from liability Sony customers who uninstalled the copy-prevention software from their hard drives. Yet, as explained in the next section, the current exemptions to the DMCA may not be broad enough to protect everyone involved in the Sony rootkit debacle from liability.

3. Did Security Researchers Violate the Anti-Trafficking Provisions of the DMCA by Informing the Public About Sony's Copy-Prevention Software?

When Mark Russinovich published his findings about the Sony rootkit on the Internet, he apparently was not concerned about or not aware of the potential legal exposure created by the DMCA. Others were, however. Professor Felten and Alex Halderman, both of whom had previously been threatened with DMCA suits, said that they had uncovered the problem with Sony's copy-prevention software about a month before Mr. Russinovich broke the news, but did not disclose it because they were worried about a lawsuit.³⁷² Those fears appear to have been well-founded.

a. Liability Under the Anti-Trafficking Provisions of the DMCA

In addition to prohibiting the circumvention of DRM and other technological measures aimed at protecting copyrighted material, certain provisions of the DMCA also make it illegal to traffic in a technology, service, or device intended to circumvent such technological measures. Subsection 1201(a)(2) provides:

No person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that—(A) is primarily designed or produced for the purpose of circumventing a technological measure that effectively controls access to a work protected under this title; (B) has only limited commercially significant purpose or use other than to circumvent a technological measure that effectively controls access to a work protected under this title; or (C) is marketed by that person or another acting in concert with that person with that person's knowledge for use in circumventing a technological measure that effectively controls access to a work protected under this title.³⁷³

Similarly, subsection 1201(b)(1) provides:

372. Comment of Edward W. Felten & J. Alex Halderman, Dec. 1, 2005, at 7 [hereinafter Felten Comment], available at http://www.copyright.gov/1201/2006/comments/mulligan_felten.pdf.

373. 17 U.S.C.A. § 1201(a)(2).

No person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that—(A) is primarily designed or produced for the purpose of circumventing protection afforded by a technological measure that effectively protects a right of a copyright owner under this title in a work or a portion thereof; (B) has only limited commercially significant purpose or use other than to circumvent protection afforded by a technological measure that effectively protects a right of a copyright owner under this title in a work or a portion thereof; or (C) is marketed by that person or another acting in concert with that person with that person's knowledge for use in circumventing protection afforded by a technological measure that effectively protects a right of a copyright owner under this title in a work or a portion thereof.³⁷⁴

Although both subsections prohibit trafficking in a circumvention technology, the focus of section 1201(a)(2) is circumvention of technologies designed to prevent access to a work, and the focus of section 1201(b)(1) is circumvention of technologies designed to permit access to a work but prevent copying of the work or some other act that infringes a copyright.³⁷⁵

Since the DMCA was enacted in 1998, a few courts have interpreted the anti-trafficking provisions of that statute. One of the earliest decisions was *Universal City Studios, Inc. v. Corley*.³⁷⁶ In that case, several movie studios filed a lawsuit against two website owners who, among other things, posted links to other websites that offered for download a computer software program called DeCSS.³⁷⁷ One of the purposes of DeCSS was to circumvent CSS, an encryption system used to prevent illegal copying of DVDs.³⁷⁸ "CSS-protected motion pictures on DVDs may be viewed only on players and computer drives equipped with licensed technology that permits the devices to decrypt and play—but not to copy—the films."³⁷⁹

The lower court found that by posting links to DeCSS on their websites, defendants had violated section 1201(a)(2) of the DMCA because they offered and provided to the public a technology, *i.e.*, DeCSS, that is "primarily designed or produced for the purpose of circumventing a technological measure," *i.e.*, CSS.³⁸⁰ Accordingly, the court entered a

374. § 1201(b)(1).

375. S. REP. NO. 105-190, at 11-12 (1998).

376. 273 F.3d 429 (2d Cir. 2001). The lower court decision is reported at 111 F. Supp. 2d 294 (S.D.N.Y. 2000).

377. Corley, 273 F.3d at 435-36.

378. *Id.* at 436-37.

379. *Universal City Studios v. Reimerdes*, 111 F. Supp. 2d 294, 303 (S.D.N.Y. 2000).

380. § 1201(a)(2)(A); *Reimerdes*, 111 F. Supp. 2d at 316-17.

permanent injunction against defendants, which the Second Circuit upheld.³⁸¹

More recently, in *Davidson & Associates v. Jung*,³⁸² the Eighth Circuit faced the question whether the anti-trafficking provisions of the DMCA had been violated in connection with certain computer game software. In that case, plaintiff Blizzard Entertainment (“Blizzard”), the owner of copyrights in computer game software, launched Battle.net, a 24-hour online gaming service available only to people who purchase Blizzard’s computer games.³⁸³ The Battle.net service facilitates multiple-player games, meaning users can “create and join multi-player games that can be accessed across the Internet, . . . chat with other potential players, . . . record wins and losses and save advancements in an individual password-protected game account, and . . . participate with others in tournament play featuring elimination rounds.”³⁸⁴

Defendants were software programmers who formed a group called the “bnetd project.”³⁸⁵ The bnetd project established a website and offered an alternative service to Battle.net, which also “allow[ed] gamers unable or unwilling to connect to Battle.net to experience the multi-player features of Blizzard’s games.”³⁸⁶ In order for bnetd.org to work with Blizzard games, defendants had to reverse engineer the game software, including the technological measures intended to prevent illicit copying.³⁸⁷

Blizzard sued defendants alleging, among other things, violations of the DMCA’s anti-circumvention and anti-trafficking provisions.³⁸⁸ The court held that, by reverse engineering the Blizzard game software, defendants violated section 1201(a)(1)’s circumvention proscription, and that no exemption applied.³⁸⁹ The court also determined that defendants were in violation of section 1201(a)(2) because they provided to the public a service whose primary purpose “was to avoid the anti-circumvention restrictions of the game and to avoid the restricted access to Battle.net.”³⁹⁰ Accordingly, the district court granted summary judgment in favor of Blizzard on these claims, and the Eighth Circuit affirmed.³⁹¹

381. *Corley*, 273 F.3d at 434, 459-60.

382. 422 F.3d 630 (8th Cir. 2005).

383. *Davidson*, 422 F.3d at 633.

384. *Id.*

385. *Id.* at 635.

386. *Id.*

387. *Id.* at 636.

388. *Id.* at 637.

389. *Id.* at 640-41.

390. *Davidson & Assocs., Inc. v. Internet Gateway*, 334 F. Supp. 2d 1164, 1186 (E.D. Mo. 2004).

391. 422 F.3d at 640-41, *aff’d* 334 F. Supp. 2d 1164 (E.D. Mo. 2004).

Although security researchers like Messrs. Russinovich, Felten, and Halderman have not manufactured any sort of product or device to circumvent Sony's copy-prevention software, all three have provided the public with information about the manner in which this software operates, the dangers it poses, and how it can be removed from one's hard drive. In light of the decisions in *Corley* and *Davidson*, such conduct arguably falls within the purview of the DMCA's anti-trafficking provisions because it is a *service* that is *being provided or offered to the public* primarily for the purpose of *circumventing a technological measure* that prevents access to a copyrighted work. Indeed, Professor Felten and Alex Halderman themselves are concerned about the legality of their conduct. Not only did they choose not to disclose their research about Sony's copy-prevention software, but they also have asked the Copyright Office to promulgate a regulatory exemption to the DMCA to protect their activities in the future.

b. Proposed Exemptions to the DMCA

As mentioned above, 2006 is a rulemaking year under the DMCA, which means the Copyright Office is considering various proposed exemptions to the anti-circumvention provisions of the statute. Among the numerous submissions received by the Copyright Office were two that addressed, at least in part, the situation raised by the Sony rootkit debacle: (1) the Comments of Edward Felten and J. Alex Halderman, submitted by their legal representatives from the Samuelson Law, Technology and Public Policy Clinic at Boalt Hall; and (2) the Comments of the Computer and Communications Industry Association and Open Source and Industry Alliance (collectively "CCIA").³⁹²

Generally, these two groups requested "an exemption to § 1201(a)(1)(A) for sound recordings and audiovisual works distributed in compact disc format and protected by technological measures that impede access to lawfully purchased works by creating or exploiting security vulnerabilities that compromise the security of personal computers."³⁹³ They contend that such an exemption is necessary to allow consumers to enjoy their purchased music without threatening the security of their computers, and so that individuals like Messrs. Felten and Halderman can engage in security research.³⁹⁴

392. U.S. COPYRIGHT OFFICE, COMMENTS ON ANTICIRCUMVENTION EXEMPTIONS, <http://www.copyright.gov/1201/2006/comments/index.html>.

393. Felten Comment, *supra* note 372, at 1. The exemptions proposed by the two groups are essentially identical and, thus, will be discussed together.

394. *Id.* at 6-7; see also Public Hearing on Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, U.S. Copyright Office, Mar. 31, 2006, at 130-33, available at <http://www.copyright.gov/1201/2006/hearings/transcript-mar31.pdf>.

Numerous organizations, including the RIAA, submitted a joint response to the comments proposing new exemptions to the DMCA.³⁹⁵ The joint response asserted that the exemption proposed by the Felten and CCIA groups was unnecessary because, *inter alia*, the conduct about which they were concerned was already exempted under sections 1201(i) and (j).³⁹⁶ As discussed previously, this most likely is true with respect to Sony customers who removed the copy-prevention software from their computers.³⁹⁷

As currently drafted, however, the 1201(j) and (i) exemptions probably would not protect security researchers who provide information to the public from liability under the anti-trafficking provisions of the DMCA. Section 1201(j) provides, for example, that

[i]n determining whether a person qualifies for the exemption under paragraph (2), the factors to be considered shall include—(A) whether the information derived from the security testing was used solely to promote the security of the owner or operator of such computer, computer system or computer network, or shared directly with the developer of such computer, computer system, or computer network; and (B) whether the information derived from the security testing was used or maintained in a manner that does not facilitate infringement under this title or a violation of applicable law other than this section, including a violation of privacy or breach of security.³⁹⁸

Here, the information that Messrs. Felten, Halderman, and Russinovich derived from security testing was not used *solely* to promote the security of their own computers, but also was used to promote the security of other Sony customers' computers. Moreover, although the purpose of disseminating such information is to promote the security of personal computers, there is no guarantee that such information will not be used to facilitate infringement. Thus, as discussed in Part IV of this Article, the Copyright Office should adopt a narrowly-tailored exemption to protect those engaged in security research from liability under the DMCA.

IV. RECORD COMPANIES SHOULD CONTINUE TO USE DRM, BUT NOT AT THE EXPENSE OF SECURITY RESEARCHERS OR CONSUMERS

Despite the complications caused by the Sony rootkit debacle, the recording industry should continue to pursue DRM technology to prevent the illicit copying of CDs. The recording industry has a right to protect its intellectual property. Unlike the on-line file sharing battle, there are no secondary infringers like Napster or Grokster that could be targeted,

395. JOINT REPLY, *supra* note 303, at 1.

396. *Id.* at 20-21.

397. *See supra* Part III.B.2.

398. § 1201(j)(3).

and suing direct infringers is not practical because it would be extremely difficult, if not impossible, to identify individual CD burners. DRM, therefore, is still the industry's best option. In order for future attempts at DRM to succeed, however, lawmakers and record companies alike must strive to balance the interest of copyright owners against the rights of consumers.

A. What Should the Lawmakers Do?

This article has analyzed many legal issues raised by the rootkit incident, including Sony's potential liability, as well as the potential liability of consumers and researchers under the DMCA. As to the former, there are federal and state laws available to address and remedy Sony's conduct.³⁹⁹ With respect to the latter, the current exemptions to the DMCA are not sufficient to protect security researchers from liability and, thus, the Copyright Office should adopt a new exemption.

However, the exemption proposed by the Felten and CCIA groups—"for sound recordings . . . distributed in compact disc format and protected by technological measures that impede access . . . by creating or exploiting security vulnerabilities that compromise . . . personal computers"⁴⁰⁰—is far too broad. First and foremost, it is not limited in any way to security researchers, so it would permit anyone who believed a copy-protected CD posed some type of security risk to circumvent the technology. Nor does the proposed exemption attempt to define "security vulnerabilities," so some people might interpret that term very broadly to justify the circumvention of access controls. Undoubtedly, a vague and overly broad exemption like this would facilitate copyright infringement and seriously undermine the purpose served by section 1201 (a)(1)(A).

Instead, the Copyright Office should adopt a narrowly-tailored Security Research Exemption that tracks the language of section 1201(g)'s exemption for encryption research. Section 1201(g), for example, provides a relatively straightforward definition of "encryption research" that puts the public on notice of what activities fall within the exemption.⁴⁰¹ Section 1201(g) further provides that it is not a violation of section 1201(a)(1)(A) "for a person to circumvent a technological measure . . . in the course of an act of *good faith* encryption research *if . . . such an act is necessary to conduct such encryption research . . .*"⁴⁰² This type of

399. See *supra* Part III.A (discussing Sony's liability under the CFAA and Texas Spyware Statute). This is not to suggest that Congress should not enact a federal spyware statute. While such legislation probably is unnecessary in this case, it apparently is critical to address other serious problems facing consumers and businesses today. See, e.g., Patterson, *supra* note 171, at 256-57; Blakley, *supra* note 173, at 40.

400. Felten Comment, *supra* note 372, at 1. The exemptions proposed by the two groups are essentially identical, and thus, will be discussed together.

401. § 1201(g)(1)(A).

402. § 1201(g)(2) (emphasis added).

limiting language, which is not found in the current security testing exemption, should be included in the proposed Security Research Exemption, so that the underlying copyrighted works can be accessed if necessary for the research.

Additionally, section 1201(g)'s "Factors in Determining Exemption" would be equally applicable to a Security Research Exemption. The first asks "whether the information derived from the encryption research was disseminated, and if so, whether it was disseminated in a manner reasonably calculated to advance the state of knowledge or development of encryption technology, versus whether it was disseminated in a manner that facilitates infringement under this title" ⁴⁰³ Before applying the Security Research Exemption, this type of inquiry would be appropriate to ensure that information was being disseminated to the members of the public to notify them of a valid security risk, and not simply to educate them on how to circumvent certain access controls. ⁴⁰⁴

Similarly, section 1201(g) asks "whether the person is engaged in a legitimate course of study, is employed, or is appropriately trained or experienced, in the field of encryption technology." ⁴⁰⁵ A factor like this would ensure that only legitimate security researchers would be shielded by the exemption. Section 1201(g) finally considers "whether the person provides the copyright owner of the work to which the technological measure is applied with notice of the findings and documentation of the research" ⁴⁰⁶ Again, a notice provision should also be included in the proposed Security Research Exemption, thus giving the copyright owner an opportunity to address the problem itself instead of having it revealed by a third party as occurred in the Sony incident.

The proposed exemption outlined above would ensure that legitimate security researchers could devote their time to protecting our nation's computing systems and the people who use those systems, rather than worrying about whether disseminating important security information might expose them to a lawsuit under the DMCA. Moreover, this exemption is sufficiently narrow to minimize the risk that individuals could improperly invoke it in order to circumvent DRM systems for illicit purposes. While adoption of the proposed Security Research Exemption is recommended at this time in light of recent events, the ultimate goal is for record companies to adjust their approach and attitude

403. § 1201(g)(3)(A).

404. While Felten and Halderman's work is primarily focused on exposing security vulnerabilities created by various DRM systems, there are some instances where they seem simply to be instructing the public on circumvention techniques. *See, e.g.,* Halderman & Felten, *supra* note 62, at 6 (explaining how to bypass XCP's temporary protection measure by "kill[ing] the installer process" or "us[ing] a ripping or copying program that locks the CD tray," even though there is no indication that this temporary protection measure poses security risks to the user).

405. § 1201(g)(3)(B).

406. § 1201(g)(3)(C).

toward copy-protecting CDs, so as to avoid another Sony rootkit debacle in the future.

B. What Should the Record Companies Do?

Record companies need to take a different approach to copy-protecting CDs. First, they need to invest the time and resources necessary to ensure their copy-prevention systems do not pose any sort of security threat to their customers. The record labels and the software designers must make security a priority so consumers can feel confident that playing copy-protected CDs on their computers will not pose a risk to their operating systems. Moreover, before releasing CDs with copy-protection software, all record companies should do what Sony is required to do by the Settlement Agreement in the Consolidated Action: have the software analyzed by an independent, third-party and get an opinion that installation and use of the software would create no security vulnerabilities for users.⁴⁰⁷

Second, it is vital that record companies provide consumers with sufficient notice that CDs contain anti-piracy technology. Record labels not only should include conspicuous warnings on the CDs, but they should widely publicize the fact that certain copy-protected CDs are going to be released. Additionally, consumers must be fully informed about the nature of the DRM (*i.e.*, what it does, how it operates, etc.). That information, of course, should be included in the EULA, but also should be made easily available to customers, for example by posting it on the label's website. Indeed, one reason Apple has been successful with its use of DRM in iTunes music is because "Apple is above the board"⁴⁰⁸

Third, while it would be impossible to ensure that copy-protected CDs can be listened to on *any* device, record companies must develop DRM systems that take into account the reality of today's technological landscape. Specifically, a significant number of customers use portable music players, and Apple's iPod is by far the most popular of these devices. The bottom line is that if record companies release copy-protected CDs that are not compatible with iPods, and consumers are not aware of that at the time of purchase, music fans will be angry and/or will attempt to circumvent the DRM. While it is understandable that Sony would prefer its customers to listen to Sony CDs on a Sony MP3 player, that is simply not the reality of today's society. In other words, the record companies cannot use copy-protection as a means to promote their own portable devices. If record labels want to copy-protect CDs, they must accept that most customers will want to listen to those CDs on an iPod.

407. Settlement Agreement, *supra* note 63, ¶ IV.B.3(f).

408. *Digital Rights Management (DRM): Media Companies' Next Flop?*, *supra* note 294.

Finally, the sole purpose of any successful DRM system must be to prevent illicit copying, not to collect personal information or advertise. This is addressed in the Settlement Agreement in the Consolidated Action, but it does not go far enough. There, Sony agreed that, before releasing CDs with copy-prevention software, it will ensure that such software “make[s] a record only of the associated album title, artist, IP address from which the [Internet] connection was made, and certain non-personally identifiable information”⁴⁰⁹ As discussed above, however, IP addresses are personally identifiable information. There is no reason record labels should be able to collect this information from individuals who are simply listening to CDs on their computers (as opposed to people who are illegally downloading music from the Internet). If record companies continue to gather such data, it will further erode customer confidence and undermine the chance of finding an approach to DRM that is acceptable to the entertainment industry and consumers.

CONCLUSION

This latest chapter in the saga of the war on music piracy has forced the recording industry, lawmakers, and consumers to take a hard look at the issues surrounding the use of digital rights management to protect copyright owners. In this case, Sony clearly went too far in attempting to defend its intellectual property rights. As a result, it violated numerous laws and has subjected itself to very serious consequences, including several class action lawsuits, a criminal case in Texas, numerous government inquiries, and a public relations disaster.

The record companies nonetheless have a right to prevent illicit copying of their music, and, at least for the time being, digital rights management is the best way to accomplish that. In designing future DRM systems, the recording industry should take a lesson from Apple, who has made its iTunes DRM work by “think[ing] seriously about balancing the needs of content owners with those of consumers,” and “attempt[ing] to satisfy both sides of the equation.”⁴¹⁰ If the recording industry can do that and can develop DRM that satisfies the requirements outlined in this article, consumers would learn to accept the copy-protection technology and would adapt their music consumption habits accordingly.

409. Settlement Agreement, *supra* note 63, ¶ IV.B.3(g).

410. *Digital Rights Management (DRM): Media Companies' Next Flop?*, *supra* note 294.

REMEMBERING THE PUBLIC DOMAIN

CHRISTINE D. GALBRAITH[†]

INTRODUCTION

Rapid advances in communication technology over the past decade have resulted in the previously unimaginable ability to seamlessly exchange ideas and data on a global basis. Yet, despite this undeniable progress, access to information is becoming increasingly difficult. The carefully balanced provisions of copyright law are gradually becoming displaced by contractual,¹ technological,² and legislative³ constraints that permit tight control of access to and use of knowledge resources.⁴ As a result, material that belongs in the public domain⁵ is being transformed into private property. Such a state of affairs has potentially serious consequences, as the ability to access and make use of ideas and information is critically important to creativity, competition, innovation, and a democratic culture.⁶

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1. See discussion *infra* Part II (reviewing the various types of contractual methods often utilized, including contracts in the form of shrinkwrap, clickwrap, or browserwrap licenses).

2. See discussion *infra* Part II (noting the increasing use of digital rights management systems (DRMs) by copyright proprietors).

3. See discussion *infra* Part II (discussing the Digital Millennium Copyright Act (DMCA)).

4. See Keith Aoki, *(Intellectual) Property and Sovereignty: Notes Toward a Cultural Geography of Authorship*, 48 STAN. L. REV. 1293, 1298 (1996).

5. Attempts to define the term “public domain” have been the topic of considerable academic debate, as well as the subject of numerous scholarly articles. See, e.g., Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354, 361-62 (1999) (“The public domain is the range of uses of information that any person is privileged to make absent individualized facts that make a particular use by a particular person unprivileged.”); James Boyle, *The Second Enclosure Movement and the Construction of the Public Domain*, 66 LAW & CONTEMP. PROBS. 33, 38-63 (2003); Jessica Litman, *The Public Domain*, 39 EMORY L.J. 965, 968 (1990) (defining the public domain as “a commons that includes those aspects of copyrighted works which copyright does not protect . . .”); Tyler T. Ochoa, *Origins and Meanings of the Public Domain*, 28 U. DAYTON L. REV. 215, 256 (2002); Pamela Samuelson, *Mapping the Digital Public Domain: Threats and Opportunities*, 66 LAW & CONTEMP. PROBS. 147, 148-154 (2003). The term “public domain” as used in this article consists of all non-copyrighable information, as well as the unprotected components of copyrighted works. Such a definition would necessarily comprise specific limitations articulated in the Copyright Act, in addition to uses that would qualify as fair use.

6. Samuelson, *supra* note 5, at 170; see also, *White v. Samsung Elecs. Am., Inc.*, 989 F.2d 1512, 1513 (9th Cir. 1993) (Kozinski, J., dissenting) (“Creativity is impossible without a rich public domain . . . Culture, like science and technology, grows by accretion, each new creator building on the works of those who came before.”); LAWRENCE LESSIG, *THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD* 250 (2001) (“[C]reation is always the building upon something else.”); William Patry, *The Enumerated Powers Doctrine and Intellectual Property: An Immi-*

I. COPYRIGHT LAW AS A BASELINE

Until recently, copyright law served as the baseline from which issues relating to the use and ownership of creative works were decided. The Copyright Act provides protection only to “original works of authorship.”⁷ Originality is not a statutory requirement, but a constitutional prerequisite for the benefits of the Act to attach to a given work.⁸ To be original, a work must be “independently created,” in other words, not copied from another work, and possess “at least some minimal degree of creativity.”⁹ Such conditions do not generally pose a significant hurdle, particularly since a relatively low level of creativity will usually suffice.¹⁰

Nonetheless, facts do not meet this modest threshold.¹¹ One of the “most fundamental axiom[s] of copyright law” is that “[n]o author may copyright . . . the facts he [or she] narrates.”¹² This is because one who reports a particular fact has not created it, but merely discovered its existence.¹³ Since factual data is not “original” in the constitutional sense, it is not entitled to protection but may instead be copied at will.¹⁴ As the Supreme Court has explained “[t]his result is neither unfair nor unfortunate,” but “is the means by which copyright advances the progress of science and art.”¹⁵

Similarly, ideas also are not subject to copyright protection.¹⁶ A basic principle of copyright law, the “idea/expression” dichotomy, allows copyright protection to attach to the expression of an idea, but not the idea itself.¹⁷ Consequently, one may utilize the ideas contained within another’s copyrighted work without seeking the creator’s permission.¹⁸ This provides “authors the right to their original expression, but encour-

ment Constitutional Collision, 67 GEO. WASH. L. REV. 359, 381 (1999) (“With unfettered access to facts, the public may gain valuable information necessary for an enlightened citizenry, while later authors are free to create subsequent works utilizing those facts.”); Margaret Jane Radin, *Property Evolving in Cyberspace*, 15 J.L. & COM. 509, 510 (1996) (“[W]e cannot be creators without a robust public domain, a rich tradition and culture to draw upon freely.”).

7. 17 U.S.C.A. § 102(a) (West 2006).

8. U.S. CONST. art. I, § 8, cl. 8 (authorizing Congress to secure “for limited Times to Authors . . . the exclusive Right to their respective Writings . . .”); see also *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 346 (1991) (declaring that “[o]riginality is a constitutional requirement”).

9. *Feist*, 499 U.S. at 345 (citing 1 M. NIMMER & D. NIMMER, COPYRIGHT §§ 2.01[A], [B] (1990)).

10. *Id.*

11. See *id.* at 344-45.

12. *Id.* (citing *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 556 (1985)).

13. *Id.* at 347-48 (“No one may claim originality as to facts’ . . . because facts do not owe their origin to an act of authorship”) (quoting 1 M. NIMMER & D. NIMMER, COPYRIGHT § 2.11[A] (1990)).

14. *Id.* at 350.

15. *Id.*

16. *Id.* (citing *Harper & Row*, 471 U.S. at 547-48).

17. *Id.*

18. *Id.* at 349-50.

ages others to build freely upon the ideas . . . conveyed by a work.”¹⁹ This balance of rights between authors and the public is rooted in the belief that society is best served by the unrestricted flow of information and ideas.²⁰

Furthermore, depending on the circumstances, all or part of the protected portions of a copyrighted work may be used without the consent of the copyright holder.²¹ The Copyright Act contains a number of provisions that expressly restrict the exclusive rights granted by statute to the owner of the copyright.²² Many of these pertain only to particular types of uses by certain categories of individuals in specific situations,²³ however, not all of the exceptions are so specialized. For example, the doctrine of fair use is much more far-reaching, often allowing for the use of excerpts from a work for purposes such as teaching, news reporting, and criticism without compensation to or the permission of the copyright holder.²⁴

These carefully considered constitutional and statutory limitations are designed to balance the rights of creators with the interests of the public. By providing adequate protection for authors so they have an incentive to create, but precluding a copyright owner’s ability to control all uses of such works, the public domain is intended to be a rich resource for future creators, innovators, and participants in democratic culture. The ability to access and use such materials is essential since creativity and social progress clearly do not take place in a vacuum, but are cumulative in nature. In fact, “[n]othing today, likely nothing since we tamed fire, is genuinely new: Culture, like science and technology, grows by accretion, each new creator building on the works of those who came before.”²⁵ Unfortunately, this traditional development process is being threatened as a result of drastic responses to technological innovation.

II. THE NEW PROPRIETARY LANDSCAPE

Recent advances have made it possible to quickly, inexpensively, and effortlessly produce perfect copies of many different types of creative works. As a result, copyright holders have sought to prevent uncontrolled duplication from occurring.

19. *Id.*

20. *See id.*

21. *Id.* at 350-51.

22. 17 U.S.C.A. §§ 107-122 (West 2006).

23. *See, e.g.*, 17 U.S.C.A. § 110 (“Notwithstanding the provisions of section 106, the following are not infringements of copyright: . . . (6) performance of a nondramatic musical work by a governmental body or a nonprofit agricultural or horticultural organization, in the course of an annual agricultural or horticultural fair or exhibition conducted by such body or organization . . .”).

24. *See* 17 U.S.C.A. § 107.

25. *White*, 989 F.2d at 1513 (Kozinski, J., dissenting).

While some fine-tuning of established doctrines may be necessary to account for these changes, the amount of control copyright holders have attempted to exert can arguably be characterized as extreme. Although in limited circumstances generally unrestricted power to limit access and use may seem reasonable, in most situations, this is not the case.²⁶

Increasingly, copyright proprietors have turned to technological measures, such as digital rights management systems (DRMs), to strictly regulate access to their works.²⁷ These efforts have been bolstered by the passage of the Digital Millennium Copyright Act,²⁸ which proscribes technologies that could be used to defeat DRMs and imposes liability for acts of circumvention.²⁹ This legislation is somewhat radical since traditionally “Congress has achieved the objectives of the Constitution’s Copyright Clause ‘by regulating the use of information—not the devices or means by which the information is [obtained].’”³⁰ Such developments are particularly troublesome in light of the fact that “preventing access is now often tantamount to preventing use.”³¹

To the extent all hurdles to access are overcome, further restrictions on use are frequently present, as copyright holders attempt to prevent all uncompensated and unauthorized uses of their works.³² In an effort to attain this goal, standard form contracts, often in the form of shrinkwrap,³³ clickwrap,³⁴ or browsewrap³⁵ licenses are frequently utilized.

26. Stefan Bechtold, *Digital Rights Management in the United States and Europe*, 52 AM. J. COMP. L. 323, 360-61 (2004).

27. Stephen M. Kramarsky, *Copyright Enforcement in the Internet Age: The Law and Technology of Digital Rights Management*, 11 DEPAUL-LCA J. ART & ENT. L. & POL’Y 1, 10 (2001); *Symposium: The Law & Technology of Digital Rights Management*, 18 BERKELEY TECH. L.J. 697, 736-37 (2003); Julie E. Cohen, *Some Reflections on Copyright Management Systems and Laws Designed to Protect Them*, 12 BERKELEY TECH. L.J. 161, 161-62, 183 (1997); Bechtold, *supra* note 26, at 323-24.

28. Pub. L. No. 105-304, 112 Stat. 2860 (1998).

29. 17 U.S.C.A. §§ 1203-1204 (West 2006). For further discussion of the Digital Millennium Copyright Act, see generally Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to be Revised*, 14 BERKELEY TECH. L.J. 519 (1999); David Nimmer, *Appreciating Legislative History: The Sweet and Sour Spots of the DMCA’s Commentary*, 23 CARDOZO L. REV. 909 (2002); Orin S. Kerr, *A Lukewarm Defense of the Digital Millennium Copyright Act*, in COPY FIGHTS: THE FUTURE OF INTELLECTUAL PROPERTY IN THE INFORMATION AGE 163 (Adam Thierer & Wayne Crews eds., 2002); Craig Allen Nard, *The DMCA’s Anti-Device Provisions: Impeding the Progress of the Useful Arts?*, 8 WASH. U. J.L. & POL’Y 19 (2002); Matt Jackson, *Using Technology to Circumvent the Law: The DMCA’s Push to Privatize Copyright*, 23 HASTINGS COMM. & ENT. L.J. 607 (2001).

30. David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 U. PA. L. REV. 673, 683 (2000) (citing H.R. REP. NO. 105-551, pt. 2, at 24 (1998)).

31. Jacqueline Lipton, *A Framework for Information Law and Policy*, 82 OR. L. REV. 695, 762 (2003).

32. Maureen Ryan, *Cyberspace as Public Space: A Public Trust Paradigm for Copyright in a Digital World*, 79 OR. L. REV. 647, 661 (2000).

33. See, e.g., *Register.com, Inc. v. Verio, Inc.*, 356 F.3d 393, 428 (2d Cir. 2004) (“A shrinkwrap license typically involves (1) notice of a license agreement on product packaging (*i.e.*, the shrinkwrap), (2) presentation of the full license on documents inside the package, and (3) prohibited access to the product without an express indication of acceptance. Generally, in the shrinkwrap

These “agreements”³⁶ often contain harsh provisions that seek to prohibit actions that are clearly allowed under the Copyright Act, such as conduct that would undoubtedly qualify as fair use. Additionally, the use of facts and ideas contained in copyrighted works is often heavily regulated, as they are increasingly viewed as mere commodities in the marketplace—even though they constitute the building blocks of knowledge and are supposed to remain within the public domain.³⁷

Lawmakers and judges have been quick to support these technological and contractual restraints implemented by copyright proprietors despite the fact that they undeniably alter the delicate balance struck by the Copyright Act to the detriment of the public. Increasingly, all unremunerated uses of information are perceived as unacceptable assaults on the rights of copyright holders.³⁸ This is due in large part to the fact that legislators promulgating statutes and adjudicators resolving disputes concerning data have failed to adequately take into account the multi-dimensional problems involved in disputes concerning access to information. The focus is often inappropriately centered on the tangible property within which information is contained, for example in a software program or a computer server. Additionally, once an owner of such property is ascertained, all of the conventional attributes of ownership are

context, the consumer does not manifest assent to the shrinkwrap terms at the time of purchase; instead, the consumer manifests assent to the terms by later actions.” (citations omitted)).

34. See *Register.com, Inc.*, 356 F.3d at 429 (defining a “clickwrap license” as one which presents “the potential licensee (*i.e.*, the end-user) ‘with a message on his or her computer screen, requiring that the user manifest his or her assent to the terms of the license agreement by clicking on an icon.’”) (citing *Specht v. Netscape Commc’ns Corp.*, 150 F. Supp. 2d 585, 593-94 (S.D.N.Y. 2001)).

35. See, *e.g.*, *Recursion Software, Inc. v. Interactive Intelligence, Inc.*, 425 F. Supp. 2d 756, 782 (N.D. Tex. 2006) (defining a “browsewrap license” as a license that is “typically part of a web site—its terms may be posted on the site’s home page or may otherwise be accessible via a hyperlink” and explaining that “[i]n contrast to clickwrap licenses, a user may download software under a browsewrap license prior to manifesting assent to its terms.” (citations omitted)).

36. The validity of these agreements has been the subject of extensive scholarly discussion. See generally Benkler, *supra* note 5, at 429-40 (discussing copyright law and the scope of the public domain); J.H. Reichman & Jonathan A. Franklin, *Privately Legislated Intellectual Property Rights: Reconciling Freedom of Contract with Public Good Uses of Information*, 147 U. PA. L. REV. 875, 906 (1999) (examining the practice of contracting around federal intellectual property law); Raymond T. Nimmer, *Breaking Barriers: The Relation Between Contract and Intellectual Property Law*, 13 BERKELEY TECH L.J. 827, 877-78 (1998) (exploring the relationship between contract and copyright law); Maureen A. O’Rourke, *Copyright Preemption After the ProCD Case: A Market-Based Approach*, 12 BERKELEY TECH. L.J. 53, 57, 71 (1997) (discussing the competing interests involved in freedom of contract and preservation of the public domain); Niva Elkin-Koren, *Copyright Policy and the Limits of Freedom of Contract*, 12 BERKELEY TECH. L.J. 93, 106 (1997) (discussing whether parties should be allowed to contract around copyright).

37. Jessica Litman, *Copyright and Information Policy*, 55 LAW & CONTEMP. PROBS. 185, 187 (1992); Ryan, *supra* note 32, at 661, 669-70. Patry, *supra* note 6, at 368-69. (“Copying such material promotes the progress of science by keeping the basic building blocks of knowledge free for all to use”); see also Lipton, *supra* note 31, at 738; Jessica Litman, *Information Privacy/Information Property*, 52 STAN. L. REV. 1283, 1294-95 (2000).

38. Litman, *supra* note 37, at 206 (“Courts increasingly see uncompensated uses of copyrighted works as invasions of the rights in the copyright bundle.”); see also Ryan, *supra* note 32, at 661.

normally granted, including the right to exclude.³⁹ As a result, almost insurmountable obstacles are faced by any other party whose interests might be affected by a lack of access or an inability to utilize the resource, as the burden almost always falls on these other parties to explain why the previously identified owner's rights should be limited.⁴⁰

Such a myopic view of property rights allows for the tight control of access to and use of information contained within the tangible property. This problem is often most pronounced in the Internet context where lawmakers and judges have not only treated cyberspace as though it were virtually equivalent to a place in the physical world, but seem to believe that all of its constituent parts must be privately owned by someone or something that has absolute power over the property.⁴¹ Ubiquitous in legislation affecting and judicial opinions concerning cyberspace is the granting of rights to private parties, thereby providing them with the ability to exclude whomever or whatever they choose.⁴²

Illustrative of this presumption toward privatization is the case of *eBay v. Bidder's Edge*.⁴³ Plaintiff eBay brought suit against Bidder's Edge for using a software robot to access and gather factual data contained on eBay's publicly accessible Internet site, despite the fact that its computer system had not been harmed by Bidder's Edge's robotic activity.⁴⁴ In granting the preliminary injunction against Bidder's Edge, the court held that eBay had a "fundamental property right to exclude others from its computer system."⁴⁵ Determinations such as these allow website owners to restrict who and what may enter, and consequently make use of, the information contained on even a publicly accessible website. Furthermore, these decisions generally fail to recognize the benefits that inure from a diverse, open network. The end results of such judgments are considerable impediments to public access to ideas and information.

CONCLUSION

It is imperative that judges and policy makers give more comprehensive attention to all of the interests implicated in controversies involv-

39. See Ryan, *supra* note 32, at 692.

40. See JOSEPH WILIAM SINGER, ENTITLEMENT: THE PARADOXES OF PROPERTY 10 (2000).

41. Mark A. Lemley, *Place and Cyberspace*, 91 CAL. L. REV. 521, 532-33 (2003).

Courts have assumed not only that cyberspace is a place akin to the physical world, but further that any such place must be privately owned by someone who has total control over the property. This is a common assumption these days; it sometimes seems as though our legal system is obsessed with the idea that anything with value must be owned by someone.

Id.

42. Ryan, *supra* note 32, at 692; see also Morton J. Horwitz, *Technology, Values, and the Justice System: Conceptualizing the Right of Access to Technology*, 79 WASH. L. REV. 105, 116 (2004).

43. 100 F. Supp. 2d 1058 (N.D. Cal. 2000).

44. See *eBay*, 100 F. Supp. 2d at 1060-63.

45. *Id.* at 1067.

ing materials which arguably belong in the public domain. This must include acknowledgment of the fact that the ability to access and make use of a robust, ever-expanding public domain is essential to the progress of society.⁴⁶ Such resources allow the public to gain valuable information necessary for an “enlightened citizenry.”⁴⁷ A prodigious public domain advances learning, knowledge, and creativity by permitting later authors and innovators to build on prior works and discoveries. Ultimately, we must recognize the way the structure of intellectual property rights reflects the values we find important and the type of society we wish to create.⁴⁸

46. Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1, 3-4 (2004).

47. Patry, *supra* note 6, at 381.

48. Laura S. Underkuffler-Freund, *Property: A Special Right*, 71 NOTRE DAME L. REV. 1033, 1046 (1996) (“Questions about the kind of society that we are, and the kind of society that we wish to become, must be inherent parts of the interpretation of [property rights].”); SINGER, *supra* note 40, at 155; Jacqueline Lipton, *Information Property: Rights and Responsibilities*, 56 FLA. L. REV. 135, 173-74 (2004) (“Property ownership, like information property ownership, has powerful social consequences.”); JOSEPH WILLIAM SINGER, *THE EDGES OF THE FIELD: LESSONS ON THE OBLIGATIONS OF OWNERSHIP* 90-91 (2000); *see also* STEVEN R. MUNZER, *A THEORY OF PROPERTY* 149 (1990) (“Property discloses much about societies and persons . . . First for all societies, if one describes the institution of property as it exists in a society, the description reveals something important about that society.”); Ryan, *supra* note 32, at 647 (“[I]t is important to identify the values we are promoting when resolving current issues regarding information as property.”); JEDEDIAH PURDY, *FOR COMMON THINGS: IRONY, TRUST, AND COMMITMENT IN AMERICA TODAY* 131 (1999) (“Every law and each political choice is in part a judgment about the sort of country we will inhabit and the sort of lives we will lead.”).

LOCKS & LEVIES

JEREMY F. DEBEER[†]

ABSTRACT

This paper explores two ways that law can influence the creation and distribution of digital content. Specifically, it looks at the relationship between (1) prohibitions against circumventing technological protection measures (TPMs) and (2) levies on products or services used to reproduce or transmit digital materials. The relationship between digital locks and levies is analyzed through a comparative study of developments in Canada and the United States.

Canada has created a broad levy (compared to the United States) to address the issue of private copying. Canada has not, so far, enacted specific anti-circumvention legislation like the Digital Millennium Copyright Act (DMCA). The United States, on the other hand, has enacted, in the DMCA, relatively strong prohibitions against circumventing TPMs. At the same time, a very narrow levy exists in the United States under the Audio Home Recording Act (AHRA). In short, the legal situation in Canada is basically the inverse of that in the United States. However, there have been proposals in the United States to expand the role of levies. There have also been proposals to introduce anti-circumvention provisions in Canada.

In this paper, alternative approaches are examined from the perspective of various stakeholders—creators, technology firms and consumers. Different types of copyright-holders generally prefer different approaches. Individual authors and performers and their representative societies have favorable attitudes towards levies, while major producers and distributors tend to prefer the control digital locks provide. Technology firms and communications intermediaries might be affected by both locks and levies, but are typically against expansive levy schemes. When considering the costs and benefits of locks or levies to consumers, it is important to distinguish between consumers of entertainment and consumers of electronics, who are impacted differently.

Because these stakeholders hold different preferences, compromises are likely to be made in Canada and the United States. If locks and levies are used simultaneously in the market, consumers risk being caught in

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the middle of a regime that prohibits the circumvention of digital rights management (DRM) systems in order to access or copy digital content, but at the same time mandates levy payments to compensate for copying that either cannot occur, is already licensed, or is or should be fair dealing/use. Without careful study, lawmakers in either country could accidentally create a scheme including conceptually and practically incompatible legal regulations. An overview of various stakeholders' experiences in Canada, the United States and Europe provides valuable insights for North American law and policy makers.

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As consumers continue to embrace new technologies for listening to and sharing music, movies and other forms of entertainment, content creators and distributors must adapt to the rapidly evolving business environment. There is no need to rehash modern technological, economic and cultural challenges in great detail. By now, everyone reading this paper is aware that tens of millions of people use peer-to-peer distribution networks to share music, movies and other digital content. Entertainment industry incumbents are threatened by this activity. There are several possible responses.

One is to use digital locks to control access to or use of digital content. Where legal protections are perceived to be inadequate, firms use technological protection measures (TPMs) to control what consumers are and are not able to do with entertainment products. TPMs are a key component of many digital rights management (DRM) strategies. Because digital locks can be picked, content owners have successfully lobbied international and some domestic lawmakers for specific legal prohibitions against circumventing TPMs.

Another response is to employ levies that generate revenues to incentivize content creation. Creators sacrifice a degree of control over

their works in exchange for remuneration intended to compensate for private or non-commercial copying. This approach is similar to compulsory licensing, except that licence fees are paid not by users of copyrighted materials, but by manufacturers or providers of certain goods or services.

There is an abundance of scholarship exploring TPMs and anti-circumvention provisions. There is also a growing body of literature discussing theoretical alternative compensation models. My goal is to juxtapose these issues by looking at recent real-world developments in Canada and the United States, and to some extent, Europe. I want to explore a worldwide trend toward the simultaneous presence of both locks and levies in digital entertainment markets.

Canada and the United States have much in common. In addition to sharing a border nearly 9000 kilometres long, there are remarkable economic, cultural and technological similarities between the two countries. Cultural industries are an important part of the economy in both Canada¹ and the United States.² Perhaps more importantly, consumers in both jurisdictions share similar tastes for entertainment products. Although Americans import less Canadian music than *visa versa*, a substantial number of Canadian artists are popular south of the border, demonstrating consumers' shared preferences. Canadians and Americans have access to much of the same technology for listening to and sharing music, movies, video games and other entertainment products. Both countries have above-average levels of broadband internet access.³ Since the formation of the North American Free Trade Agreement, Canadians and Americans find themselves in an increasingly similar technological, cultural and economic environment.

Despite these similarities, North America is not yet as tightly integrated as, for instance, the European Union. There are important differences between Canada and the United States, from distinct regulatory regimes to particular political preferences. There are also rather different legal climates affecting the creation and distribution of digital entertainment products. In particular, these two countries have created distinct

1. In Canada, copyright-based industries account for 9.3% of the 2005 GDP. Copyright-based industries include the following three sectors as measured by Statistics Canada: information and cultural; professional, scientific and technical; and arts, entertainment, and recreation. See Statistics Canada, <http://www.statcan.ca/101/cst01/econ41.htm?sdi=gross%20domestic%20product%20all%20industries>.

2. In the United States, the figure was a comparable 12.4% for 2005. Copyright-based industries include the following three sectors as measured by the Bureau of Economic Analysis: information; professional, scientific and technical services; and arts, entertainment and recreation. See Thomas F. Howells III and Kevin B. Barefoot, *Annual Industry Accounts: Advance Estimates for 2005* at 18, (May 2006), http://www.bea.gov/bea/ARTICLES/2006/05May/0506_IndyAccts.pdf.

3. Although broadband penetration in 2004 was slightly higher in Canada (17%) than it was in the U.S. (13%), both countries are above the 10% average for OECD countries. See Dr. Sacha Wunsch-Vincent and Dr. Graham Vickery, *Working Party on the Information Economy – Digital Broadband Content: Music* at 85 (Dec. 13, 2005), <http://www.oecd.org/dataoecd/13/2/34995041.pdf>.

legal rules for creators and online entrepreneurs by, so far, adopting different policies on the issues of locks and levies.

In Part One of this paper, I explain that in Canada there is a relatively broad levy to compensate for private copying. There are not yet specific Canadian anti-circumvention provisions, although TPMs are apparently utilized nonetheless extensively. In Part Two, I look at the American situation, which is nearly the exact inverse. In the United States, there is a relatively narrow levy to deal with audio home recording, while there are fairly broad anti-circumvention provisions. However, there has been pressure to enact anti-circumvention provisions in Canada, and there have been numerous proposals to adopt a broader levy scheme in the United States.

Part Three of this paper explores some of the consequences of locks, levies and proposals for change, from the perspective of creators and distributors, technology firms and intermediaries and consumers of electronics and digital content. Locks and levies affect each of these stakeholders differently. In Part Four, I conclude that the diversity of perspectives between and within interested stakeholder groups is likely to lead to compromise solutions, combining aspects of multiple approaches. It is possible, therefore, that policymakers in Canada and/or the United States will create a system involving both locks and levies.

This is problematic. Consumers risk being caught in the middle of a regime that prohibits the circumvention of DRM systems in order to access or copy digital content, but at the same time mandates levy payments to compensate for copying that either cannot occur, is already licensed or constitutes fair use/dealing. This has already happened in Europe, nearly happened in Canada and could easily occur in the United States. Policymakers should be aware of these concerns in order to minimize incompatibilities within a system that simultaneously incorporates both locks and levies.

I. CANADA

Canadian copyright law includes an exemption/levy scheme to address the private copying of music. The law also allows for the use of TPMs, which many content creators and distributors successfully utilize in Canada. At present, however, the Copyright Act does not directly prohibit the circumvention of TPMs. The following section describes these various aspects of Canadian copyright law in more detail.

A. The Private Copying Levy

In Canada, after more than a decade of lobbying, the music industry convinced Parliament that private copying onto blank tapes was causing

significant losses.⁴ So, in 1998, Part VIII was added to the Copyright Act to legalize private copying onto some types of blank media, and as a corollary to allow certain authors, performers and sound recording makers to propose to the Copyright Board a levy payable by manufacturers and importers of those media.⁵ In short, the regime substitutes exclusive copyrights with a unique right to collect remuneration from third parties.

The object of Canada's private copying levy was to provide compensation to certain music creators, whose exclusive copyrights were believed to be practically unenforceable at the time the regime was enacted. According to Linden J.A., in *AVS Technologies*: "The purpose of Part VIII of the Act is mainly an economic one - that is, to fairly compensate artists and the other creative people for their work by establishing fair and equitable levies."⁶ Although the rationale that private copying cannot be mostly addressed by legal or technological means is no longer applicable,⁷ a levy does still alleviate problems with allowing copyright owners to monitor and control people's private activities.⁸ There are misunderstandings and disagreements, however, about exactly what sort of private copying the Canadian levy scheme covers.

According to transcripts of meetings preceding the enactment of the levy, the matter to be addressed was actually quite specific—the use of

4. According to then Minister of Canadian Heritage, Sheila Copps, a majority of the 44 million blank tapes sold in Canada in 1994 were used to copy music. See A Study of Bill C-32, An Act to Amend the Copyright Act Before the Standing Committee on Canadian Heritage, 35th Parliament (Oct. 3, 1996) (statement of Shelia Copps, Deputy Prime Minister and Prime Minister of Canadian Heritage), available at http://www.parl.gc.ca/35/Archives/committees/352/heri/evidence/21_96-10-03/heri-21-cover-e.html. See also Task Force on the Future of the Canadian Music Industry, <http://www.canadianheritage.gc.ca/progs/ac-ca/progs/pades-srdp/pubs/f-sum-e.htm>; Government of Canada, Parliamentary Sub-committee on the Revision of Copyright, *Charter of Rights for Creators* (1985) [hereinafter *Charter*].

5. See Copyright Act, R.S.C. 1985, ch. C-42, §§ 80, 82; Jeremy F. deBeer, *The Role of Levies in Canada's Digital Music Market*, 4:3 CAN. J. L. TECH. 153 (2005); Jeremy F. deBeer, *Copyrights, Federalism and the Constitutionality of Canada's Private Copying Levy*, 51 MCGILL L.J. (forthcoming 2006); Copyright Board of Canada, *Private Copying 1999-2000*, at 32-39 (Dec. 17, 1999), available at <http://www.cb-cda.gc.ca/decisions/c17121999-b.pdf> [hereinafter Copyright Bd. of Can., *Private Copying 1999-2000*]; Copyright Board of Canada, *Private Copying 2001-2002*, at 3-4 (Dec. 15, 2000), available at <http://www.cb-cda.gc.ca/decisions/c22012001reasons-b.pdf> [hereinafter Copyright Bd. of Can., *Private Copying 2001-2002*]; Copyright Board of Canada, *Private Copying 2003-2004*, at 2 (Dec. 12, 2003), available at <http://www.cb-cda.gc.ca/decisions/c12122003-b.pdf> [hereinafter Copyright Bd. of Can., *Private Copying 2003-2004*]; Canadian Private Copying Collective v. Canadian Storage Media Alliance, [2004] F.C.A. 424, ¶ 3 [hereinafter *CPCC v. CSMA*].

6. *AVS Technologies Inc. v. Canadian Mechanical Reproduction Rights Agency*, 7 C.P.R. (4th) 68, ¶ 5 (2000) [hereinafter *AVS Technologies*].

7. See P. Bernt Hugenholtz et al., *The Future of Levies in a Digital Environment*, at 42, (March 2003), <http://www.ivir.nl/publications/other/DRM&levies-report.pdf>.

8. See Katerina Gaita & Andrew F. Christie, *Principle or Compromise?: Understanding the Original Thinking Behind Statutory Licence and Levy Schemes for Private Copying*, at 6-10 (May 2004), <http://www.law.unimelb.edu.au/ipria/publications/workingpapers/2004/IPRIA%20WP%2004.04.pdf>.

blank tapes to copy music for private use.⁹ Although blank CDs and other digital technologies were envisioned at the time, they were not in 1997 the matter of immediate concern. The “jukebox or record store in the sky” was foreseen, but recording industry lobbyists stressed that a levy could not replace the revenues that might be generated by a market for digital downloads.¹⁰

On the other hand, the Copyright Act defines media subject to the levy in a way that could hardly be more broadly drafted. The breadth of Canada’s levy turns on the definition of an “audio recording medium” in section 79.¹¹ It is legal to copy privately using “a recording medium, regardless of its material form, onto which a sound recording may be reproduced and that is of a kind ordinarily used by individual consumers for that purpose.”¹² Certain rights-holders may propose a levy payable by manufacturers and/or importers of the same.¹³

After its first hearings on the matter, the Copyright Board adopted a flexible and relaxed interpretation of “ordinarily used” in order to ensure that blank CDs, a relatively new technology at the time, would be captured.¹⁴ It held the standard to mean that media are leviable so long as their use for copying music is “non-negligible.”¹⁵ In effect, according to the Board, ordinarily means not extraordinarily. The Federal Court of Appeal affirmed that this view was “not patently unreasonable” but stopped short of holding that the Board’s interpretation was correct.¹⁶ Such a low threshold makes Canada’s levy much broader than the American scheme to deal with home audio recording, which captures only products that have a “primary purpose” of recording digital audio.¹⁷

Another key phrase in section 79 is “regardless of its material form.” A strong argument can be made that this clause shows an intention to make the levy as technology-neutral as possible. Some government reports predating the levy support such an interpretation.¹⁸ Following its third hearings on private copying, the Copyright Board interpreted

9. A Study of Bill C-32, An Act to Amend the Copyright Act Before the Standing Committee on Canadian Heritage, 35th Parliament (Oct. 3, 1996), available at http://www.parl.gc.ca/35/Archives/committees352/heri/evidence/21_96-10-03/heri-21-cover-e.html.

10. See A Study of Bill C-32, An Act to Amend the Copyright Act Before the Standing Committee on Canadian Heritage, 35th Parliament (Oct. 22, 1996), available at http://www.parl.gc.ca/35/Archives/committees352/heri/evidence/26_96-10-22/heri-26-cover-e.html; A Study of Bill C-32, An Act to Amend the Copyright Act Before the Standing Committee on Canadian Heritage, 35th Parliament (Nov. 7, 1996), available at http://www.parl.gc.ca/35/Archives/committees352/heri/evidence/37_96-11-07/heri-37-cover-e.html.

11. Copyright Act, R.S.C. 1985, ch. C-42, § 79.

12. *Id.*

13. *Id.* at § 81.

14. Copyright Bd. of Can., *Private Copying 1999-2000*, *supra* note 5, at 28-32.

15. *Id.* at 32.

16. *AVS Technologies*, 7 C.P.R. (4th) 68, ¶¶ 9-13; see also BLAIS ET AL., STANDARDS OF REVIEW OF FEDERAL ADMINISTRATIVE TRIBUNALS 141-42 (2d ed. 2005).

17. See *infra* Part II.B. (discussing the Audio Home Recording Act).

18. *Charter*, *supra* note 4.

the definition broadly to include digital audio recorders, such as the Apple iPod.¹⁹ The Federal Court of Appeal, however, reversed the Board's decision on this point. The Court of Appeal held that memory is not a leviable medium if it is embedded into a device.²⁰ The Court felt the decision to extend the levy to iPods was for the legislator, not the Board or the courts, to make.²¹ Because Canada's levy excludes devices, it is not as broad as some European schemes.²² In theory, it is also unlike the American Audio Home Recording Act (AHRA) in this respect, although in practice that is a minor point of distinction.²³

One interpretation of the Court's decision leaves open the possibility that *removable* digital memory, or a computer hard drive that has not yet been incorporated into a device, could be subject to a levy in the future. It may, however, be splitting hairs to call an iPod a device and removable or raw digital memory a medium. More importantly such a medium may not be in a form "ordinarily used" by individuals to copy music. In fact, the Copyright Board expressly held that products such as IBM MicroDrive hard drives or CompactFlash digital memory cards are overwhelmingly used for digital photography or other applications, not copying music.²⁴

As a corollary to the liabilities imposed on manufacturers and importers of blank audio recording media, consumers are exempted under section 80 of the Copyright Act from liability for private copying using such media.²⁵ The private copying exemption only applies to a narrow genre of truly private copying onto certain types of media. The copy must be made "for the private use of the person making the copy"²⁶—making a copy for a friend or family member is *not* permitted within the scope of this exception.²⁷

However, Canadian courts and administrative decision-makers have downplayed the nexus between an approved tariff, actual levy payments and the legality of private copying. The Copyright Board of Canada has stated that "simply because the Board has not been asked to certify a tariff on hard disks in personal computers, it does not follow that private copies made onto such media infringe copyright."²⁸ Thus, some private copying activities might be legal under Part VIII of Canada's Copyright

19. Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 10, 38.

20. *CPCC v. CSMA*, F.C.A. 424, ¶¶ 153-164 (2004).

21. *Id.*

22. *See* Hugenholtz, *supra* note 7, at 13.

23. *See infra* Part II.B. (discussing the Audio Home Recording Act).

24. Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 44, 46-47.

25. Copyright Act, R.S.C. 1985, ch. C-42, § 80.

26. *Id.*

27. Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 20.

28. *Id.* at 21.

Act,²⁹ despite the fact that the relevant media/devices are not actually the subject of a proposed or effective tariff.

This has led some to believe that Canada's private copying regime legalizes downloading from peer-to-peer (p2p) networks onto hard drives in personal computers.³⁰ A careful analysis reveals that is not likely true. The Copyright Board did lay down series of propositions that, if correct, could have led to the conclusion that downloading is legal in Canada: a) electronic and hard disk memory is leviable just as 'traditional' media like CDs and cassettes;³¹ b) hard disk memory in personal computers is technically identical to other hard disk memory;³² c) the "legitimacy" of an activity such as private copying depends not on the presence of a tariff on a particular kind or unit of a medium, but on whether the kind of medium is ordinarily used by individual consumers to copy music;³³ and d) personal computers are being widely used by individual consumers to copy music.³⁴ Because the Copyright Board had held that "digital audio recorders" (e.g. iPods) were a kind of "audio recording medium" subject to a levy, and iPods are technically indistinguishable from hard drives in personal computers,³⁵ an inference could have been drawn that it is legal to make private copies using personal computers.

Justice Von Finckenstein embraced this reasoning in his decision in *BMG Canada v. Doe*³⁶ to dismiss an interim motion brought as part of the Canadian recording industry's lawsuits against individual peer-to-peer network users, alleged to be copyright infringers.³⁷ However, in its judicial review of the Copyright Board's decision, the Federal Court of Appeal subsequently overruled the first of the Board's key propositions that could have rendered downloading legal.³⁸ As mentioned, the Court of Appeal overruled the iPod levy because it held that memory embedded in a device is not an audio recording medium.³⁹ The corollary is that private copying using iPods is *not* permitted (at least not under section 80), and inferentially, private copying using hard drives in personal computers is *not* permitted. Therefore, in the words of the Court of Appeal, "copyright infringement *could* result from the use of such devices to private copy."⁴⁰ Meanwhile, all of Justice Von Finckenstein's findings re-

29. Copyright Act, R.S.C. 1985, ch. C-42, §§ 79-88.

30. *E.g.*, *BMG Can. Inc. v. Doe*, [2004] F.C.J. No. 525, ¶ 25, *vacated*, [2005] F.C.A. 193.

31. *See* Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 2.

32. *Id.* at 44.

33. *Id.* at 46.

34. *Id.*

35. *Id.* at 38-39.

36. [2004] F.C.J. No. 525, *vacated*, [2005] F.C.A. 193.

37. *BMG Can. Inc.*, [2004] F.C.J. No. 525, ¶ 25.

38. *CPCC v. CSMA*, [2004] F.C.A. 424, ¶¶ 153-164.

39. *Id.*

40. *Id.* at ¶ 147 (emphasis added).

garding the state of Canadian copyright law were vacated by the Federal Court of Appeal in *BMG Canada v. Doe*.⁴¹

In short, the legality of downloading in Canada depends on whether hard drives in personal computers are an “audio recording medium” according to the statutory definition. The Federal Court of Appeal’s ruling in respect of digital audio recorders such as iPods implies that they are *not*.

The revenues generated by the levy are nevertheless substantial. The Canadian levy currently generates roughly \$30-35 million per year for rights-holders.⁴² Total Canadian levy revenues collected since 2000 have reached over \$162 million (Canadian).⁴³ That may not seem like much, but extrapolated on a per capita basis and accounting for currency exchange rates, this would be roughly the equivalent of \$1 billion (U.S.), or \$250 million (U.S.) per annum.⁴⁴ Remember, the figures account *only* for the value of private copying onto blank CDs, audiotapes and mini-discs, and do *not* include compensation for p2p file sharing. In that light, Canada’s levy generates a lot of money.

The Government has identified Canada’s private copying regime as a timely issue, and has committed to engage in study and public consultations on the matter.⁴⁵ Among the most pressing questions will be whether, and if so how, the scheme should apply in the digital age. One possibility is to expand Canada’s private copying levy to encompass iPods and similar digital music devices, solid-state removable digital memory products like CompactFlash cards, hard disc drives in desktop and laptop computers, and/or mobile phones, personal digital assistants and other convergence devices onto which music may be copied. Another possibility is to narrow or eliminate the levy altogether, instead promoting a combination of locks, licenses and litigation to control Ca-

41. *BMG Can. Inc.*, [2005] F.C.A. 193, ¶¶ 47-52.

42. Canadian Private Copying Collective, Financial Highlights, <http://cpcc.ca/english/finHighlights.htm>.

43. *Id.* (on average, the Canadian levy has generated approximately \$27 million (Canadian) a year in revenue, with royalty collections increasing dramatically over recent years).

44. The population of Canada was 32,270,500 in 2005. Statistics Canada, <http://www40.statcan.ca/l01/cst01/demo02.htm>. In 2005, the U.S. population was 297,599,080. U.S. Census Bureau, Monthly National Population Estimates, <http://www.census.gov/popest/national/NA-EST2004-01.html>. In order to arrive at \$1 billion (U.S.), I applied the ratio of Canada to U.S. population to the \$162 million (Canadian) in levy revenues. Then, I adjusted the product for an average exchange rate of 0.70436771 between January 2000 and December 2005 as calculated by the Bank of Canada. Bank of Canada, <http://www.bankofcanada.ca/en/rates/exchange-avg.html>.

45. Government of Canada, *Supporting Culture and Innovation: Report on the Provisions and Operation of the Copyright Act 2* (2002), available at <http://strategis.ic.gc.ca/epic/internet/incr-prda.nsf/en/rp00863e.html>; Government of Canada, *Government Statement on Proposals for Copyright Reform*, available at http://www.pch.gc.ca/progs/ac-ca/progs/pda-cpb/reform/statement_e.cfm.

nadians' music copying practices. At the present time, however, both the scope of the levy and the levy rate appear to have stabilized.⁴⁶

B. Digital Rights Management Systems

Canada has not yet included prohibitions against circumventing digital rights management (DRM) systems in its copyright legislation. Regardless, DRM systems are used widely in Canada for distributing music and other digital content. The following section examines more closely the sorts of copy-controls that are presently used in Canada.

In 2002, Professor Kerr and a team of co-authors prepared a two-part report for the Department of Canadian Heritage on the subject of technological protection measures (TPMs).⁴⁷ In Part I, among other things, they describe various types of DRM systems, including TPMs.

TPMs include access-control measures, such as cryptography, where access to content is restricted in one way or another.⁴⁸ One of the most widely known TPMs they discuss is the Content Scramble System (CSS), which controls playback and recording of DVDs.⁴⁹ Simply put, most DVDs are region-coded to, among other things, limit unlicensed geographic redistribution of films.⁵⁰ For example, consumers who lawfully purchase a DVD in Europe may be frustrated to discover it will not play on their North American DVD player.

Other TPMs control not access to, but use of digital content.⁵¹ Kerr and his co-authors describe Macrovision, the Secure Digital Music Initiative (SDMI) and other "copy-control" TPMs that allow a rights-holder to control copying, transmission and other uses of a work.⁵² Another example of a widely used DRM tool is Adobe Systems PDF file format. Real Networks, Microsoft and Apple all use DRM systems, including TPMs, in one form or another to manage the distribution and playback of audio and/or multimedia files.

The Serial Copy Management System (SCMS) is a particularly interesting TPM given its connection with the Audio Home Recording

46. The Board has approved substantially the same private copying tariff for the past several years. See Copyright Bd. of Can., <http://www.cb-cda.gc.ca/tariffs/certified/copying-e.html>.

47. Ian Kerr, Alana Maurushat & Christian S. Tacit, *Technical Protection Measures: Part I - Trends in Technical Protection Measures and Circumvention Technologies* (2002), http://www.pch.gc.ca/progs/ac-ca/progs/pda-cpb/pubs/protection/protection_e.pdf [hereinafter Kerr et al., *TPMs: Part I*]; Ian Kerr, Alana Maurushat & Christian S. Tacit, *Technical Protection Measures: Part II - The Legal Protection of TPMs* (2002), http://www.pch.gc.ca/progs/ac-ca/progs/pda-cpb/pubs/protectionII/protection_e.pdf [hereinafter Kerr et al., *TPMs: Part II*].

48. Kerr et al., *TPMs: Part I*, *supra* note 47, at 2.

49. *Id.* at 9.

50. *Id.*

51. *Id.* at 19.

52. *Id.* at 9, 15.

Act⁵³ in the United States, discussed below.⁵⁴ This technology, with the aid of a digitally encoded watermark, allows unlimited copying from original recordings but not from second-generation copies. It prevents serial copying.⁵⁵

TPMs recently made headlines in Canada (and the United States) in connection with their use by Sony BMG Music on CDs.⁵⁶ Tens of millions of discs included software that was designed to control consumers' uses of music, but which in fact installed on their computers a "rootkit" or another program that interfered with normal system operations, caused serious security vulnerabilities, was practically impossible to uninstall and surreptitiously reported information about users' computers and listening activities.⁵⁷ Numerous lawsuits were commenced in response to Sony BMG's actions. In the United States, the private actions were consolidated and settled, although there are still individual and government-led complaints or investigations pending.⁵⁸ Parallel class actions in Canada are also ongoing.⁵⁹

For law and policy makers, and for consumers, these lawsuits are a clear reminder that TPMs are prevalent in the Canadian digital marketplace. In fact, all or most of the aforementioned DRM systems are apparently used as extensively and effectively in Canada as they are in other jurisdictions, despite the lack of circumvention prohibitions in the Canadian Copyright Act.

53. Audio Home Recording Act of 1992, Pub. L. No. 102-563, 106 Stat. 4237 (codified as 17 U.S.C.A. §§ 1001-1010 (West 2006)).

54. See *infra* Part II.B.

55. Kerr et al., *TPMs: Part I*, *supra* note 47, at 13; see also Joel L. McKuin, *Home Audio Taping of Copyrighted Works and the Audio Home Recording Act of 1992: A Critical Analysis*, 16 HASTINGS COMM. & ENT. L.J. 311, 325 (1994).

56. See Jeremy F. deBeer, *How Restrictive Terms and Technologies Backfired on Sony BMG Music* (Part 1), 6 INTERNET & E-COM. L. IN CAN. 93 (2006); Jeremy F. deBeer, *How Restrictive Terms and Technologies Backfired on Sony BMG Music* (Part 2), 7 INTERNET & E-COM. L. IN CAN. 1 (2006); Alex Halderman & Edward W. Felten, *Lessons from the Sony CD DRM Episode*, <http://itpolicy.cs.princeton.edu/pub/sonydrm.pdf>.

57. Furthermore, consumers who had purchased one of these CDs could not use it on a computer without clicking to agree with misleading, not to mention ridiculous, terms and conditions. See Halderman & Felten, *supra* note 56.

58. See *In re Sony BMG CD Techs. Litigation*, Case No 1:05-cv-09575, (S.D.N.Y. 2005); Complaint, Mark Lyon v. Sony BMG Music Entm't, County Court of Hinds County, Mississippi, First Judicial District (Jan. 5, 2006) (consolidated into *In re Sony BMG CD Techs. Litigation*); see also Texas v. Sony BMG Music Entm't, Dist. Ct., Travis Co, Texas; Office of the Attorney General of Florida, Case No. L05-3-1157; Arik Hesseldahl, *Spitzer Gets on Sony BMG's Case*, BUSINESSWEEK, Nov. 29, 2005, available at http://www.businessweek.com/technology/content/nov2005/tc20051128_573560.htm.

59. Jacques v. Sony, 06-044 S.C.B.C. (2006); Cheney v. Sony, 06-CV-033329 Ont. Sup. Ct. Jus. (2006); Palmer v. Sony BMG Music Entm't, 06-CV-304178CP Ont. Sup. Ct. Jus. (2006).

C. Paracopyright Proposals

Because prohibitions on the circumvention of DRM systems offer legal protection beyond that provided by traditional copyright law, they are sometimes referred to as “paracopyright” laws.⁶⁰

Provisions addressing the circumvention of TPMs and tampering with rights management information (RMI) had their genesis in the World Intellectual Property Organization (WIPO) Copyright Treaty (WCT)⁶¹ and the WIPO Performances and Phonograms Treaty (WPPT).⁶² These are collectively known as the WIPO Internet Treaties. Article 11 of the WCT requires that:

Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.⁶³

Because “adequate legal protection” can be provided through diverse areas of law,⁶⁴ it would be inaccurate to suggest that Canadian law does not contain *any* anti-circumvention laws. But the government’s own studies have concluded that “[a]t the moment, it is far from certain that new legislation designed to protect the legitimate use of TPMs is necessary to meet the TPM-related requirements of the WCT and WPPT.”⁶⁵ Although Canadian law does not include specific prohibitions against circumventing TPMs, like the DMCA does, Canada’s Copyright

60. See, e.g., Jeremy F. deBeer, *Constitutional Jurisdiction Over Paracopyright Laws*, in *IN THE PUBLIC INTEREST: THE FUTURE OF CANADIAN COPYRIGHT LAW*, 89, 89-90 (Michael Geist ed., 2005) (citing David Nimmer, *Puzzles of the Digital Millennium Copyright Act*, 46 J. COPYRIGHT SOC’Y U.S.A. 401, 405 (1998-1999)); Michael J. Remington, *The Ever-Whirling Cycle of Change: Copyright and Cyberspace*, 3 N.C. J. L. & TECH. 213, 238-41 (2002); Dan L. Burk, *Anti-Circumvention Misuse*, 50 UCLA L. REV. 1095, 1096 (2003); Kimberlee Weatherall, *Before the High Court: On Technology Locks and the Proper Scope of Digital Copyright Laws — Sony in the High Court*, 26 SYDNEY L. REV. 613, 615 (2004). Peter Jaszi has also used the terms “pseudocopyright” and “metacopyright” to describe similarly new rights. See Peter Jaszi, Professor, *Is This the End of Copyright As We Know It?*, Address at Nordinfo Conference in Stockholm, Sweden (Oct. 9-10, 1997), at 58-67.

61. World Intellectual Property Organization Copyright Treaty art. 11-12, Dec. 20, 1996, 36 I.L.M. 65 [hereinafter WCT], available at http://www.wipo.int/treaties/en/ip/wct/pdf/trtdocs_wo033.pdf.

62. World Intellectual Property Organization Performances and Phonograph Treaty art. 18-19, Dec. 20, 1996, 36 I.L.M. 76 [hereinafter WPPT], available at http://www.wipo.int/treaties/en/ip/wppt/pdf/trtdocs_wo034.pdf.

63. WCT, *supra* note 61, at 71; WPPT art. 18, *supra* note 62, at 86 (using similar language in respect of the rights of performers and record producers).

64. deBeer, *supra* note 60, at 94-95.

65. Kerr et al., *TPMs: Part II*, *supra* note 47, § 8.0; see also Ian R. Kerr, Alana Maurushat & Christian S. Tacit, *Technical Protection Measures: Tilting at Copyright’s Windmill*, 34 OTTAWA L. REV. 7, 76-77 (2002-2003).

Act provides some protection.⁶⁶ Specifically, TPMs involving computer programs may be protected as literary works. Canada's Criminal Code also protects TPMs in various ways.⁶⁷

Nevertheless, there has been pressure on Canada to strengthen its laws in this respect. Canada was even on the Special 301 Watch List maintained by the Office of the United States Trade Representative.⁶⁸

In May 2004, the Standing Committee on Canadian Heritage recommended immediate ratification of the WCT and WPPT.⁶⁹ To accomplish this, the Government of Canada introduced Bill C-60 in the summer of 2005.⁷⁰ Bill C-60 would have prohibited the act of circumvention, or the provision of services to circumvent, but *only* if it were "for the purpose of an act that is an infringement of the copyright."⁷¹ This legislation never made it past its first reading in the House of Commons. The minority government that introduced the Bill was defeated on a vote of non-confidence (over issues unrelated to copyright reform) before Bill C-60 made it to committee review.

As a result, Canadian law and policy makers went back to the drawing board. Just when it seemed the new government was picking up where the old one left off,⁷² important stakeholders publicly expressed disapproval of the expected reforms.⁷³ Canada, it seems, is back to square one on the issue of prohibitions against the circumvention of DRM systems.

II. UNITED STATES

The United States' Digital Millennium Copyright Act (DMCA)⁷⁴ includes strong prohibitions against circumventing TPMs and/or devices that facilitate circumvention. There is a relatively narrow levy on very

66. See Christian S. Tacit & Nelligan O'Brien Payne, *The Current Status of Legal Protection for Technology Protection Measures in Canada* § 3.2 (2003), available at http://www.pch.gc.ca/progs/ac-ca/progs/pda-cpb/pubs/juridique/index_e.cfm.

67. *Id.* at §§ 3.3, 3.4.

68. Special 301 Watch List (2003), http://www.ustr.gov/Document_Library/Reports_Publications/2003/2003_Special_301_Report/Special_301_Watch_List.html?ht=.

69. Parliament of Canada, *Interim Report on Copyright Reform: Report of the Standing Committee on Canadian Heritage*, (Ottawa: Communication Canada, May 2004), <http://www.parl.gc.ca/InfocomDoc/Documents/37/3/parlbus/commbus/house/reports/herirp01-e.htm> [hereinafter *Interim Report*].

70. Bill C-60, Parliament of Canada (2005) (First Reading), http://www.parl.gc.ca/38/1/parlbus/chambus/house/debates/119_2005-06-20/toc119-E.htm (scroll down the schedule index to the "1510" time and click on the "Copyright Act" hyperlink).

71. *Id.* at § 34.02(1), available at http://www.parl.gc.ca/PDF/38/1/parlbus/chambus/house/bills/government/C-60_1.PDF.

72. See *Conservative Government to Introduce Copyright Bill: Bev Oda*, THE HILL TIMES (Ottawa, ON), Apr. 10, 2006, Politics Page, available at http://www.thehilltimes.ca/html/index.php?display=story&full_path=/2006/april/10/politics/&c=1.

73. See, e.g., Canadian Music Creators Coalition, <http://www.musiccreators.ca>; Intellectual Privacy, <http://www.intellectualprivacy.ca>; Appropriation Art, <http://www.appropriationart.ca>.

74. 17 U.S.C.A. §§1201-1205, 1301-1332 (West 2006).

limited types of products established under the AHRA. Several commentators have, however, suggested expanding the role of levies in the United States. The following section explores these topics in more detail.

A. The Digital Millennium Copyright Act

American lawmakers were early adopters of the WIPO Internet Treaties' anti-circumvention provisions. In 1998, the DMCA⁷⁵ was adopted into law, marking perhaps the most significant amendment to the Copyright Act of 1976 to date.⁷⁶

The DMCA prohibits acts of circumvention.⁷⁷ Recall that the Canadian proposal would have prohibited circumvention *only* if done for the purpose of facilitating copyright infringement. The DMCA instead enumerates several specific exceptions. The United States Copyright Office conducts triennial reviews of these exceptions, and has certain rulemaking powers in this respect.⁷⁸ These reviews have allowed for certain exceptions,⁷⁹ but they are rather narrow and obscure. American courts have not been willing to expand or broadly interpret the list of enumerated exceptions.⁸⁰ For instance, circumvention for fair use has not been permitted.

In addition to prohibiting circumvention of TPMs, the DMCA also prevents trafficking in technologies designed to circumvent encryption measures.⁸¹ It is largely for this reason that the DMCA has led to heavy

75. 17 U.S.C.A. § 1201(a)(1).

76. See JESSICA LITMAN, DIGITAL COPYRIGHT 37 (2001).

77. 17 U.S.C.A. § 1201.

78. Exemptions are granted for a period of three years with the possibility of extensions after the following triennial review. See generally Bill D. Herman & Oscar H. Gandy, Jr., *Catch 1201: A Legislative History and Content Analysis of the DMCA Exemption Proceedings* (2006), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=844544. To date, two triennial reviews have been completed by the U.S. Copyright Office: one in 2000 and the second in 2003. For information on the classes of exemptions requested by the public during the third triennial review currently under way, please see Comments on Anticircumvention Exemptions (2006) <http://www.copyright.gov/1201/2006/comments/index.html>.

79. Recommendation of the Register of Copyrights (2003), <http://www.copyright.gov/1201/2003/index.html>.

80. See, e.g., 321 Studios v. MGM Studios, Inc., 307 F. Supp. 2d 1085, 1104 (N.D. Cal. 2004); Universal City Studios v. Corley, 273 F.3d 429, 443 (2d Cir. 2001); United States v. Elcomsoft, 203 F. Supp. 2d 1111, 1120 (N.D. Cal. 2002).

81. 17 U.S.C.A. § 1201(a)(2), (b)(1).

criticism from many commentators.⁸² Several United States cases illustrate the breadth of the DMCA's possible effects.⁸³

In some contexts, the threat of liability under the DMCA has led to self-censorship by technology researchers.⁸⁴ Professor Felten of Princeton University, his research team, employer and organizers of an academic conference were formally threatened with legal consequences if findings regarding vulnerabilities with the Secure Digital Music Initiative (SMDI) copy protection scheme would have been presented.⁸⁵ The following year, Dmitry Sklyarov, a Russian programmer, was actually arrested and prosecuted (although not convicted) in the United States for working on a program that may have been used to circumvent technological restrictions in Adobe e-books.⁸⁶

In other contexts, the DMCA has had anti-competitive effects. In *Lexmark International, Inc. v. Static Control Components, Inc.*,⁸⁷ the plaintiff used the DMCA to prevent the production of aftermarket toner cartridges.⁸⁸ Similarly, in *Chamberlain Group v. Skylink Technologies*,⁸⁹ the plaintiff attempted to use the DMCA to impede the production of universal garage door openers by one of its competitors.⁹⁰ Even though the defendants in both cases were ultimately successful,⁹¹ their legal victories were not without costly litigation.

The DMCA has, of course, stifled technologies used to circumvent copyright-related TPMs. In 2000, major movie studios stopped a magazine from posting the code to circumvent access and copy controls on DVDs, and from knowingly linking to websites where the code was available.⁹² Also in 2000, RealNetworks employed the DMCA to obtain an injunction against Streambox, designers of a digital VCR that allowed

82. See, e.g., Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to Be Revised*, 14 BERKELEY TECH. L.J. 520, 527 (1999); Burk, *supra* note 60; Simon Fitzpatrick, *Copyright Imbalances: U.S. and Australian Responses to the WIPO Digital Copyright Treaty*, 5 E.I.P.R. 214, 223 (2000); Kamiel J. Koelman, Address at the ALAI Congress: The Protection of Technological Measures vs. the Copyright Limitations (June 2001), http://www.alai-usa.org/2001_conference/1_program_en.htm (scroll down to "Subpart 2" and click on the "text" link next to author's name to download document).

83. For more DMCA casualties, see Electronic Frontier Foundation, *Unintended Consequences: Seven Years Under the DMCA* (Apr. 2006), http://www.eff.org/IP/DMCA/unintended_consequences.php [hereinafter EFF, *Unintended Consequences*].

84. *Id.*

85. *Id.*

86. *Id.*

87. 387 F.3d 522 (6th Cir. 2004); see also *Recent Development: Control of the Aftermarket through Copyright*, 17 HARV. J. L. & TECH. 307 (2003) (criticizing *Lexmark Int'l, Inc. v. Static Control Components, Inc.*, 253 F. Supp. 2d 943 (E.D. Ky. 2003)).

88. *Lexmark Int'l*, 387 F.3d at 529.

89. 381 F.3d 1178 (Fed. Cir. 2004).

90. *Id.* at 1183.

91. *Lexmark Int'l*, 387 F.3d at 553; *Chamberlain*, 381 F.3d at 1204.

92. *Universal City Studios v. Reimerdes*, 111 F. Supp. 2d 294, 303 (S.D.N.Y. 2000).

media streamed on-line to be time-shifted.⁹³ In 2004, commercial manufacturers of DVD back-up software were barred from distributing their software to consumers.⁹⁴

In practice, the DMCA's anti-circumvention provisions transcend the physical boundaries of the United States' borders. Although a Norwegian teenager created the code at issue in *Reimerdes*, the DMCA applied when the code was distributed in the United States.⁹⁵ Similarly, Skylarov, the Russian programmer, was arrested as soon as he travelled to the United States.⁹⁶ In another copyright-related example, an American judge forced icraveTV, a Canadian company retransmitting television via the web, to shut down by ordering it to block its signal from reaching the United States.⁹⁷ In fact, the Supreme Court of Canada has noted several instances where American courts have held that United States copyright laws can apply extra-territorially.⁹⁸ Popular circumvention tools will be caught by the DMCA when either the technology or its creator enters the United States, demonstrating how broad the effects of this legislation can be.

B. *The Audio Home Recording Act*

In theory, the AHRA sets up a scheme not dramatically different from Canada's private copying levy. Rights-holders are entitled to collect royalties from manufacturers of certain digital audio recording devices, who must incorporate specific technological measures to prevent serial copying. As a corollary, the AHRA prohibits infringement suits in respect of certain private copying activities.⁹⁹ In practice, however, the levy scheme under the AHRA is much narrower than Canada's private copying levy. There are important technological, historical, legal and economic distinctions between these two schemes.

The AHRA arose out of uncertainty surrounding the introduction of the digital audio tape (DAT), which some music industry stakeholders saw as a highly disruptive technology.¹⁰⁰ Prior to the enactment of the

93. *RealNetworks, Inc. v. Streambox, Inc.*, No. 2:99CV02070, 2000 WL 127311, at *1 (W.D. Wash. Jan. 18, 2000).

94. *321 Studios*, 307 F. Supp. 2d at 1105.

95. *Reimerdes*, 111 F. Supp. at 311, 316.

96. EFF, *Unintended Consequences*, *supra* note 83.

97. *Nat'l Football League v. TVRadioNow Corp.*, 53 U.S.P.Q.2d (BNA) 1831, 1833 (W.D. Pa. 2000).

98. See *Soc'y of Composers, Authors & Music Publishers of Can. v. Canadian Ass'n of Internet Providers*, [2004] 2 S.C.R. 427, 459-60.

99. See Alex Allemann, Note, *Manifestation of an AHRA Malfunction: The Uncertain Status of MP3 under Recording Industry Association of America v. Diamond Multimedia Systems, Inc.*, 79 TEX. L. REV. 189, 195-96 (2000); Christine C. Carlisle, *The Audio Home Recording Act of 1992*, 1 J. INTELL. PROP. L. 335, 336, 338 (1994); Gary S. Lutzker, *Dat's All Folks: Cahn v. Sony and the Audio Home Recording Act of 1991 - Merrie Melodies or Looney Tunes?*, 11 CARDOZO ARTS & ENT. L.J. 145, 174-75 (1992); McKuin, *supra* note 55, at 325-28.

100. Saba Elkman & Andrew F. Christie, *Regulating Private Copying of Musical Works: Lessons from the U.S. Audio Home Recording Act of 1992* 4 (The Intellectual Prop. Research Inst. of

AHRA, there was debate about whether private copying constituted an infringement of copyright or an allowable “fair use,” and whether DAT device manufacturers could consequently be held liable for contributory infringement.¹⁰¹ In the famous *Sony Betamax* case,¹⁰² the United States Supreme Court held that recording television programs for later viewing (“time shifting”) was a fair use of copyright-protected works, and therefore manufacturers of videocassette recorders could not be held liable for contributing to the infringement of copyright.¹⁰³ Although it is arguable that the same reasoning applies to the transfer of music from one device or medium to another (“format shifting”), there are differences between analogue video recording and digital audio recording, including the ease with which multiple perfect copies can be made and distributed.¹⁰⁴

Manufacturers of audio recording devices were reluctant to engage in prolonged and expensive litigation to find out whether they would be protected by the *Betamax* doctrine. Moreover, DAT manufacturers needed the recording industry to support the new technology by distributing music in this format.¹⁰⁵ Therefore, building on a series of negotiated agreements,¹⁰⁶ both sides lobbied Congress to codify their private compromise solution.

The resulting AHRA reflected agreements between device manufacturers and the recording industry concerning royalty payments and technological safeguards against serial copying. It also conferred a right upon consumers to make non-commercial audio home recordings, and prevented manufacturers, distributors, and importers of digital audio recording devices from being sued for facilitating the production of these private copies.¹⁰⁷

In the AHRA, “digital audio recording device” is defined as:

[A]ny machine or device of a type commonly distributed to individuals for use by individuals, whether or not included with or as part of

Austl., Working Paper No. 12/04, 2004), available at <http://www.ipria.org/publications/workingpapers/2004/IPRIA WP 12.04.pdf>.

101. 17 U.S.C.A. § 107 (West 2006).

102. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984) [hereinafter *Sony Betamax*].

103. *Sony Betamax*, 464 U.S. at 421.

104. See Elkman & Christie, *supra* note 100, at 4 (citing Allemann, *supra* note 99, at 194).

105. *Id.* at 5.

106. The “Athens agreement,” so-named for the city in which the meetings took place, ensured that DAT manufacturers would equip all DAT recorders with Serial Copy Management System (SCMS) thereby allowing unlimited copying from original sources and preventing serial copying, but failed to provide music creators with any compensation for home copying. *Id.* at 10; McQuin, *supra* note 55, at 322. The “Cahn agreement,” named for the litigation that produced the settlement, provided for a royalty scheme to address this shortcoming. See Elkman & Christie, *supra* note 100, at 5-6. Notably absent from the parties’ negotiated agreements was a consumer right to produce audio home recordings in the first place. Without such a right, manufacturers, distributors, and importers of digital audio recorders could not clearly escape legal liability.

107. Elkman & Christie, *supra* note 100, at 8, 13-14.

some other machine or device, the digital recording function of which is designed or marketed for the primary purpose of, and that is capable of, making a digital audio copied recording for private use . . .

¹⁰⁸

To be caught by the AHRA, the device must be capable of producing a "digital audio copied recording."¹⁰⁹ That is defined in the AHRA as "a reproduction . . . of a digital musical recording, whether that reproduction is made directly from another digital musical recording or indirectly from a transmission."¹¹⁰ A "digital musical recording" is a material object in which are fixed only sounds and things incidental to those sounds.¹¹¹ Importantly, this latter definition *excludes* objects "in which one or more computer programs are fixed."¹¹²

The AHRA enabled the introduction of new technologies, such as the DAT and the MiniDisc, into the marketplace, although perhaps after too long a delay. Consumers have never adopted DAT *en masse*. Also, the narrow definition of "digital audio recording device" ensured that courts limited the scheme's application to new technologies.¹¹³

So, the AHRA has certainly not been a panacea on the issue of audio home recording in the United States. The American recording industry has not always been successful obtaining injunctive relief against manufacturers of devices that are *sometimes* used to record digital audio.¹¹⁴ At the same time, manufacturers lack the certainty they would like to introduce new technologies. Consumers are often caught in the middle of these battles. Several recent and ongoing cases demonstrate the point.

In *Diamond Multimedia Systems*,¹¹⁵ the Court of Appeals for the Ninth Circuit held that a computer is not a "digital audio recording device" as outlined in the AHRA, because its "primary purpose" is not to produce digital audio copied recordings.¹¹⁶ Further, computer hard drives are excluded from the ambit of the AHRA since hard drives contain computer programs that are "not incidental to any sound files that may be stored on the hard drive."¹¹⁷ In other words, computers fail the "primary purpose" test and satisfy the "material object exception."¹¹⁸

108. 17 U.S.C.A. § 1001(3).

109. See *A&M Records Inc. v. Napster Inc.*, 239 F.3d 1004, 1024 (9th Cir. 2001); Elkman & Christie, *supra* note 100, at 11.

110. 17 U.S.C.A. § 1001(1).

111. 17 U.S.C.A. § 1001(5)(A)(i).

112. 17 U.S.C.A. § 1001(5)(B)(ii).

113. Elkman & Christie, *supra* note 100, at 13.

114. See, e.g., *Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys., Inc.*, 180 F.3d 1072, 1081 (9th Cir. 1999).

115. *Diamond Multimedia*, 180 F.3d at 1072.

116. *Id.* at 1078.

117. *Id.* at 1076.

118. Elkman & Christie, *supra* note 100, at 12.

Because portable MP3 players copy music from computers, they also do not fall within AHRA.

Based on this reasoning most other multi-purpose convergence devices, such as mobile phones, handheld PDAs, flash cards and other removable digital memory, might also fall outside the scope of the AHRA. The flexibility of the AHRA to deal with new technologies may, however, be tested in court again soon. The recording industry has recently filed suit against manufacturers of devices capable of recording and replaying music transmitted by satellite. In *Atlantic Recording Corp. v. XM Satellite Radio*¹¹⁹ it has been alleged that the defendants are liable for direct, contributory and vicarious infringement of copyright.¹²⁰ Although the complaint makes no mention whatsoever of the AHRA, the defendants have argued that the allegedly infringing device conforms to the AHRA's definition of a 'digital audio recording device' thereby granting XM and their subscribers "absolute immunity" from the plaintiffs.¹²¹ On the one hand, the devices at issue in the *XM Satellite* litigation are distinguishable from the Diamond Rio portable MP3 player, the iPod, and other devices because the former record "indirectly from a transmission" not "directly from another digital musical recording."¹²² Therefore, unlike the issues in *Diamond Multimedia*, issues related to the fixation of other sounds on computers are irrelevant. On the other hand, the AHRA only provides a defense against actions based on the manufacture, importation or distribution of devices, or on the non-commercial use of such devices by consumers.¹²³ Some of the claims in the *XM Satellite* are based upon *other* allegedly infringing activities, such as delivering digital phonorecords.¹²⁴ Although the service of delivering content is closely tied to the product being distributed, it remains to be seen how the relationship will be interpreted under the AHRA.

In Canada, the Copyright Board has tried to expand the levy in a technology-neutral manner by including new media and devices ordinarily used for copying music.¹²⁵ However, given the Canadian Federal Court of Appeal's ruling overturning the Copyright Board's levy on iPods and similar devices and the decision of the United States Court of Appeals for the Ninth Circuit in *Diamond Multimedia* dismissing a claim with respect to the Diamond Rio portable MP3 player, the Canadian and

119. Complaint, *Atl. Recording Corp. v. XM Satellite Radio Inc.*, No. 06-CV-3733 (S.D.N.Y. May 16, 2006), available at http://eff.org/IP/digitalradio/XM_complaint.pdf.

120. *Id.* at 15, 25, 27.

121. See Memorandum of Law in Support of Defendant's Motion to Dismiss at 1-2, *Atl. Recording Corp. v. XM Satellite Radio, Inc.*, No. 06-CV-3733, 2006 WL 2429415 (S.D.N.Y. July 17, 2006).

122. See 17 U.S.C.A. § 1001(1).

123. See 17 U.S.C.A. § 1008.

124. See 17 U.S.C.A. §§ 115(a)(1), (b)(1)-(2), 501(a) (West 2006).

125. See Copyright Bd. of Can., *Private Copying 1999-2000*, *supra* note 5, at 29-32.

American positions are similar in some respects.¹²⁶ Unlike some European nations, neither Canada nor the United States levies many digital devices.¹²⁷ There are, however, still some major differences between the Canadian and American levy schemes.

The main difference is that the Canadian levy applies to media that are “ordinarily used” for private copying while the American scheme adopts a “primary purpose” test with an exception for objects used to copy computer programs.¹²⁸ This means CD burners incorporated into personal computers and, consequently, blank CDs are not levied in the United States. Canada, on the other hand, imposes a levy on blank CDs despite the fact that only one third of these media are used to copy music.¹²⁹

That is the reason that Canada’s levy generated roughly \$35 million (Canadian) in 2005, and total revenues collected since 2000 equal about \$162 million (Canadian).¹³⁰ As explained above, a levy of equivalent scope in the United States would have generated about \$1 billion (U.S.), factoring in currency conversions and extrapolating for population differences.¹³¹ By comparison, between 1992 and 2001, the net revenues from the levies collected under the relevant provisions of the United States Copyright Act total a little over \$17.9 million (U.S.) (an average of under \$2 million (U.S.) per annum).¹³²

C. Exemption/Levy Proposals

Although the AHRA imposes only a very narrow levy, some American commentators have considered whether to expand the role of levies to compensate creators of digital content.¹³³ The appropriate scope of

126. *Compare* Canadian Private Copying Collective v. Canadian Storage Media Alliance, [2004] 247 D.L.R. 193 at 234 (F.C.A.), leave to appeal to S.C.C. refused, [2005] 3 F.C.R. i, with *Diamond Multimedia* 180 F.3d at 1081 (indicating that both courts viewed MP3 players, such as the Apple iPod and the Diamond Rio portable MP3 player, as devices that should not be subject to restrictions).

127. See Hugenholtz et al., *supra* note 7, at 13.

128. See Copyright Bd. of Can., *Private Copying 1999-2000*, *supra* note 5, at 11; *Diamond Multimedia*, 180 F.3d at 1078.

129. See *infra* note 210 and accompanying text.

130. Canadian Private Copying Collective, *supra* notes 42-43.

131. Statistics Canada, *supra* note 44; U.S. Census Bureau, *supra* note 44 and accompanying text.

132. See Exhibit Retailers-16, filed as evidence in Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5; WILLIAM W. FISHER III, PROMISES TO KEEP: TECHNOLOGY, LAW AND THE FUTURE OF ENTERTAINMENT at 282 n.10 (2004).

133. See generally Peter K. Yu, *P2P and the Future of Private Copying*, 76 U. COLO. L. REV. 653, 763-64 (2005); FISHER, *supra* note 132, at 7-8; Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263, 269 (2002); S. J. Liebowitz, *Alternative Copyright Systems: The Problems with a Compulsory Licence*, at 11 (2003), <http://www.serci.org/2003/liebowitz2.pdf>; Jessica Litman, *Sharing & Stealing*, 27 HASTINGS COMM. & ENT. L.J. 1, 32 (2004); Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 855-58 (2001); Robert P. Merges, *Compulsory Licensing vs. the Three “Golden Oldies” Property Rights, Contracts, and Markets*, CATO INSTITUTE, POLICY ANALYSIS NO. 508, at 12 (2004),

levies in the digital era is a hot topic for Canadian,¹³⁴ Australian¹³⁵ and European¹³⁶ experts as well. The following section describes the gist of some of the recent proposals.

Professor Netanel, for example, delineated a comprehensive model that would permit private copying, remixes, adaptations, modifications, and dissemination of all kinds of communicative expressions in both digital and non-digital forms.¹³⁷ To provide sufficient compensation to creators, a levy would be imposed on a broad range of goods and services, the value of which is substantially enhanced by peer-to-peer file sharing.¹³⁸ Professor Ku also advocated for levies on the sale of internet services and electronic equipment, but his model would apply to digital cultural products only.¹³⁹ Professor Fisher proposed to allow various uses of audio and video recordings in exchange for a system likely funded through taxation of digital recording and storage devices.¹⁴⁰ Eckersley has similarly discussed the concept of a virtual market—a decentralized, software-mediated, publicly funded mechanism to reward digital authorship without restricting flows of information.¹⁴¹

Although different in details, all of the aforementioned models are based on the same underlying idea: broad dissemination of music, movies and/or other forms of entertainment should be encouraged and the present copyright system is a hindrance. Therefore, a new system is needed to generate financial incentives for creators. The solution is a variant of compulsory licensing. However—and this is the key point—the license fees are to be paid not by actual users of copyrighted content but by third-party proxies, such as manufacturers of electronic hardware and software or network providers and other intermediaries.

<http://www.catoinstitute.org/pubs/pas/pa508.pdf>; Neil Netanel, *Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing*, 17 HARV. J.L. & TECH. 1, 4 (2003).

134. See, e.g., Daniel J. Gervais, *The Price of Social Norms: Towards a Liability Regime for File-Sharing*, 12 J. INTELL. PROP. L. 39, 72-73 (2004); John Davidson, *Rethinking Private Copying in the Digital Age: An Analysis of the Canadian Approach to Music* (2001) (unpublished L.L.M. thesis, University of Toronto Faculty of Law); Cathy Allison, *The Challenges and Opportunities of Online Music: Technology Measures, Business Models, Stakeholder Impact and Emerging Trends*, DEPARTMENT OF CANADIAN HERITAGE (2004), http://www.canadianheritage.gc.ca/progs/ac-ca/progs/pda-cpb/pubs/online_music/online_music_e.pdf.

135. See, e.g., Peter Eckersley, *Virtual Markets for Virtual Goods: The Mirror Image of Digital Copyright?*, 18 HARV. J.L. & TECH. 85, 106-11 (2004); Andrew F. Christie, *Private Copying Licence and Levy Schemes: Resolving the Paradox of Civilian and Common Law Approaches*, INTELLECTUAL PROPERTY RESEARCH INSTITUTE OF AUSTRALIA 1 (2004), <http://www.law.unimelb.edu.au/ipria/publications/workingpapers/Occasional%20paper%202.04.pdf>; Gaita & Christie, *supra* note 8, at 1-3; Kimberlee Weatherall, *A Comment on the Copyright Exceptions Review and Private Copying 1*, 20-21 (Intellectual Property Research Institute of Australia, Working Paper No. 14/05, 2005), available at <http://www.ipria.org/publications/workingpapers/WP14.05.pdf>.

136. See Hugenholtz et al., *supra* note 7, at ii.

137. Netanel, *supra* note 133, at 35.

138. *Id.*

139. See Ku, *supra* note 133, at 313, 321-22.

140. FISHER, *supra* note 132, at 202-03, 216-17.

141. Eckersley, *supra* note 135, at 92-93.

It is important to distinguish these proposals from ostensibly similar ideas discussed, for example, by Professor Gervais,¹⁴² the Electronic Frontier Foundation (EFF),¹⁴³ and from emerging licensed p2p services. Professor Litman noted that there are two models for collecting fees to be distributed among creators: (1) a direct blanket licensing fee or (2) a tax on the sale of goods or services.¹⁴⁴ Professor Gervais's model essentially proposed p2p user-fees, which are simply brokered by intermediaries and backed-up by enforceable exclusivity.¹⁴⁵ This type of scheme would be voluntary rather than compulsory.¹⁴⁶ Voluntary licensing proposals, unlike exemption/levy schemes, are still built on a framework of exclusive proprietary copyrights.¹⁴⁷ Professor Gervais advocated for a system whereby copyright is used to normatively coerce consumers into payment of licensing fees¹⁴⁸ but is in practice rarely or never actually litigated.¹⁴⁹ Generally, Professor Gervais, like the EFF, proposed to build new business models upon slight modifications to the existing paradigm.¹⁵⁰ These types of proposals are calls for more *business* reforms rather than *legal* reforms.

Other scholars also believe that market responses to p2p and private copying will eventually be found, so an expanded levy scheme is not the way of the future.¹⁵¹ Professor Merges, for instance, has urged us to stick with the three "golden oldies"—property rights, contracts, and markets.¹⁵² Likewise, Professor Liebowitz has emphasized that we should not "throw out the baby with the bathwater" but should instead investigate more carefully arguments surrounding a shift away from an unfettered market.¹⁵³

Had the United States Supreme Court decided the *Grokster* case¹⁵⁴ differently, it is conceivable that Congress would be considering a com-

142. See generally Gervais, *supra* note 134, at 73 (discussing the idea of enforcing a voluntary compulsory licensing scheme).

143. See generally Electronic Frontier Foundation, *A Better Way Forward: Voluntary Collective Licensing of Music File Sharing* 1 (2004), http://www.eff.org/share/collective_lic_wp.pdf [hereinafter EFF, *A Better Way Forward*] (discussing the idea of enforcing a voluntary compulsory licensing scheme).

144. Litman, *supra* note 133, at 44.

145. Gervais, *supra* note 134, at 73.

146. See FISHER, *supra* note 132, at 46-52. Professor Fisher prefers a compulsory regime, but would be willing to accept a voluntary scheme, outside of governmental control. *Id.*

147. See EFF, *A Better Way Forward*, *supra* note 143 (discussing the benefits of voluntary licensing proposals to copyright owners and how these copyright owners are able to maintain proprietary rights to their works under this model).

148. See Gervais, *supra* note 134, at 56-58.

149. See *id.* at 59.

150. Compare Gervais, *supra* note 134, at 73, with EFF, *A Better Way Forward*, *supra* note 142, at 1-2 (suggesting alterations to the already existing p2p networks).

151. See Merges, *supra* note 133, at 10.

152. See *id.* at 5 ("Maintaining the traditional legal pairing of property rights and contracts, which usually leads to market formation, seems like a safer course than mandates or new market intervention to correct for past market intervention.")

153. Liebowitz, *supra* note 133, at 20.

154. *MGM Studios Inc. v. Grokster, Ltd.*, 125 S. Ct. 2764 (2005).

pulsory licensing scheme right now. In fact, that is precisely what happened when the Supreme Court held that manufacturers of player piano rolls were not liable to pay royalties to music composers.¹⁵⁵ As things stand, dramatic changes of the sort proposed under Professor Netanel's "Non-Commercial Use Levy," (NUL) or Professor Fisher's "Alternative Compensation Scheme" (ACS) are unlikely.¹⁵⁶ That does not mean, however, that more moderate changes are out of the question. Although there may be problems implementing the types of reforms advocated by proponents of broader levy schemes, it would be unwise to dismiss outright the calls for change. Because of the strength of some of the arguments in favor of proposals for change, law and policy makers might be persuaded to adopt some of these suggestions.

III. STAKEHOLDERS

North American law and policy makers seem right now to be standing at a crossroads with levies to the left and locks to the right. Canadians and Americans are approaching this crossroads from opposite directions. Canada already has a relatively broad levy (compared to the United States), and is now considering introducing legal protections for TPMs.¹⁵⁷ The United States already has anti-circumvention provisions, and there are now suggestions to adopt a broad levy system.¹⁵⁸

This section looks at the impact of locks and levies from the perspective of three main groups of stakeholders: creators, technology firms, and consumers. Analysis reveals conflicting views about the appropriate policy measures *between* and *within* these groups. The diversity of perspectives may lead to compromise solutions where aspects of multiple proposals are implemented.

A. Creators

Different creators and distributors benefit differently from locks and levies. Generally speaking, multinational movie studios, record labels, and other large-scale producers would prefer to rely upon locks to control the distribution of digital content. Authors, performers and small-scale producers are not usually adverse to the idea of sacrificing some control in exchange for the steady revenue streams provided by levies. Conflicts within the music industry itself significantly complicate policy debates surrounding these issues.

155. See *White-Smith Publ'g Co. v. Apollo Co.*, 209 U.S. 1, 18 (1908).

156. See *Grokster*, 125 S. Ct. at 2770.

157. House of Commons of Canada, Bill C-60, An Act to amend the Copyright Act ch. 27, (June 20, 2005), http://www.parl.gc.ca/38/1/parlbus/chambus/house/bills/government/C-60/C-60_1/C-60_cover-E.html. (proposing penalties for the circumvention of TPMs).

158. See Digital Millennium Copyright Act, 17 U.S.C.A. § 1201 (West 2006) (establishing anti-circumvention provisions); FISHER, *supra* note 132, at 202 (proposing a tax-based reward system); Eckersley, *supra* note 135, at 92-93 (proposing a publicly-funded remuneration system); Netanel, *supra* note 133, at 83 (proposing levies for non-commercial use).

Major corporate rights-holders seem to prefer TPMs to levies.¹⁵⁹ TPMs offer greater control over consumers' use of digital content, and therefore they facilitate new business models.¹⁶⁰ TPMs also help to facilitate price discrimination, which means charging different prices for different products, or even better, different prices for the same product, based upon a consumer's willingness to pay. This is an important profit-maximizing strategy.

Levies, on the other hand are perceived by this group as problematic for several reasons. For one, they complicate international copyright enforcement and licensing practices.¹⁶¹ Also, although existing levy schemes are intended to cover only truly private copying and not peer-to-peer (p2p) file sharing, many consumers might get the impression that levies legitimize and compensate for unlimited copying and sharing. As mentioned, some judges have adopted this view, which proved to be highly problematic when Canadian copyright-holders attempted to sue users of p2p networks in Canada.¹⁶² The major record labels are struggling to keep the issues of file sharing and private copying distinct from each other. In fact, concerns of these sorts have led the Canadian Recording Industry Association president, Graham Henderson, to argue that Canada's private copying levy should be abolished.¹⁶³

However, many creators like levies. Individual authors, performers and collecting societies, for example, often argue in favor of the continued use of levies to remunerate for consumers' non-commercial or private copying activities.¹⁶⁴ Levies can help offset some of the power imbalances that exist between artists and music companies because statutes, regulations or administrative decisions may require equitable distribution patterns.

Some creators feel that TPMs primarily benefit major corporate producers by enhancing their already concentrated control over the distribution of digital content.¹⁶⁵ Moreover, these groups reject digital locks as "risky and counterproductive."¹⁶⁶ Incidents like the one described

159. Jörg Reinbothe, *Private Copying, Levies and DRMs against the Background of the EU Copyright Framework*, Address at the DRM Levies Conference in Brussels (2003), http://ec.europa.eu/internal_market/copyright/documents/2003-speech-reinbothe_en.htm.

160. *Id.*

161. *See* Reinbothe, *supra* note 159.

162. *BMG Can. Inc. v. John Doe*, [2004] F.C.J. No. 525, 18-19.

163. Larry Leblanc, *CRIA Calls for End of Blank-Media Levy*, *BILLBOARD* 18, Apr. 8, 2006, http://www.ccfda.ca/Downloads_resources/CRIA_CCFDA_Billboard.doc.

164. Reinbothe, *supra* note 159. *See, e.g., AEPO-ARTIS, FIA and FIM Express Their Deep Concern and Clear Opposition to any Restrictions of the Remuneration System for Private Copying*, *MUSIC BUSINESS*, May 31, 2006, <http://www.labelife.com/2006/05/31/aepo-artis-fia-and-fim-express-their-deep-concern-and-clear-opposition-to-any-restrictions-of-the-remuneration-system-for-private-copying>.

165. Press Release, Canadian Music Creators Coalition, *Launch of a New Voice: The Canadian Music Creators Coalition* (Apr. 26, 2006), available at http://www.musiccreators.ca/docs/Press_Release-April_26.pdf.

166. *Id.*

above involving Sony-BMG generate hostility toward the music industry in general, not just those who employ TPMs. Some creators are therefore skeptical of anti-circumvention provisions. For example, a group of high-profile Canadian artists including the Barenaked Ladies, Avril Lavigne, Sarah McLachlan and others have agreed that both artists and consumers need protection *from* TPMs.¹⁶⁷

Studies suggest that legal protection for digital locks seems to influence what sort of content is created and by whom, but not the amount of content created. For example, a recent economic analysis of Canadian copyright-based industries concluded that the Canadian music scene is thriving.¹⁶⁸ On the one hand, there was consolidation among the major multinational record labels, and their record sales fell.¹⁶⁹ At the same time, however, a number of mid-sized Canadian-based firms leveraged their success in production and music publishing to establish a secure footing in the Canadian marketplace.¹⁷⁰ Despite the lack of specific anti-circumvention provisions in Canadian law, the Canadian sound recording industry *experienced steady growth* between 1999 and 2004.¹⁷¹ The GDP contribution consistently outperformed overall Canadian GDP while growing from \$243 million to \$387 million (Canadian).¹⁷²

To summarize, major producers and distributors tend to favor locks over levies while many artists and their representatives in collective societies would prefer levies to deal with issues like private copying, and perhaps even p2p file sharing.

B. Technology Firms

This group of stakeholders is also diverse. It includes manufacturers of media and devices related, in varying degrees, to the use of copyright-protected content. Such firms may produce blank analogue or digital audiotapes, CDs and digital memory, portable music and video devices, computer hardware and software, as well as other consumer electronic equipment. The group also includes retailers and other distributors of these media and devices, who are often overlooked as stakeholders. Internet service providers and other communications intermediaries may fall within this group too, as they could be the targets of levies in the future.

167. *Id.*

168. CONNECTUS CONSULTING INC., THE ECONOMIC IMPACT OF CANADIAN COPYRIGHT INDUSTRIES—SECTORAL ANALYSIS 13 (2006), available at http://www.pch.gc.ca/progs/ac-ca/progs/pda-cpb/pubs/copyright/EconomicImpactofCanadian_e.pdf. The final report was submitted to the Copyright Policy Branch, Department of Canadian Heritage. *Id.* at 1.

169. *Id.* at 75.

170. *Id.*

171. *Id.* at 76.

172. *Id.* at 76-77.

Generally speaking, these firms argue against the imposition of levies on their products and services.¹⁷³ They claim that levy schemes put the onus on innovative technology and communications enterprises to subsidize the music industry.¹⁷⁴ One might argue this is justified on three possible grounds: causation, enrichment or convenience. Manufacturers and intermediaries would respond that profiting directly or indirectly from private copying is not a sufficient reason to impose a levy on their goods or services. Nor is simple convenience. It is much too simplistic to suggest that suppliers of blank media or Internet connectivity, for example, cause private copying.

In fact, many firms that would be targeted by levies can make a convincing argument that their obligation to provide remuneration to music creators and distributors runs contrary to fundamental principles established in cases like *Grokster*¹⁷⁵ and *Sony Betamax*¹⁷⁶ in the United States, and *CCH v. LSUC*¹⁷⁷ and *SOCAN v. CAIP*¹⁷⁸ in Canada.

Here, it is important to distinguish the legal situations in Canada and the United States. It is often unclear whether, in the United States, an electronics manufacturer can be held contributorily liable for consumers' copying activities. For example, although VCR manufacturers were absolved of responsibility in the *Sony Betamax* case, the Court in *Grokster* was divided as to whether or not p2p networks had substantial non-infringing uses.¹⁷⁹ As explained above, the uncertainty in American law was one of the key factors leading to the negotiated compromise embodied in the AHRA. In this respect, levies do offer a palpable benefit to entities that might otherwise face legal liability, or at least uncertainty.

By contrast, in Canada, it is clearer that most targets of a levy would not otherwise be held liable for consumers' copying. The Canadian equivalent of the American doctrine of contributory liability is found within the rules governing authorization of infringing activities. In the United States, simply providing the means to facilitate or benefit from copyright infringement is unobjectionable. To be held liable the alleged authorizer must have a degree of knowledge of and control over the actions of actual copyright infringers.¹⁸⁰ But, in Canada, there exists a rule

173. Reinbothe, *supra* note 159.

174. See Press Release, Canadian Coalition for Fair Digital Access, Hidden Levy on Recordable Storage Media is "Obsolete" and Should be Repealed (Nov. 4, 2003), http://www.ccfda.ca/Downloads_resources/ccfda_release_Nov4_eng.doc.pdf.

175. *MGM Studios Inc. v. Grokster, Ltd.*, 125 S. Ct. 2764 (2005).

176. *SonyCorp of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984) [hereinafter *Sony Betamax*].

177. See *CCH Can. Ltd. v. Law Society of Upper Can.*, [2004] 1 S.C.R. 339, 68 [hereinafter *CCH v. LSUC*].

178. See *Society of Composers, Authors and Music Publishers of Canada v. Canadian Assn. of Internet Providers* [2004] 2 S.C.R. 427, 467 [hereinafter *SOCAN v. CAIP*].

179. Compare *Grokster*, 125 S. Ct. at 2783-84 (Ginsburg, J., concurring) with *Grokster*, 125 S. Ct. at 2791 (Breyer, J., concurring).

180. See *id.* at 2782.

that even if one could be said to authorize the copying or communication of music, courts must presume that the authorization is only to act in accordance with the law.¹⁸¹ The general rule is that liability for authorization only exists where an entity explicitly or implicitly “sanctions, countenances or approves” copyright infringement.¹⁸² Unlike in the United States, therefore, a levy in Canada offers little or no benefit in terms of copyright immunity for firms that manufacture or distribute electronics media or devices.

Communications intermediaries in both Canada and the United States have little to gain in return for a levy. In both countries, there are already “safe harbour” provisions that protect these entities from liability. In the United States, these rules are found in 17 U.S.C. § 512.¹⁸³ In Canada, a simpler but nonetheless effective provision is found in § 2.4(1)(b) of the Copyright Act.¹⁸⁴

It might be suggested that third party targets of levies actually benefit from the existence of exemption/levy schemes. The argument that legalizing private copying increases sales of copying hardware and software is difficult to refute or verify.¹⁸⁵ It assumes first that legalizing an activity will make it more prevalent. Peer-to-peer activities, however, may be influenced more by social than legal norms.¹⁸⁶ Second, it assumes that music copying and blank media are complementary, so that if the cost of copying music (in terms of legal risk and/or social stigma) declines, demand for blank media will rise. Third, it assumes that the increased demand resulting from legalization will be sufficient to off-set the decreased demand resulting from higher prices caused by a levy. Notice the contradictory assumptions regarding elasticity of demand that would be required to support this argument.

And furthermore, even if there were some financial benefit to these third parties, levies entail a substantial administrative burden.¹⁸⁷ Technology and communications firms are simply not in the business of collecting, accounting for and remitting levies.¹⁸⁸

Levies can also result in significant market distortions by encouraging grey or black markets for levied products. This is a serious concern

181. *CCH v. LSUC*, [2004] 1 S.C.R. at 39.
182. *See CCH v. LSUC*, [2004] 1 S.C.R. at 38; *SOCAN v. CAIP*, [2004] 2 S.C.R. 427 at 84-85.
183. *See* 17 U.S.C.A. § 512 (West 2006).
184. *See* Copyright Act, R.S.C. 1985, ch. C-42 (1985); *SOCAN v. CAIP*, [2004] 2 S.C.R. at 446.
185. *See, e.g.*, *Can. Private Copying Collective v. Can. Storage Media Alliance*, [2004] F.C.A. 424, 685-687; Copyright Bd. of Can., *Private Copying 1999-2000*, *supra* note 5, at 38; *see also* FISHER, *supra* note 132, at 4.
186. Gervais, *supra* note 134, at 73.
187. Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 25, 56.
188. *See id.*

for all parties affected by Canada's existing private copying levy.¹⁸⁹ The net effect of levies on providers of levied goods and services is unlikely to be positive.

Of course, TPMs can also affect technology firms and intermediaries in various ways. For example, the AHRA includes obligations relating to both locks and levies in the context of digital audio recording devices and media.¹⁹⁰ Not only are digital audio recording devices and media manufacturers required to pay royalties, they must design their products to include Serial Copy Management System (SCMS) copy-controls.¹⁹¹ Another example of the effect of TPMs on consumer electronics manufacturers was the proposed "broadcast flag." Under this proposal, device manufacturers would have been obligated to make their products compliant with a standard digital rights management (DRM) system designed to control consumers' copying behaviour.¹⁹² Initiatives such as these are usually unpopular. Like levies, they impose additional administrative, design, manufacturing and other unnecessary costs on equipment manufacturers.

Nevertheless, manufacturers and providers of consumer goods and services generally object to the idea of levies. These firms would typically prefer that content creators and distributors utilize TPMs.

C. Consumers

Just as different sorts of creators and copyright owners, as well as electronics firms and communications intermediaries, may have different preferences regarding locks and levies, consumers' reactions to these issues are likely to be mixed. To understand the attitudes of the general population toward locks and levies, it is necessary to differentiate between consumers of *entertainment* and consumers of *electronics*.

Many entertainment consumers, especially consumers of popular music and films, are also electronics consumers who buy products such as iPods and blank CDs. The inverse is also true for some electronics consumers. For example, iPod consumers are also music consumers. However, other types of electronics consumers may not be entertainment

189. Copyright Bd. of Can., *Private Copying 1999-2000*, *supra* note 5, at 58; Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 24-25.

190. See McKuin, *supra* note 55, at 325-26.

191. *Id.* at 325.

192. See Electronic Frontier Foundation (EFF), <http://www.eff.org/IP/broadcastflag/> (last visited Sept. 15, 2006). A broadcast flag is a digital lock placed on digital media that prevents its unauthorized reproduction by consumers using recording devices like VCRs, TiVo, DVD recorders, mp3, satellite radio, and the like. Essentially, the broadcast flag places control over copyrighted works and devices used to record those works in the hands of Hollywood. Unless Hollywood approves the device, consumers will be unable to make legitimate copies of flagged materials. EFF offers a brief video highlighting the dangers posed by the broadcast flag. See *id.* at <http://www.eff.org/corrupt/> (follow Corruptibles video link) (last visited Sept. 15, 2006).

consumers. Many consumers purchase blank media for data storage or digital photography. Many consumers use computers and the Internet for research, finance, communication or a long list of things other than entertainment. Furthermore, many purchasers of blank media, computers and Internet access are not consumers at all but businesses, governments and other institutions. Again, diversity within consumers as a group makes it difficult to implement universal policies on locks and levies.

Proponents of digital locks might argue that TPMs and anti-circumvention provisions can offer entertainment consumers more choices for enjoying existing products and, eventually, more products to choose from.¹⁹³ The reasoning is that creators and distributors can earn greater profits if they are able to more precisely control the market for their products. Greater profitability increases the motivation to create and willingness to disseminate entertainment products. Not only is this good for creators and distributors, whose profits increase, but, it might be argued, this is also good for consumers, who can choose to enjoy the products created. Also, with TPMs, the market could determine prices that enable more consumers to purchase entertainment products, and could do so more efficiently than was traditionally possible.¹⁹⁴

Digital locks do have a downside for entertainment and electronics consumers. For one, consumers must tolerate some inconveniences, such as interoperability issues. Sometimes, digital locks present security or privacy issues. The Sony BMG “rootkit” incident was a vivid reminder of the dangers associated with TPMs.¹⁹⁵ Interoperability, security and privacy concerns are clearly matters to be taken seriously, but they are also ones that presumably can and should be addressed with adequate consumer protection laws.¹⁹⁶

Some critics of digital locks would argue that they do not increase but rather decrease the breadth of content from which consumers may choose.¹⁹⁷ This is because they help to concentrate control over the production of cultural goods and services among a small group of large enterprises. Competition laws may be not be effective to address this issue.

The more problematic aspect of digital locks, however, is the effect they can have on semiotic democracy¹⁹⁸ and a participatory, free cul-

193. See, e.g., Barry B. Sookman, “TPMs”: *A Perfect Storm for Consumers: Replies to Professor Geist*, 4 CAN. J. L. & TECH. 23, 29-31 (2005); Michael A. Einhorn, Commentary, *Canadian Quandary: Digital Rights Management, Access Protection, and Free Markets, Progress on Point 13*, THE PROGRESS AND FREEDOM FOUNDATION (2006) at 5, available at http://www.pff.org/issues-pubs/pops/pop13.12can_quan.pdf.

194. See FISHER, *supra* note 132, at 163-69.

195. See deBeer, *supra* note 60, at 95-99.

196. See *id.* at 5-6, 95-97.

197. See Sookman, *supra* note 193, at 31.

198. See FISHER, *supra* note 132, at 270 (tracing the origin of this phrase to John Fiske).

ture.¹⁹⁹ As Professor Fisher describes it, this is “the ability of ‘consumers’ to re-shape cultural artifacts and . . . to participate more actively in the creation of the cloud of cultural meanings through which they move.”²⁰⁰ Therefore, for many consumers who are proponents of levy/exemption schemes, the attractiveness lies mainly in the exemption aspect of the *quid pro quo*.

The value of such an exemption, however, depends greatly on its scope. To American consumers, a levy that covers only truly private copying—something just like Canada’s private copying levy—would offer few if any benefits. Time or format shifting, archiving backups and personalizing compilations are all likely examples of “fair use” in the United States.²⁰¹ Even for Canadians, the value of an exemption for private copying is questionable. A decade ago, when Canada’s private copying levy was being considered, the weight of opinion at that time was that distinctions between the American concept of “fair use” and the Canadian law of “fair dealing” meant private copying was clearly illegal in Canada.²⁰² Recently, however, the Supreme Court of Canada issued a series of landmark decisions about balance in copyright law.²⁰³ A credible argument can now be made that some private non-commercial uses of music are “fair dealing” for the purposes of research or private study.²⁰⁴ This would render the private copying exemption in section 80 of the Copyright Act redundant in some cases,²⁰⁵ and call into question the value of a broader exemption/levy scheme for consumers.

On the other hand, a broader levy that covers not just private copying, but also p2p file sharing, would offer some palpable benefits to entertainment consumers. The trouble is that such an exemption would be nearly impossible to obtain in practice. For an exemption/levy scheme to succeed, fundamental and wholesale changes in the existing copyright system would be necessary.

199. See generally LAWRENCE LESSIG, *FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY* (2004).

200. See FISHER, *supra* note 132, at 28-31, 184.

201. See 4 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 13.05 (Matthew Bender 1997) (1963); *Sony Betamax*, 464 U.S. at 432-33; *Diamond Multimedia*, 180 F.3d at 1079.

202. Copyright Bd. of Can., *Private Copying 1999-2001*, *supra* note 5, at 59.

203. *SOCAN v. CAIP*, [2004] 2 S.C.R. at 448-49; *CCH*, [2004] 1 S.C.R. at 23-24; *Théberge v. Galerie d’Art du Petit Champlain Inc.*, [2002] 2 S.C.R. 336, 355-56.

204. In *CCH*, the Supreme Court of Canada unanimously agreed that systematic for-profit legal research carried out by tens of thousands of Ontario lawyers is fair dealing. *CCH v. LSUC*, [2004] 1 S.C.R. at 88-90. An individual’s downloading activities for the purpose of consumer research, to evaluate a potential music purchase for example, would seem far less objectionable than that. *Id.*

205. The Supreme Court held that reference to specific exemptions is unnecessary if an activity falls within the more general fair dealing provisions. See *CCH v. LSUC*, [2004] 1 S.C.R. at 48-49. The Copyright Board, in contrast, held that the section 80 exemption for private copying relegates the general fair dealing exemption to a second-order enquiry. See Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 20-21. At worst, therefore, if the section 80 exemption does not apply (because, for example, the medium is not an “audio recording medium”), the fair dealing provisions may be engaged.

Even then, not *all* consumers would be pleased with a levy/exemption scheme. Although there would be significant benefits to entertainment consumers, we must be careful to distinguish consumers of electronics and communications services. In Canada, the Federal Court of Appeal has acknowledged: "Such a scheme cannot be perfect; it is a rough estimate, involving possible overcharging of some and undercharging of others."²⁰⁶ Although some users of the product or service in question—blank media, electronics devices, personal computers or Internet access—will engage in the copying or communication activities at the root of the scheme, a great number of others will not.

Some suggest that concerns about cross-subsidization are overblown.²⁰⁷ But take the following concrete example: All blank CDs manufactured in or imported to Canada are subject to a levy to compensate for the fact that some blank CDs are used for copying music.²⁰⁸ The Copyright Board found that "80 [to] 90 percent of individual consumers who buy blank CDs do so in some measure for the specific purpose of copying pre-recorded music. Moreover, it appears that over 40 percent of individuals use recordable CDs for no other purpose."²⁰⁹ However, the highest estimates suggest that of *all* blank CDs bought in Canada, the proportion of blank CDs used by consumers to copy music (as compared to those used by businesses, or for copying data or photographs, for example) is roughly one third.²¹⁰ The levy rate is discounted to reflect this fact, but the point remains that purchasers of two thirds of all blank CDs subsidize the few consumers who use these media heavily for copying music. Simply put, the levy has a *much* larger effect on persons who do not engage in private copying than on persons who do.

The over-breadth of Canada's private copying levy is more than just an unfortunate side effect for consumer technophiles. It is a very serious issue for thousands of Canadian manufacturers, retailers and commercial purchasers of goods and services that are or would be levied. Imagine the effect that a levy on Internet access would have on e-commerce or educational uses of the Web. It would be inconsistent with a policy of reducing internet access costs to increase broadband penetration.

If a levy were imposed on digital memory generally, without amending the meaning of "ordinarily" as interpreted by the Copyright Board, the same problem could easily arise with respect to memory

206. Canada's private copying regime was described as such by the Federal Court of Appeal. *AVS Technologies Inc. v. Canadian Mechanical Reproduction Rights Agency*, 7 C.P.R. (4th) 68, ¶ 7 (2000) [hereinafter *AVS Technologies*].

207. Netanel, *supra* note 133, at 67–74.

208. Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 15, 22.

209. *Id.* at 14.

210. *Id.* The data is insanely confusing, because there are different proportions to consider (including "consumer vs. business purchasers" and within that "music vs. non-music uses") and different statistics for different formats, not to mention conflicting evidence on the accuracy of different figures submitted by different parties.

cards, personal computers, mobile telephones, personal digital assistants or a range of other digital devices. Remember, even the iPod is also a personal agenda, portable data storage device, digital photo album, video player and, perhaps soon, a mobile phone. There is no way to distinguish customers who fill these devices with music from those who do other things. As technological advances lead to increasing product convergence, this problem will only be exacerbated.

The perceived unfairness might be alleviated through carefully tailored exceptions, which can, in theory, turn levies from blunt instruments into precise tools. However, separating the wheat from the chaff is not easy. If Canada's current private copying regime is any indication, things do not bode well for broader levy. The Federal Court of Appeal, affirming the Copyright Board of Canada on this point, recently noted that Part VIII of the Copyright Act contains no legitimate exemptions for the vast numbers of consumers and businesses who purchase blank media for purposes other than private copying.²¹¹ The Court agreed with the Board's insights that there are fundamental problems with the *ad hoc* waiver program that has developed, which is administered unilaterally by the beneficiaries of the levy.²¹²

When Canada's levy was first introduced, business and institutional purchasers of blank media, including churches, educators and broadcasters, were upset at the prospect of having to pay substantial levies.²¹³ To defray possible legal challenges to the scheme from these groups, the Canadian Private Copying Collective (CPCC) created an *ad hoc* scheme where it would consider applications from some purchasers to be "zero-rated."²¹⁴ In other words, if a purchaser agrees to certain restrictions, as well as auditing provisions, the CPCC might be willing to waive its right to collect levies from that purchaser. The program is only open to businesses or institutions, not individual consumers.²¹⁵ Even for the former, media must be purchased only from authorized distributors, not through ordinary retailers, which has created significant distortions in the chain of distribution for blank media.²¹⁶ So far, the private program has not been subjected to any supervision by the courts or the Copyright Board to ensure it is administered fairly and equitably.

In sum, it might be true that some consumers of entertainment products would benefit from DRM systems, if the result is more content and greater choice. Many however, are rightly more concerned about matters such as security, privacy, interoperability, convenience and the concentration of control over production. For these consumers, levies

211. *Id.* at 33-36.

212. Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 24-27.

213. Copyright Bd. of Can., *Private Copying 1999-2000*, *supra* note 5, at 3.

214. *Id.* at 57.

215. Copyright Bd. of Can., *Private Copying 2000-2001*, *supra* note 5, at 16.

216. Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 25.

represent a preferable alternative. However, many purchasers of multi-functional electronics devices or communications services would prefer not to pay levies on account of entertainment products which they never or seldom consume.

IV. COMPROMISES

It is evident that various stakeholders have diverging views on locks and levies. There is even considerable disagreement *within* stereotypical "groups" of stakeholders, such as "creators" or "consumers." Because of the diversity of perspectives no stakeholder is likely to see his/her ideal solution implemented. The polycentric nature of these issues requires trade-offs and compromises.

In fact, Professor Netanel characterizes his Non-Commercial Use Levy (NUL) as a middle ground between "digital lock-up" and "digital abandon."²¹⁷ Similarly, Eckersley proposes a virtual market between "information feudalism" and "information anarchism."²¹⁸ Professor Fisher suggests his Alternative Compensation Scheme (ACS) as a fair alternative to full propertization or other forms of regulation.²¹⁹ Proposals by Ku, Lunney, Litman and others could also be described as compromise solutions.

I would predict, however, that if lawmakers were to give serious consideration to these alternatives, the middle ground would not be these proposals themselves, but a point between these proposals and a scenario even more favorable to major content producers than the status quo. Professor Litman is, in my opinion, absolutely correct in stating:

As consensus builds around the idea of paid peer-to-peer, it seems increasingly plausible that some legislation will emerge with enough support from the music, recording, computer, and consumer electronic industries to have a fair chance of enactment. I expect that that legislation will include both consumer downloads of music and collective licenses to pay for them. Such a bill is less likely to resemble the proposals advanced by Netanel, Fisher, Lunney, Ku, Gervais, or Lessig, however, than it is to be designed to maintain the current recording and music industry distributors in their market dominant position.²²⁰

Historical trends support this impression.²²¹ Often, the pressures of multiparty negotiations yielded rights for one group at the expense of another.²²² However, many times congressional pressure has prompted a

217. Netanel, *supra* note 133, at 83.

218. Eckersley, *supra* note 135, at 92-93.

219. FISHER, *supra* note 132, at 8-10.

220. Litman, *supra* note 133, at 39.

221. LITMAN, *supra* note 76, at 151.

222. *Id.* at 46.

flurry of compromises between the parties at the bargaining table, generating a law with something for everyone.²²³

Professor Netanel suggests that TPMs are incompatible with his NUL.²²⁴ He states that digital content providers would not be permitted to use DRM systems or otherwise sabotage peer-to-peer (p2p) file sharing networks.²²⁵ At least, he argues, consumers would have to be permitted to circumvent TPMs and circulate the tools needed to do so.²²⁶ Eckersley's "virtual market" and Ku's "Digital Recording Act" alternatives are seemingly envisioned as a complete replacement for DRM systems, not a complementary option.²²⁷

But because of the tremendous difficulties of getting industry incumbents to embrace proposals for radical change, some proponents of broader levy schemes in the United States recognize the possible need to allow individual rights-holders to choose either locks or a levy. Under Professor Fisher's proposal, rights-holders would be free to opt-out of an alternative compensation scheme, and instead continue to distribute copyright-protected content and enforce their exclusive copyrights.²²⁸ Those particular copyrights-holders would, of course, be ineligible to receive revenues generated under the alternative scheme. Presumably, aggregate levy rates may be reduced accordingly, and consumers' rights might depend on whether the work was included within the scheme or not. Professor Lessig likewise contemplates an alternative scheme complementing the existing system.²²⁹ He specifically mentions how Professor Fisher's plan need not interfere with innovative businesses like Apple's iTunes Music Store.²³⁰ As long as there are few limitations on what one is allowed to do with the content, he suggests that these alternatives can co-exist.²³¹ Similarly, Professor Lunney suggests that private copying could be addressed through a combination of weak encryption technologies, an honors system *and* a limited tax on copying devices and storage media.²³² Professor Litman also contemplates the simultaneous use of locks and levies. She would allow rights-holders to use TPMs to restrict access and copying, but would require that such files be uniformly identified, for example by a ".drm" extension.²³³

223. *Id.* at 46-47.

224. Netanel, *supra* note 133, at 40-41.

225. *Id.* at 34-35, 40.

226. *Id.* at 40.

227. Eckersley, *supra* note 135 at 92-93; Ku, *supra* note 133, at 312-13.

228. FISHER, *supra* note 132, at 247-48.

229. LESSIG, *supra* note 199, at 301.

230. *Id.* at 302.

231. *Id.* He does not mention, however, the fact that Apple's business model relies heavily on TPMs restricting copying, remixing and, most importantly for Apple, interoperability. *Id.*

232. Lunney, *supra* note 133, at 910. If he had to choose, however, he would choose levies over locks. *Id.* at 911-12.

233. Litman, *supra* note 133, at 47.

Professor Yu notes that because different models have both benefits and limitations, “[t]he best system for policymakers to adopt may therefore involve a combination of these proposals.”²³⁴ He also notes that “the industry must be prepared to migrate from one regime to another, or even to adjust to living with many different regimes at the same time.”²³⁵

No doubt it is correct that the best solution might be a hybrid of various possibilities. After all, copyright law already contains a mix of different rules providing for exclusive rights, protections for TPMs, compulsory and voluntary collective licensing regimes and levy schemes. The applicable framework may depend on the type of work at issue, for example a literary work or a sound recording, or the particular use being regulated such as a public performance or private copying.

However, the number of different copyright rules is one thing that makes the present copyright system so problematic. Canada already has too many copyright collectives.²³⁶ In the United States (and elsewhere) it is extraordinarily difficult to understand, let alone navigate, the rights-clearance process for making music available online.²³⁷ This overwhelming complexity stifles innovation. It is economically inefficient. Indeed, it is one of the reasons scholars have called for a new model.

While some in the United States have called for the phasing *in* of levies as an alternative to locks, valuable lessons can be learned from European and Canadian attempts to phase them *out*. There is a real danger that *alternative* compensation schemes will in practice become *additional* compensation schemes. This leads to a troubling problem of double-billing consumers.

Consumers can easily find themselves caught in the middle of a copyright regime that prohibits the circumvention of DRM systems in order to access or copy digital content, but at the same time mandates levy payments to compensate for copying that either cannot occur or is already licensed. Consumers can pay for the same activity two or even three times over. For example, someone who purchases a song from Apple’s iTunes Music Store contractually acquires the right to make certain private copies of the track. They are expressly entitled to “burn” and “export” tracks “for personal, non-commercial use.”²³⁸ Even aside from these contractual terms, this activity may be fair use or fair dealing. Yet this consumer would pay for the same activity through a TPM-enforced

234. Yu, *supra* note 133, at 739.

235. *Id.* at 740.

236. See Daniel Gervais & Alana Maurushat, *Framgmented Copyright, Framgmented Management: Proposals to Defrag Copyright Management*, 2 CANADIAN J.L. & TECH. 15, 18 (2003), available at http://cjlt.dal.ca/vol2_no1/index.html.

237. Lydia Pallas Loren, *Reflections on Tasini and Beyond: Untangling the Web of Music Copyrights*, 53 CASE W. RES. L. REV. 673, 700-01 (2003).

238. See iTunes Terms of Sale (Oct. 10, 2005), <http://www.apple.com/legal/itunes/ca/sales.html>.

license and through a private copying levy. Furthermore, there is a danger this consumer could still infringe copyright laws by engaging in certain ancillary activities. We've seen from the Canadian experience that this can be a problem even if the levy is ostensibly technology-neutral.

Double-dipping in this manner is likely to cause resentment amongst consumers. This may ultimately jeopardize the viability of the levy scheme. Consumer hostility toward industry tactics could also undermine the implementation of creative new business models. In other words, locks and levies undermine each other.

The European Community's Copyright Directive tries to have it both ways—simultaneously encouraging the adoption of DRM systems and levy schemes to deal with private copying. The Copyright Directive expressly references the need for levies to take “account of the application or non-application of technological measures.”²³⁹ The Copyright Directive, however, contains few clues as to how exactly member states are to implement this instruction.

A team of experts led by Professor Bernt Hugenholtz has studied this aspect of the Copyright Directive closely.²⁴⁰ They concluded that it would be most appropriate to phase out levies as TPMs become available, as opposed to actually applied.²⁴¹ The availability of TPMs would be based upon an assessment of whether they can be both realistically and legally applied in the marketplace.

However, despite the fact that TPMs *are* prevalent in the marketplace—take most online music stores for example—no member state has yet taken account of this. Although music sold through Apple's iTunes Store is protected with the FairPlay DRM system, many European countries nevertheless impose a levy on iPods.²⁴² Likewise, the levies on blank media such as CDs have been calculated without regard to the extent to which TPMs either license private copying or make it impossible.

A similar situation nearly materialized in Canada, without study or any public consultation on the issue. As explained above, in 2005 the Government of Canada tabled Bill C-60, which would have put specific anti-circumvention provisions into Canadian copyright law.²⁴³ Recall that Bill C-60 would have prohibited circumvention *only* for the purposes

239. COPYRIGHT DIRECTORATE, THE PATENT OFFICE, DEPARTMENT OF TRADE AND INDUSTRY, EC DIRECTIVE 2001/29/EC ON THE HARMONISATION OF CERTAIN ASPECTS OF COPYRIGHT AND RELATED RIGHTS IN THE INFORMATION SOCIETY 48 (2002).

240. Hugenholtz et al., *supra* note 7, at 46.

241. *Id.*

242. Josiane Morel, Gov't Affairs Manager, Address at Government Affairs: DRM and Copyright Levies (Apr. 6, 2005).

243. Canadian Heritage, Copyright Reform Process, (July 10, 2006), http://www.pch.gc.ca/progs/ac-ca/progs/pda-cpb/reform/index_e.cfm.

of infringing copyright.²⁴⁴ Recall also that, under Canadian law, private copying of sound recordings is not an infringement.²⁴⁵ One might think, therefore, that circumventing TPMs for the purpose of private copying would have been permitted.

But Bill C-60 would have allowed circumvention for all non-infringing purposes *except* private copying under section 80.²⁴⁶ This reservation—that one cannot circumvent to copy for private use—was somewhat mysterious. It would have prohibited consumers from making private copies even though they paid for the right to do so through the levy. In effect, this would have allowed the music industry to be remunerated for copies that individuals cannot make or have already paid for.

The only possible explanation is that the government was depending on the Copyright Board to factor this into consideration when setting the levy rate. Unfortunately, given the lack of consultation or explanation, we can only speculate as to the Canadian Government's intention. Although Europe's Copyright Directive has its problems, at least it contains *some* direction on this issue.²⁴⁷

Prior to Bill C-60, the Copyright Board of Canada had, in fact, demonstrated its own intention to phase out Canada's existing private copying levy.²⁴⁸ The formula adopted by the Board for setting the levy rate contains a calculation recognizing that technological measures allow some consumers to pay directly for private copying rights.²⁴⁹ As the practice of using TPMs becomes more widespread, the Board may be willing to reduce levy rates accordingly, perhaps eventually approaching zero. To be clear, however, there is no guarantee that this will happen.

Furthermore, unlike the Copyright Directive, the Board's calculation only takes account of the extent to which TPMs are actually *used*, not merely available. Hugenholtz and his team predicted that this undertaking "will prove to be a fruitless and frustrating exercise, in view of the non-linear relationship between content, technical protection measure, media, equipment and levy, and absent any baseline to measure the 'degree of use' against it."²⁵⁰ According to them, it would have been better

244. Parliament of Canada, Bill C-60, An Act to Amend the Copyright Act § 27, (June 20, 2005), http://www.parl.gc.ca/38/1/parlbus/chambus/house/bills/government/C-60/C-60_1/C-60_cover-E.html.

245. Copyright Act, R.S.C. 1985, ch. C-42, § 80.

246. Can. H. Commons Bill C-60 at § 27. It would have been permissible to circumvent TPMs to exercise private copying rights granted by other sections of the Act, such as the fair dealing provisions in section 29.

247. Hugenholtz et al., *supra* note 7, at ii.

248. House of Commons of Canada, Bill C-60 An Act to amend the Copyright Act § 27, (June 20, 2005), http://www.parl.gc.ca/38/1/parlbus/chambus/house/bills/government/C-60/C-60_1/C-60_cover-E.html.

249. Copyright Bd. of Can., *Private Copying 2003-2004*, *supra* note 5, at 62.

250. Hugenholtz et al., *supra* note 8, at iv.

to adopt “a more sensible and workable interpretation, which is inspired by economical and practical considerations.”²⁵¹

In general it seems as if the Government, through Bill C-60, and the Copyright Board, in its recent decisions, have created a hierarchy whereby protection for technological measures is more important than the conceptual or practical integrity of the private copying scheme. In doing so, Canadian policy makers have apparently expressed a preference for technological measures over private copying levies as a solution to some of the problems of the digital music market.

The compromises concerning locks and levies struck under the European Copyright Directive are unfortunately typical in an era of copyright compromises. The failure of the Canadian Government to engage in a coordinated study of the relationship between locks and levies is also symptomatic of attempts to broker deals on particular issues. There is a risk that American lawmakers attempting to implement law reform proposals to deal with private copying and p2p will fall into a similar trap. Simultaneously using locks and levies to address these issues most seriously affects consumers, who can easily find themselves paying levies to compensate for copying that either cannot occur, is already licensed or is or ought to be fair use/dealing. Policymakers should be aware of this concern in order to minimize inconsistencies and incompatibilities when responding to the challenges of private copying and p2p.

251. *Id.*

BEYOND COPYRIGHT: MANAGING INFORMATION RIGHTS WITH DRM

VIKTOR MAYER-SCHÖNBERGER[†]

INTRODUCTION

For the first 150 years of United States copyright law the legal prohibition of unauthorized copying was aided by the technical limitations consumers faced when wanting to duplicate content. The Xerox machine made copying of paper-based content faster and less costly; so did the widespread availability of audiocassette and videotape recorders. Yet, as long as information remained stored in analog form, copying tended to result in a loss of quality. The copy of the copy of a music cassette lacks the fidelity of the original. To be sure, piracy existed even then, but it did not happen primarily at the consumer end of the value chain. Pirates generally required sophisticated and costly equipment and a functioning distribution channel. Over time, rights holders improved their ability to interdict pirates around the world.

Digital technology changed the historical status quo. Duplication technology enabled consumers to make perfect copies for a fraction of the cost and time. The Internet added a cheap and fast distribution channel with peer-to-peer software providing an unprecedented level of ease-of-use in downloading copyrighted content. Rapidly, illegal copying became much cheaper than doing so legally, leading to the widespread “sharing” of copyrighted information among consumers without rights holders’ consent, thus—as rights holders contend—reducing market demand for the informational goods they offer.¹

Rights holders see digital rights management (DRM) as a tool to rectify this situation using a double strategy. First, and much reported in the media, DRM aims at making illegal copying harder and more costly.² Second, often overlooked but at least of equal importance, DRM is in-

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1. See Press Release, Recording Indus. Ass’n of America, Music Industry Unveils New Business Strategies and Combats Piracy During 2002 (Feb. 28, 2003), available at <http://www.riaa.com/news/newsletter/022803.asp> (citing online piracy as a major cause of the 9% decline in CD shipments in 2002); see also Stephen Manes, *Full Disclosure: Copyright Law—Ignore it at your own Peril*, PC WORLD, Sept. 2003, available at <http://www.pcworld.com/howto/article/0,aid,111657,00.asp>. For an economic analysis, see Stan Liebowitz, *File-Sharing: Creative Destruction or Just Plain Destruction?*, 49 J.L. & ECON. 1, 17-18 (2006).

2. See, e.g., Amy Harmon, *Pondering Value of Copyright vs. Innovation*, N.Y. TIMES, Mar. 3, 2003, at C2; Jeff Howe, *Licensed to Bill*, WIRED, Oct. 2001, at 140; John Markoff, *Five Giants in Technology Unite to Deter File Sharing*, N.Y. TIMES, Jan. 5, 2004, at C1.

tended to lower costs for obtaining content legally. The goal of DRM is to enable and facilitate legal licensing of digital information by reducing the transactional costs for consumers to find, access, and use the digital information they demand. Ease of use has propelled Apple's iTunes Music Store to become the preeminent legal music download site on the Internet, causing customers more than a billion times to say "yes" to "DRMed" music.³

Much of the debate over DRM so far has focused on these contested intellectual property issues, in particular on copyright.⁴ However, copyright is not the only legal claim over information. Privacy rights, for example, entitle individuals to some control over their personal information.⁵ DRM is generally agnostic as to what kinds of rights over information it protects and the transactions of what rights it facilitates, as long as such rights can be technically incorporated. This, in turn, requires one, at least at some level, to find common conceptual ground among such information rights.

This Article argues that DRM may prove useful beyond the narrow confines of copyright. Part I briefly describes DRM and why and how DRM can be used to manage rights over information more generally. Part II maps the elements of DRM systems, with a specific focus on the meta-data that defines specific usage rights of the DRMed information it accompanies. Part III looks at non-copyright claims over information, in particular informational privacy, and evaluates how such claims could be represented in DRM systems. I put forward a list of advantages such DRM-based management of informational privacy claims would offer and lay out three significant challenges and how they could be addressed for such a DRM system to be successful.

I. THE EMERGENCE OF DRM SYSTEMS

Digital rights management aims to control access to information content.⁶ It does so by covering all phases of access control, from describing access rights to a certain piece of information, to facilitating transactions of such rights, to enforcing access control. While DRM comes in many different kinds and shapes, it needs to be comprehensive—covering all stages of the dissemination and usage process—to prevent content from being extracted from its protective realm by unauthorized parties.

3. Press Release, Apple Computer Inc., iTunes Music Store Downloads Top One Billion Songs (Feb. 23, 2006), available at <http://www.apple.com/pr/library/2006/feb/23itms.html>.

4. See generally Symposium, *Law and Technology of Digital Rights Management*, 18 BERKELEY TECH. L.J. 697 (2003); Nicola Lucchi, *Intellectual Property Rights in Digital Media*, 53 BUFF. L. REV. 1111 (2005).

5. See, e.g., Julie Tuan, *Customer Information: U.S. West, Inc. v. FCC*, 15 BERKELEY TECH. L.J. 353, 368-69 (2000) (discussing the right to privacy as it relates to personal information).

6. Access control is limited to preventing unauthorized users from access. It also entails enabling access for those that are authorized. See *supra* notes 1-2 and accompanying text.

Movies stored on DVDs are a good example. Movie data is already encrypted when it is transferred on DVD. DVDs are sold with the information on it encrypted and thus only playable through specific hardware. These DVD players, in turn, must be able to decrypt the movie information. DVD production, DVDs and DVD players all have to conform to the same technical rules on how digital information is being interpreted for DRM to work, and all parties must adhere to these rules for the system to function.⁷

Such DRM requires a complex system of technical, organizational and societal elements. Neither technology nor market incentives alone will be sufficient, for at least two reasons.

First, many but not necessarily all commercial entities involved in the dissemination of DRMed content have a strong economic interest to ensure that the DRM system remains in place. Take the manufacturers of DVD players, for example. If they were to sell a DVD player that could “break” the DRM system and permit its users easy duplication of encrypted data—much like dual-deck music cassette recorders used to offer—consumers might buy more of these units, creating an economic incentive for manufacturers of DVD players to defect from the DRM system.⁸

Second, consumers will desire to “free ride,” that is, to gain access to DRMed content without paying the appropriate usage fee. To that end, consumers will want to collect information and methods as well as tools to break the access control mechanisms of DRM unless societal rules prevent them from doing so.⁹

For DRM to work, therefore, the legal system has to stop defections by commercial entities as well as prevent consumers from gaining and sharing information about how to break usage restrictions, while enabling and facilitating authorized transactions of usage rights. What usage

7. The most important DRM standard for video DVDs is the “Content Scrambling System” (CSS), an authentication and encryption system designed to prevent unauthorized copying of DVDs. See JIM TAYLOR, DVD DEMYSTIFIED 481-85 (2d ed. 2001). This system was hacked in 1999 by software called DeCSS. See Rob Pegoraro, *Hollywood to Home Viewer: We Own You*, WASH. POST, Aug. 25, 2000, at E01. For the elaborate next generation of content protection systems, see, for example, the High-Definition Multimedia Interface (HDMI), an industry-supported standard to connect any compatible digital audio or video source like a Sony Playstation and a video recorder, and the respective DRM standard High-Bandwidth Digital Content Protection (HDCP), a lack of which may lead to video quality and resolution being artificially downgraded. See generally Digital Content Protection, LLC, <http://www.digital-cp.com/home> (last visited Sept. 14, 2006). Another example is Apple’s DRM technology FairPlay, which restricts access to digital content on Apple’s products, such as iTunes or the iPod. See Hiawatha Bray, *Apple’s Music Operation Hits a Sour Note*, BOSTON GLOBE, Aug. 2, 2004, at C2.

8. See TAYLOR, *supra* note 7, at 481 (citing the corollary proposition that DVD producers are not willing to publish DVDs without protection from DRM defecting practices).

9. See Pegoraro, *supra* note 7, at E01 (citing at least one instance where users have illegally hacked a DVD encryption system); see also Bill Rosenblatt, *iTunes DRM Hacked, Then Hacked Again*, DRM WATCH, Mar. 24, 2005, <http://www.drmwatch.com/drmtech/article.php/3492676> (discussing hacking of Apple, Inc.’s FairPlay DRM).

rights, however, are being granted through DRM, no longer need to be a simple reflection of the legal system. In fact, one can imagine a DRM system granting its users a very different set of rights than current intellectual property law—especially when compared with fair use rights.¹⁰

As Lawrence Lessig predicted, the authority to delimit these usage rights shifts from the existing lawmaking and adjudicating institutions in our society to those in control of the DRM system.¹¹ The law's task in such a context is to ensure that such private ordering is not being undermined by "leakage" and circumvention.¹² Thus, intellectual property law turns into an enforcement mechanism for whatever access control arrangements are contained in DRM.

Critics have contended that every DRM system to date has been broken relatively swiftly, eroding the very foundation on which the entire idea of access control rests.¹³ However, enforcement does not need to be perfect—it is sufficient if it deters enough to shape the behavior of many consumers.¹⁴ Apple's DRM is a case in point: The use of music bought through the iTunes Music Store online and downloaded onto one's computer is constrained by a system called FairPlay.¹⁵ It restricts the computer on which the music can be played, the iPod onto which it can be copied, and how often it can be burnt on a CD. To break out of this straight-jacket, many tools have been developed and remain available on the Internet to either strip the music from FairPlay restriction data, or to otherwise enable the unauthorized sharing of DRMed music content.

10. For an early comparison between intellectual property law and the DRM system envisioned by Ted Nelson's famous System Xanadu, see Pamela Samuelson & Robert J. Glushko, *Intellectual Property Rights for Digital Library and Hypertext Publishing Systems*, 6 HARV. J.L. & TECH. 237, 239, 247-52 (1993).

11. See generally LAWRENCE LESSIG, *CODE AND OTHER LAWS IN CYBERSPACE* (1999); see also Viktor Mayer-Schönberger, *In Search of the Story: Narratives of Intellectual Property*, 10 VA. J.L. & TECH. 11, para. 36-40 (2005); Joel R. Reidenberg, *Lex Informatica: The Formulation of Information Policy Rules Through Technology*, 76 TEX. L. REV. 553, 591-92 (1998); VIKTOR MAYER-SCHÖNBERGER, *DAS RECHT AM INFO-HIGHWAY* 41 (1997).

12. See generally ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* (1991); see also Yochai Benkler, *An Unhurried View of Private Ordering in Information Transactions*, 53 VAND. L. REV. 2063, 2078 (2000); Lawrence Friedman, *Essay: Digital Communications Technology and New Possibilities for Private Ordering*, 9 ROGER WILLIAMS U. L. REV. 57, 61-62 (2003); David R. Johnson & David G. Post, *And How Shall the Net Be Governed?: A Meditation on the Relative Virtues of Decentralized, Emergent Law*, in COORDINATING THE INTERNET 62, 81-90 (Brian Kahin & James H. Keller eds., 1997); Margaret Jane Radin & R. Polk Wagner, *The Myth of Private Ordering: Discovering Legal Realism in Cyberspace*, 73 CHI.-KENT L. REV. 1295 (1998).

13. See, e.g., John Black, *The Impossibility of Technology-Based DRM and a Modest Suggestion*, 3 J. ON TELECOMM. & HIGH TECH. L. 387, 396 (2005) (arguing that "the media companies' reliance on a technological solution is almost certainly doomed, and that a variety of motives will continue to drive people to circumvent any such technology. The best solution to the problem is not a technological one, but instead one of education.").

14. See Viktor Mayer-Schönberger, *The Shape of Governance: Analyzing the World of Internet Regulation*, 43 VA. J. INT'L L. 605, 614-16 (2003); see also Jack L. Goldsmith, *Regulation of the Internet: Three Persistent Fallacies*, 73 CHI.-KENT L. REV. 1119, 1126 (1998); Lawrence Lessig, *The Zones of Cyberspace*, 48 STAN. L. REV. 1403, 1405 (1996).

15. See Bray, *supra* note 7, at C2.

Creating, disseminating and using such tools may be potentially illegal, but nevertheless continues to take place. This has not doomed Apple's DRM system. Despite the widespread availability of such tools at low transactional costs and the persistence of music sharing peer-to-peer networks, consumers buy DRMed music from the iTunes Music Store at a rate of about four million usage restricted songs per week.¹⁶ Consumers are obviously willing to pay a relatively small amount in return for ease of use, speed of search and download, and assurance of quality.

Less than perfect DRM systems will continue to thrive as long as content owners deem the revenue generated more important than the leakages of content that are occurring. Of course, any change in the value proposition to the consumer—for example by raising prices or making pricing less transparent—may have an effect on consumer behavior, potentially increasing leakage and undermining the DRM system. This is one reason Apple has a strong incentive to keep iTunes Music Store's pricing model simple and transparent.¹⁷

DRM is more than a technical fix to prevent unauthorized copying. As a system, it depends not just on technology, but on institutions and market incentives, and presupposes law to prevent too much leakage from happening. While not perfect, DRM systems have been relatively successful in controlling access and will remain so as long as their value propositions are attractive. Insofar as DRM systems prescribe acceptable usage behavior, they replace the legal system as the dominant normative framework.

II. ELEMENTS OF DRM SYSTEMS AND IMPLICATIONS

In abstract terms, a DRM system consists of both mechanisms for facilitating authorized transactions and mechanisms for enforcing access control. The former covers functions like the publishing of DRMed content, the easy searching for content by consumers, and the processing of the transaction itself. This may include the creation and management of online directory services as well as electronic payment.¹⁸ The latter en-

16. Press Release, Apple Computers Inc., iTunes Music Store Downloads Top 150 Million Songs (Oct. 14, 2004), available at <http://www.apple.com/pr/library/2004/oct/14itunes.html>.

17. The recent clash between Apple and the big music labels over pricing strategies can be seen against the backdrop of this conflict. See Scott Morrison, *Labels Demand a Bite as Apple Calls the Tune*, FIN. TIMES (London), Mar. 4, 2005, at 11 (citing the music labels' concerns that wholesale prices should be raised to capture a larger share of the market in which they believe Apple has become too powerful).

18. See Niels Rump, *Definition, Aspects, and Overview*, in DIGITAL RIGHTS MANAGEMENT: TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS 3-4 (Eberhard Becker et al. eds., 2003); see also Ahmad-Reza Sadeghi & Markus Schneider, *Electronic Payment Systems*, in DIGITAL RIGHTS MANAGEMENT: TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS 113-115 (Eberhard Becker et al. eds., 2003).

tails mostly technical means to restrict usage of content to certain users, times, and modes.¹⁹

Both facilitating transactions and enforcing access control require the DRM system to authenticate users as well as content, and to incorporate and respect usage data associated with the specific content users have acquired.²⁰ The need for authentication has been well documented and linked to debates on electronic signatures and similar methods of authenticating messages.²¹ The role of usage data—information about how a particular content may be used—has received less attention although such meta-data is a fundamental element of DRM.²²

To perform its role of controlling access, any DRM system must “know” what kind of usage is permissible by whom, and what usage attempts must be prevented. This is done through meta-data associated with content that describes authorized usage.²³ If a consumer attempts to use content in a way that contradicts the usage rights expressed in the meta-data, the DRM system will attempt to stop her. Consequently, a DRM system needs to know how to locate such meta-data for any DRMed content it manages, and most current DRM systems rely on content to contain or be combined with the relevant meta-data.

Meta-data has to lay out permissible use in a standardized and unambiguous way, so that it can be used by all technical elements of a DRM system. In recent years, two major attempts got under way to systematically define meta-data for a very wide spectrum of digital content. The first one is eXtensible Rights Markup Language (XrML) developed and owned by commercial entity ContentGuard and based on the “extensible markup language” (XML).²⁴ Microsoft employs a version of XrML in the DRM it uses.²⁵

19. See Rump, *supra* note 18, at 30-42.

20. There is significant philosophical debate among DRM providers whether to authenticate users or usage devices. Most DRM systems discussed in this paper focus on user authentication, but the Digital Media Project (DMP) instead focuses on device authentication. See Bill Rosenblatt, *2005 Year in Review: DRM Standards*, DRM WATCH, Jan. 2, 2006, <http://www.drmwatch.com/standards/article.php/3574511>.

21. See generally LESSIG, *supra* note 11, at 30-42; L. JEAN CAMP, TRUST AND RISK IN INTERNET COMMERCE 36-40 (2000) (pointing to the difficulties of evaluating the reliability of information online); DAVID BRIN, THE TRANSPARENT SOCIETY 179-81, 333-35 (1998) (arguing that in view of modern surveillance technologies, we should focus more on ensuring accountability, i.e. reciprocal transparency, than protecting privacy by fostering secrecy).

22. See Stefan Bechtold, *Digital Rights Management in the United States and Europe*, 52 AM. J. COMP. L. 323, 326-29 (2004).

23. Already more than a decade ago and way ahead of the time, Pam Samuelson and Bob Glushko wrote eloquently about the need for such meta-data and its implications. See Samuelson & Glushko, *supra* note 10, at 252-53.

24. Andrew Conry-Murray, *XrML: Defining Digital Rights*, IT ARCHITECT, Apr. 5, 2004 <http://www.itarchitect.com/shared/article/showArticle.jhtml?articleId=18900094>.

25. See Stacy Cowley & Paul Roberts, *Microsoft Details Rights Management Policy*, NETWORK WORLD, Feb. 21, 2003, <http://www.networkworld.com/news/2003/0221microdetai2.html>

Another derivative of XrML is REL, a “rights expression language” that is part of the MPEG-21 standard.²⁶ By adopting REL, the Moving Picture Experts Group (MPEG) hopes that it will aid in the creation of a comprehensive DRM for multimedia content.²⁷ REL in turn uses standardized terms in describing the usage rights for specific content. These terms are defined in what is called the Rights Data Dictionary (RDD) that is being developed under guidance of the International Standardization Organization (ISO).²⁸

The RDD, developed by UK-based firm Rightscom Ltd,²⁹ defines the terms rights holders can use when creating usage meta-data that defines who can do what, with which resource, in what context, at what time, and in what location. Accordingly, RDD contains semantics for defining agents, resource, time, place and context (in RDD parlance the “context model”).³⁰

While impressive in its structured approach, XrML’s long-term sustainability in the market place is an open question. After years of use Microsoft’s version of XrML remains incompatible with MPEG’s REL; and the software giant has no apparent plans to change this. REL on the other hand has not seen a single implementation by any of the many industry players that initially praised it, prompting experts to call it “irrelevant.”³¹

The second attempt to standardize meta-data is the Open Digital Rights Language (ODRL) Initiative, orchestrated by its founder Renato Iannella.³² ODRL covers the same ground as XrML. Unlike XrML, however, ODRL stems from an open process and is offered license-free. It is the open-source pendant to commercial XrML. Not surprisingly, ODRL has collaborated with Creative Commons (CC)³³ to map CC’s semantics in ODRL.³⁴

(citing John Manferdelli, general manager of the Windows Trusted Platform Technologies group: “Despite being new, XrML is the richest and best developed of the rights management languages.”).

26. See Rosenblatt, *supra* note 20.

27. See Rightscom Ltd, *The MPEG-21 Rights Expression Language 5* (July 14, 2003) (White Paper), available at , http://www.interactivemusicnetwork.org/documenti/view_document.php?file_id=809.

28. See Rosenblatt, *supra* note 20.

29. Rightscom, <http://www.rightscom.com/Default.aspx?tabid=1076> (last visited Sept. 14, 2006).

30. See Susanne Guth, *Rights Expression Languages*, in *DIGITAL RIGHTS MANAGEMENT: TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS* 101, 103-105 (Eberhard Becker et al. eds., 2003).

31. See Rosenblatt, *supra* note 20.

32. The Open Digital Rights Language Initiative, <http://odrl.net> (last visited Sept. 14, 2006).

33. Creative Commons is a non-profit organization that offers flexible copyright licenses for creative works. See Creative Commons, <http://creativecommons.org/> (last visited Sept. 14, 2006).

34. See ODRL Creative Commons Profile, July 6, 2005, <http://odrl.net/Profiles/CC/SPEC-20050706.html>.

ODRL has been successfully used in the area of mobile devices, where the Open Mobile Alliance (OMA) has adopted it for its DRM, leading to widespread use in mobile devices in Europe.³⁵ North American operators on the other hand have so far chosen mostly to use their own proprietary DRM systems.³⁶

ODRL's biggest immediate challenge is not technical or economic, but legal. In what can only be described as a second-order intellectual property war, ContentGuard, the company that developed XrML, maintains that its patents cover any implementation of a rights expression language and has threatened open, royalty-free ODRL.³⁷ ODRL's proponents maintain that ContentGuard's wide-reaching patent claims are baseless.³⁸ Yet, the legal question of who holds intellectual property rights over the way by which we may semantically describe intellectual property claims in DRM remains unresolved, thus clouding considerably ODRL's future.³⁹

Neither XrML nor ODRL are likely to become the accepted standard for expressing usage rights in DRM systems any time soon. Not only does each of them have their own problems, they also have to contend with a growing plethora of proprietary DRM systems advocated by commercial competitors as well as industry consortia.⁴⁰ The lack of interoperability between these systems, the high economic stakes involved, and the entrenchment of leading players—rights holders, consumer electronics corporations, telecommunication companies and software producers—will continue to work against widespread consolidation.⁴¹

To sum up, DRM systems consist of a number of important elements to perform two main functions—the facilitation of usage rights transactions, and the interdiction of unauthorized use. A central element is the representation of usage rights in the DRM system. It is often achieved by specifying such rights through a distinct rights expression

35. See Rosenblatt, *supra* note 20; Open Mobile Alliance, *Digital Rights Management 4* (Dec. 2003) (Short Paper), available at <http://www.openmobilealliance.org/docs/DRM%20Short%20Paper%20DEC%202003%20.pdf>; Open Mobile Alliance, Press Release, The Open Mobile Alliance Shows Growing Industry Impact 1-2 (Oct. 20, 2005), available at <http://www.openmobilealliance.org/docs/AGM2005RIsFINAL.pdf>.

36. See Rosenblatt, *supra* note 20 (“OMA DRM is taking hold primarily in Europe; the standard's loss of momentum is jeopardizing its chances for adoption across the Pond in North America.”).

37. *Id.* (“One reason for the OMA DRM slowdown has been the still-unresolved wrangling over DRM patent licensing terms . . .”).

38. See Susanne Guth & Renato Iannella, *Critical Review of MPEG LA Software Patent Claims*, INDICARE, Mar. 23, 2005, http://www.indicare.org/tiki-read_article.php?articleId=90 (questioning the validity of ContentGuard's patents).

39. See *id.* (“If the claims of MPEG LA are validated, the work of the ODRL Initiative and other RELs such as the Creative Commons Licenses will be critically endangered.”).

40. See Rosenblatt, *supra* note 20 (mentioning a number of other proprietary standards like Groovy Mobile and Melodeo in the U.S. and Canada or Cingular's cooperation with Apple's FairPlay DRM in Motorola cell phones).

41. See *id.*

language with semantics pre-defined in a (potentially extensible) dictionary. Two significant efforts for defining such a rights expression language have been undertaken recently—the commercial XrML/REL and open source license-free ODRL, but neither will likely become the dominant standard in the medium term, nor will any of the available alternatives. The lack of a common standard, however, does not put in dispute the central need to represent usage rights in DRM.

III. REPRESENTING RIGHTS IN DRM

To date, DRM systems are used to control access to copyrighted information content, be it movies, video games, software or music. Technically, these different types of content are all the same: streams of bits, with associated meta-data that restrict what can be done with them. As DRM systems are built to control access to “digital” information, they are fundamentally rights agnostic—that is, they can in principle restrict any digital bit stream.

Hence, one could potentially extend such DRM systems to intellectual property rights beyond copyright.⁴² For example, one could envision trademark rights to be managed through DRM. If one were to use a trademarked name or image, the DRM system could facilitate the licensing of such trademarks or prevent their use. Widening the scope of rights management in such a way would require, however, a significant modification of the semantics of usage. So far, these semantics—as evidenced for example by the Rights Data Dictionary (RDD)—focus on simple uses of managed content, like printing, displaying, storing or modifying.⁴³ Including trademark rights in DRM would necessitate deepening the “understanding” that the DRM system has of the context of use: Is the trademark just mentioned descriptively, or does its use infringe upon the rights of the trademark holder? Answering this question may require machines to understand substantially more about the substance of information than is currently available. Yet, in a number of instances existing DRM systems may easily be able to protect trademark rights, just as they protect copyrights. Take for example the use of logos on web pages: in such cases the DRM could require (and facilitate) the user to obtain consent from the trademark owner. To be sure, this would not stop somebody from scanning in a trademarked logo and then using it, but it would arguably prevent a user from downloading a trademarked logo from the trademark owner’s website to use the same logo on her website, even if the logo itself were not copyrighted.

42. Although, perhaps with the exception of trademark rights, it is a bit hard to imagine what these other intellectual property rights could be. Simply put, unlike copyright, patent rights protect product or process ideas, not just concrete instantiations of these ideas. Thus, it is hard to see what bit stream a DRM intent upon protecting patents rights would control and how.

43. See Rosenblatt, *supra* note 20.

Intellectual property is but one right over information our legal system recognizes. DRM systems could potentially be used to manage other rights over information. Given how much we expose personal information on the Internet and the extent to which this exposure is abused, one obvious candidate for such an extension could be informational privacy—the management and protection of personal information.

A. Advantages of DRM-Based Protection of Personal Privacy

At least at first blush, such protection of informational privacy through a DRM system seems to be a useful idea for a number of reasons.

First, the Internet has made processes less transparent. With complex information processing in our computers, protecting personal information is less obvious to users than before. A DRM system would take care of this complexity of information flows for users—providing users with options without exposing them to the underlying complexity.

Second, due to the abundance and affordability of digital processing and storage, we capture, process and store much more information about ourselves—from photos and movies to financial transactions—compared with pre-digital times with its specialized equipment and relatively expensive storage costs, thereby increasing the footprint of our individual digital shadows.⁴⁴ With DRM built into all devices that acquire, store and process information, this surge in stored information of personal character would not necessarily translate into an equal increase in personal vulnerability.

Third, even without our expressed wish, information processing equipment we use—from personal computers to cell phones—acquire and store much more information about our interactions than ever before—much of which may represent personal information to which we would like to control access.⁴⁵ A DRM system would enable us to do so.

44. See, e.g., Chip Walter, *Kryder's Law*, SCIENTIFIC AM., Aug. 2005, available at <http://www.sciam.com/article.cfm?articleID=000B0C22-0805-12D8-BDFD83414B7F0000&ref=sciam> (arguing that Moore's law about "the doubling of processor speed every 18 months is a snail's pace compared with rising hard-disk capacity" and stating that "[s]ince the introduction of the disk drive in 1956, the density of information it can record has swelled from a paltry 2,000 bits to 100 billion bits (gigabits), all crowded in the small space of a square inch.").

45. A recent victim of this lack of control over one's personal information has been socialite Paris Hilton, whose cell phone was allegedly hacked. See John Schwartz, *Some Sympathy for Paris Hilton*, N.Y. TIMES, Feb. 27, 2005, § 4, at 1. More generally, malware, spyware, hacking, and other attacks on communications devices has dramatically increased over the last couple of years— including the hundreds of thousands of computers in the U.S. alone that are hijacked and remote-controlled from abroad. See, e.g., CERT/CC Statistics 1988-2006, <http://www.cert.org/stats/> (last visited Sept. 14, 2006) (stating that the number of reported attacks against internet-connected systems has increased from 21,756 in 2000 to 137,529 in 2003). For a more detailed analysis, see Jonathan L. Zittrain, *The Generative Internet*, 119 HARV. L. REV. 1974, 2008-13 (2006).

Fourth, the original thrust of protecting personal information in the United States stemmed from the fears of a “Big Brother”-like, overarching (federal) government.⁴⁶ Born out of the shadow of the Watergate scandal, the Federal Privacy Act⁴⁷ therefore protects citizens from intrusion by the federal government.⁴⁸ At least since the advent of the Internet and electronic commerce, consumers have come to realize that commercial entities may threaten their privacy just like governments. In contrast to the European privacy landscape, U.S. federal legislators so far have not enacted an omnibus data protection statute that covers the private sector as well.⁴⁹ A DRM system could address this problem by empowering people to control access to their personal information regardless of whether the party attempting such access is a government agency or a commercial entity.

Fifth, unlike copyright laws that have been harmonized around the world through a century of international treaties, informational privacy statutes, despite some international coordination like the OECD Guidelines on the Protection of Personal Data, have not seen a similar harmonization.⁵⁰ In particular, in the United States, informational privacy rights remain a patchwork of state and federal laws, making it possible for personal information to be exported with the help of the Internet to a jurisdiction with less stringent privacy laws.⁵¹ This leads to legal arbi-

46. See COLIN J. BENNETT, *REGULATING PRIVACY – DATA PROTECTION AND PUBLIC POLICY IN EUROPE AND THE UNITED STATES* vii (1992); DAVID H. FLAHERTY, *PROTECTING PRIVACY IN SURVEILLANCE SOCIETIES – THE FEDERAL REPUBLIC OF GERMANY, SWEDEN, FRANCE, CANADA, AND THE UNITED STATES* xiii (1989); Viktor Mayer-Schönberger, *Generational Development of Data Protection in Europe*, in *TECHNOLOGY AND PRIVACY: THE NEW LANDSCAPE* 219, 221 (Philip E. Agre & Marc Rotenberg eds., 1997).

47. Federal Privacy Act, 5 U.S.C.A. § 552a (West 2006).

48. See PAUL M. SCHWARTZ & JOEL R. REIDENBERG, *DATA PRIVACY LAW* 92 (1996) (“The Privacy Act represents the most comprehensive attempt to structure information processing within the public sector.”).

49. There are, however, a number of rather specific sectoral omnibus data protection statutes, such as the Video Rental Record Protection Act (18 U.S.C.A. § 2710 (West 2006)), the Drivers Privacy Protection Act (18 U.S.C.A. §§ 2721-25 (West 2006)), the Health Insurance Portability and Accountability Act (42 U.S.C.A. §§ 1320d, 1320d-1 – 1320d-8 (West 2006)), or the Right to Financial Privacy Act (12 U.S.C.A. §§ 3401-3403 (West 2006)). See also SCHWARTZ & REIDENBERG, *supra* note 48, at 215-18 (giving a brief overview of data protection in the private sector in the U.S.).

50. Organization for Co-Operation and Economic Development (OECD), *OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data*, http://www.oecd.org/document/18/0,2340,en_2649_34255_1815186_1_1_1_1,00.html (last visited Sept. 14, 2006). Harmonization has therefore taken place to a certain degree. However, in the European Union this was largely due to the European Union Data Protection Directive. See EU Directive 95/46/EC on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of such Data, Oct. 24, 1995, available at http://ec.europa.eu/justice_home/fsj/privacy/law/index_en.htm [hereinafter Data Directive].

51. While there is no comprehensive and homogeneous body of privacy law at the federal level in the U.S., informational privacy is protected to varying degrees by rather diverse state laws. See SCHWARTZ & REIDENBERG, *supra* note 48, at 129-30 (“[N]o two states have adopted precisely the same system of regulation.”). This is one of the reasons why the European communities linked the export of personal data to third countries to the requirement of a certain minimum level of protection. See Data Directive Art. 25, *supra* note 50 (“The Member States shall provide that the transfer to a third country of personal data which are undergoing processing or are intended for processing after transfer may take place only if, without prejudice to compliance with the national provi-

trage—a modern form of “forum shopping.”⁵² A DRM system would have global reach and work largely independently of the jurisdiction it is being used in, thereby overcoming the arbitrage problem.⁵³

Sixth, and related, entrusting a DRM system to protect our informational privacy would not necessitate the passage of a comprehensive digital privacy law, which legislative priorities as well as federalism concerns in the United States may preclude. As DRM relies on law to stop leakages from occurring too frequently, a relatively simple amendment to the Digital Millennium Copyright Act (DMCA)⁵⁴ prohibiting tampering with DRM systems in general (and not just in the context of intellectual property rights) could suffice.

Because of the potential of DRM systems to address these privacy challenges, DRMining personal information may possibly offer all of us better individual control over our personal information than current privacy law does.

B. Three Challenges to DRMining Informational Privacy

To achieve success, however, at least three issues exist—one technical, one foundational, and one conceptual—that may prevent us from using DRM in the personal privacy context.

1. The Technical Challenge

As I have described above, DRM systems depend on meta-data of permissible use that is linked to the content to which the meta-data refers.⁵⁵ This linkage has to be hard to break, because once separation happens, content essentially loses its protective cover and can no longer be protected by DRM. A number of technical methods are used by DRM systems to ensure the linkage between (as well as the integrity of) meta-data and content. For example, meta-data can be “embedded” in content,

sions adopted pursuant to the other provisions of this Directive, the third country in question ensures an adequate level of protection.”). Subsequently, an EU delegation negotiated with the U.S. Department of Commerce the so-called safe-harbor principles. See U.S. Department of Commerce, Safe Harbor, <http://www.export.gov/safeharbor/index.html> (last visited Sept. 14, 2006).

52. See A. Michael Froomkin, *The Internet as a Source of Regulatory Arbitrage*, in BORDERS IN CYBERSPACE 129, 140-50 (Brian Kahin & Charles Nesson eds., 1997); Viktor Mayer-Schönberger, *The Shape of Governance: Analyzing the World of Internet Regulation*, 43 VA. J. INT'L L. 605, 615 (2003); see also Joel Trachtman, *Cyberspace, Sovereignty, Jurisdiction, and Modernism*, 5 IND. J. GLOBAL LEGAL STUD. 561, 577 (1998) (“One dark side of cyberspace is its facilitation of private sector jurisdictional evasion and, at least in some contexts, its facilitation of regulatory arbitrage.”); Sean Selin, Comment, *Governing Cyberspace: The Need for an International Solution*, 32 GONZ. L. REV. 365, 381-82 (1996) (speaking of the “lowest common denominator” that would result in such regulatory arbitrage).

53. To be sure, as I have mentioned above, technology requires laws to prohibit the creation and use of tools to break technological locks. In the absence of supportive laws one could overcome the restrictions the DRM system imposes without breaking the law. However, even in these situations, one could imagine contract law to take over some of the role of the (inexistent) laws.

54. Digital Millennium Copyright Act § 103, 17 U.S.C.A. § 1201 (West 2006).

55. See *supra* text accompanying notes 20-28.

using mechanisms like steganography⁵⁶ and encryption.⁵⁷ As a rule of thumb, employing these methods is easier when the amount of meta-data is relatively small compared with the content that needs to be protected. This is the case with multimillion-pixel photographs, megabyte-sized music files, or videos measured in gigabytes.

Unfortunately, personal information is much smaller. Our social security number is only nine digits in length, all of which are numbers. In such cases the meta-data defining permissible usage would be substantially bigger than the informational content it intends to protect, requiring DRM system builders to fundamentally adjust their systems, while steganography and similar methods of “hiding” and “embedding” meta-data would have to be replaced by more robust mechanisms that work without depending on a relative size difference between meta-data and protected content.

Yet, providers of DRM systems may have to face this challenge regardless of whether we want to include personal information or not. As digital creators continue to combine and modify pre-existing elements to build new works, the notion of the individual creator producing a monolithic creative work is rapidly substituted by ideas of peer production, John Seely Brown’s creative bricolages, and a *modus operandi* of “rip, mix, and burn.”⁵⁸ Providers of DRM systems will have to contend with this brave new world of intellectual production, in which individual creative elements that are assembled, combined, and mixed, may get smaller and smaller in size. If that is the case, the problem of linking smaller pieces of information with its meta-data that I have described above may get solved anyway.

2. The Foundational Challenge

For a DRM system to be comprehensive and effective in managing personal information rights it needs to keep track of what users are doing when, how, and in what context.⁵⁹ Consequently, in order to protect the privacy of individuals, a DRM system needs to keep track of everybody’s every move, thus creating a system of total surveillance.

56. Steganography is “the act of embedding or hiding a message inside a seemingly innocent digital vessel” so that nobody except for the recipient knows of its existence. See J. William Gurley, *From Wired to Wiretapped: Forget Privacy Rights. The Real Problem With Government Net Snooping is That it Won't Work*, FORTUNE, Oct. 15, 2001, at 214.

57. See SIMSON GARFINKEL & GENE SPAFFORD, WEB SECURITY AND COMMERCE 187-208 (Deborah Russel ed., 1997) (referring to the process of converting a plaintext message into a supposedly unintelligible ciphertext by using an encryption algorithm, i.e. a mathematical equation).

58. For a comprehensive analysis of social production as a new paradigm, see generally YOCHAI BENKLER, THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM (2006).

59. See generally Richard Gooch, *Requirements for DRM Systems*, in DIGITAL RIGHTS MANAGEMENT: TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS 16 (Eberhard Becker et al. eds., 2003) (providing a general overview of the requirements of an effective DRM system).

Inherent in this perplexing situation is the notion that such DRM systems need to be tracking comprehensively in order to be effective.⁶⁰ Yet, as I have discussed above, DRM systems do not need to offer perfect, but only sufficient enforcement.⁶¹ Limited leakage is not detrimental as long as most individuals continue to choose transacting through DRM rather than circumventing it.

The problem of leakage, however, might become more difficult the smaller and more fluid the informational content DRM intends to protect. Leakage of a multi-gigabyte movie file may be less troublesome, because distributing such a file at current transmission speeds carries non-trivial transactional costs.⁶² Such costs are practically non-existent for a piece of personal information that just contains a person's name and social security number. Sending and receiving such information across the Internet takes milliseconds. Therefore, one could argue that the smaller the information pieces DRM systems have to protect, the more comprehensive such systems must become.

Yet, such a view presupposes that transaction costs stay constant. The more bandwidth users will have at their disposal, the lower the transaction costs for transferring even large pieces of information. As providers of DRM will adapt their systems to a high bandwidth world, for example by building the capacity to "forget" into our digital systems, such leakage could be controlled effectively.

3. The Conceptual Challenge

Existing DRM systems incorporate a semantic of property. This is not surprising considering that they are designed to protect copyright. The dictionaries they employ—for example the RDD—are based on property-related actions, like "sell." The legal foundation of informational privacy claims, on the other hand, is based on a negative liberty, a right to keep others out.⁶³ It is not conceptualized in terms of permission and licensing, of selling and transacting rights to others.

60. *See id.*

61. *See id.*

62. *See id.*

63. *See, e.g.,* Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193, 193 (1890) (the seminal article that became the basis of the right to privacy in the U.S.). Legal academics have argued since for different notions of privacy. Charles Fried equates informational privacy with control over information. *See* Charles Fried, *Privacy*, 77 YALE L.J. 475, 483 (1968). Paul Schwartz argued for a concept based on informational self-determination. *See* Paul M. Schwartz, *Privacy and Democracy in Cyberspace*, 52 VAND. L. REV. 1609, 1653 (1999). Julie Cohen suggested individual autonomy as a foundation for privacy. *See* Julie E. Cohen, *Examined Lives: Informational Privacy and the Subject as Object*, 52 STAN. L. REV. 1373, 1423 (2000). Both Schwartz's and Cohen's approach are instantiations of essentially European, if not German notions of informational privacy. *See* Spiros Simitis, *Reviewing Privacy in an Information Society*, 135 U. PA. L. REV. 707 (1987); Mayer-Schönberger, *supra* note 46, at 229-32. Categorizing these and similar conceptions of informational privacy, Daniel Solove has identified six main themes: the right to be let alone, limited access to self, secrecy, informational control, personhood, and intimacy. *See*

This results in a mismatch between the semantics available in current DRM systems and the conception of the claim—informational privacy—we intend to incorporate. There are two options to overcome this divergence.

First, one could adjust our conception of informational privacy to conform to the property paradigm already built into DRM systems; that is one could change the law to fit the technology. As long as the relation between humans and information can be represented in terms of ownership and property, such “propertized” informational privacy claims could be included in existing DRM systems.

“Propertizing” information privacy is not a novel idea. Experts from Kenneth Laudon to Lawrence Lessig have suggested it before.⁶⁴ They argue that while our legal system has not conceived of informational privacy as a property right, markets have. Personal information has become a valuable commodity that is traded once it has been collected. Hence, using property as a legal foundation for informational privacy would arguably bring the legal system in line with economic reality, with the benefit of empowering the original source of personal information—the individual herself. Such “propertization” of personal information could then provide the conceptual foundation that enables DRM systems to manage access to such information, thereby potentially—as Lessig contends—enabling the individual to decide whether and to what extent to trade away her privacy interests in personal information.⁶⁵

Yet, as has been pointed out, such a reconceptualization of informational privacy is not without significant problems.⁶⁶ First, copyright and patent rights are granted to offer an individual economic incentive for the production of creative works to overcome potential underproduction of

Daniel J. Solove, *Conceptualizing Privacy*, 90 CAL. L. REV. 1087, 1094 (2002). None of these privacy conceptions, however, is founded on a property paradigm similar to copyright.

64. See Kenneth C. Laudon, *Markets and Privacy*, 39 COMM. OF THE ACM 92 (1996); LESSIG, *supra* note 11, at 122-134; Lawrence Lessig, *The Architecture of Privacy*, 1 VAND. J. ENT. L. & PRAC. 56, 58 (1999); see also Patricia Mell, *Seeking Shade in a Land of Perpetual Sunlight: Privacy as Property in the Electronic Wilderness*, 11 BERKELEY TECH. L.J. 1, 26-41 (1996); Richard S. Murphy, *Property Rights in Personal Information: An Economic Defense of Privacy*, 84 GEO. L.J. 2381, 2381 (1996); Edward Janger, *Privacy Property, Information Costs, and the Anticommons*, 54 HASTINGS L.J. 899, 900 (2003); Jerry Kang & Benedikt Buchner, *Privacy in Atlantis*, 18 HARV. J.L. & TECH. 230, 267 (2004); Paul M. Schwartz, *Property, Privacy, and Personal Data*, 117 HARV. L. REV. 2055, 2058 (2004).

65. See LESSIG, *supra* note 11, at 156-62. But see Andrew Orłowski, *Lessig, Stallman on “Open Source” DRM*, THE REGISTER, Apr. 15, 2006, at 1, available at http://www.theregister.co.uk/2006/04/15/lessig_stallman_drm.

66. See Pamela Samuelson, *Privacy as Intellectual Property?*, 52 STAN. L. REV. 1125, 1136-46 (2000); Marc Rotenberg, *Fair Information Practices and the Architecture of Privacy (What Larry Doesn't Get)*, 2001 STAN. TECH. L. REV. 1, § 2 (2001); Rochelle Cooper Dreyfuss, *Warren & Brandeis Redux: Finding (More) Privacy Protection in Intellectual Property Lore*, 1999 STAN. TECH. L. REV. 8, 12; Jerry Kang, *Information Privacy in Cyberspace Transactions*, 50 STAN. L. REV. 1193, 1193 (1998); Janger, *supra* note 64, at 914-16.

such works.⁶⁷ This is different for personal information, which arguably is not underproduced.⁶⁸ Second, intellectual property laws in the United States are designed, as the Constitution states in unambiguous terms, to advance the public good through the advancement of science and the arts.⁶⁹ There is no such utilitarian rationale in facilitating the dissemination of personal information.⁷⁰ Third, propertization is anathema to those that conceptualize informational privacy in terms of individual autonomy and dignity.⁷¹ Fourth, certain uses of a creative work after its copyright had been sold may infuriate the creator, but unlike personal information will not threaten her *persona*.⁷²

Moreover, our traditional notion of creative works is atomistic: Creative works stand on their own; they may shape (at least in part) the context they are put in, not vice versa. For example, one can read a Shakespeare play, or a Beckett novel on the beach, in the subway, or in a library—it, we assume, rises above the context in which it is read. Consequently, in most cases creators have little interest in dictating where we consume their creations. This is different in the realm of personal information. The use of personal information in one context may be perfectly benign and acceptable to the individual the information refers to, but use in a different context may have serious negative consequences for that person.⁷³ Through the act of propertization, the originator loses control of her personal information and cannot stop it from being used by others who have legitimately obtained “ownership” rights over it.

67. See WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 13 (2003).

68. See Kang, *supra* note 66, at 1193 n.237; see also Murphy, *supra* note 64, at 2383; see also Samuelson, *supra* note 66, at 1139.

69. U.S. CONST. art 1, § 8 (stipulating that “Congress shall have power . . . to promote the progress of science and useful arts, by securing for limited times to author and inventors the exclusive right to their respective writings and discoveries.”).

70. See Samuelson, *supra* note 66, at 1140-41.

71. See Kang & Buchner, *supra* note 64, at 234-36; see also Samuelson, *supra* note 66, at 1142-43.

72. See Rotenberg, *supra* note 66, at § 93 (noting that Warren & Brandeis in their seminal paper on privacy “purposefully distinguished a privacy right from an intellectual property claim, noting that copyright typically protects an interest once publication occurs, privacy protects a right to simply not publish”); see also Samuelson, *supra* note 66, at 1138 (stating “[f]ree alienability works very well in the market for automobiles and land, but it is far from clear that it will work well for information privacy. An individual may be willing to sell his data to company N for purpose S, but he may not wish to give N rights to sell these data to M”).

73. An extreme example is offered by the development in the 1930s in the Netherlands of a comprehensive population registration system. The objective of the system echoes some of the rationales for more sophisticated information technologies today—to streamline administration and to reduce burdens on citizens. That system, however, was subsequently used to assist the Nazis in apprehending Dutch Jews and Gypsies, who suffered a much higher death rate than any other occupied western European country, or, notably, Jewish refugees in the Netherlands, who were not in the registration system. See William Seltzer & Margo Anderson, *The Dark Side of Numbers: The Role of Population Data Systems in Human Rights Abuses*, 68 *SOCIAL RESEARCH* 2 (2001); see also David Lazer & Viktor Mayer-Schönberger, *Statutory Frameworks for Regulating Information Flows: Drawing Lessons for the DNA Data Banks from other Government Data Systems*, 34 *J.L. MED. & ETHICS* 366, 368 (2006).

Proponents of DRMin personal information may rebut that the dangers of de- and re-contextualization are not unique to personal information. In fact, they could argue, the more we tend to combine, modify and adapt creative works in digital bricolages, the less such creative works are able to evoke their own individual context. Creators consequently will desire to retain more control over the contexts in which their creative works are being used, moving away from the property notion underlying current DRM systems. In turn, this may force DRM systems to augment their underlying structure of usage rights to include context—granted a very tall order, given the current state of technologies.

A second, possibly more sensible option is the reverse; to make technology follow the law, by altering DRM systems to include non-property based concepts. This is relatively straightforward as long as it can be achieved by adjusting the semantics of rights expressed in DRM. Relevant dictionaries, like the RDD, would be modified, thereby making way for the inclusion of informational privacy into DRM systems. Yet, it is uncertain that such a simple semantic “patch” can be sufficient, for the concept of property not only rests on semantics, but on how we construe the relations between humans and information. In a property framework, such a relation is constructed in terms of a subject/object relationship of exclusive ownership and control. If, however, our conception of informational privacy is built on an alternative conceptualization of the linkage between humans and information, if, to quote Julie Cohen’s words, in informational privacy the “subject” is the “object,”⁷⁴ a simple semantic modification of DRM is no longer feasible.

This is not to suggest that Cohen’s conception of informational privacy is the most appropriate one. Rather, it is precisely the absence of a prevalent conception of informational privacy—unlike the property-inspired orthodoxy of copyright—that makes it so difficult to adjust DRM systems to. If we fail to agree on a conception of the right we want to protect, how can we hope to express this conception in code, i.e. in standardized, relatively unambiguous language? And even if we had such an agreed-upon conception of informational privacy we would have to incorporate it into a DRM system in addition to the conception of copyright that is already mapped in our DRM systems. How would these two presumably very different conceptions coexist? Would such a DRM system use one common or two separate dictionaries expressing the various elements of usage rights and relations between user, rights holder, and information?

The obvious, but conceptually complex solution, of course, is to suggest a common structure of rights over information that is able to represent a variety of different rights over information, from copyright to

74. Cohen, *supra* note 63, at 1373.

privacy.⁷⁵ Given the pitfalls of other solutions, investing serious thought into conceptualizing such a common structure seems the most promising long-term solution.

CONCLUSION

This article examined DRM systems and their capacity to manage not just copyrights but also other kinds of rights over information. In particular, I looked at whether, to what extent and under what conditions informational privacy rights could be managed through DRM. I discussed a number of advantages of DRMING informational privacy rights, and presented three significant challenges to its adoption—a technical, a foundational, and a conceptual one—and suggested possible paths to address them.

While these hurdles are significant and it is not clear whether and when they can be cleared, it is in the DRM system providers' best interest to broaden the scope of the systems they use, not only because it widens the market, but also because empowering individuals to better manage their informational privacy rights may in turn bring about a public reassessment of the value DRM systems offer.

75. Finding such common ground may be easier in the continental European context. See VIKTOR MAYER-SCHÖNBERGER, *INFORMATION UND RECHT* (2001).

LIQUID PATENTS

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ABSTRACT

The current patent system is argued to be in a state of crisis. Although much recent criticism about the patent system has been leveled at so-called “patent trolls,” another trend has emerged that may prove more enduring and potentially more troublesome. Patent holders have developed more systematized and strategic methods to obtain revenues from the patent system, building business plans around leveraging monetary value from what are called “liquid patents” herein. Recognizing that the patent right can be monetized into licensing fees and damages in an action for patent infringement, some entities have undertaken formalized programs to gather or acquire critical patents in particular fields. These practices are supported by patent rules of law, but are in contravention of the larger goals of the patent system. This work traces certain attributes that encourage liquid patent holders’ strategies. Further, the paper proposes that the remedies provisions of the patent system should be modified to ensure that this practice does not harm innovation. In addition, the traditional antitrust protections for patent holders should be eliminated to prevent abuse and curb liquid patent holders’ ability to block subsequent invention, innovation and the commercialization of ideas.

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INTRODUCTION

When patent systems first developed, rewarding the inventor as a creative force was a paramount and express purpose.¹ Now some five centuries later, the state of the patent system has undergone momentous change. Serious questions have been raised about how well the patent system is serving invention and society. Critics have deemed the patent system in the U.S. at a crisis point.² Legislators have called for reform.³

1. The first known patent statute was enacted in 1474 in the Venetian Republic, and has been translated to read:

We have among us men of great genius, apt to invent and discover ingenious devices . . . if provision were made for the works and devices discovered by such persons, so that others who may see them could not build them and take the inventor's honor away, more men would then apply their genius, would discover, and would build devices of great utility and benefit to our Commonwealth.

Venetian Republic Patent Statute (1474), *reprinted in* PRINCIPLES OF PATENT LAW 10-11 (Donald S. Chisum et al. eds., 2d ed. 2001).

2. See, e.g., ADAM B. JAFFE & JOSH LERNER, INNOVATION AND ITS DISCONTENTS 170 (2004) (commenting that the patent system is a "freight train out of control"); *Patently Ridiculous*, N.Y. TIMES, March 22, 2006, at A24.

3. Press Release, Representative Lamar Smith, Smith Introduces Reform Bill (June 8, 2005), available at <http://lamar.smith.house.gov/news.asp?FormMode=Detail&ID=648>; see also H.R. 2795, 109th Cong. (2005) (tracking the introduction of the Patent Reform Act).

Some condemnation of the current patent system has been leveled at “patent trolls,” a term coined⁴ to describe patent holders who do not commercialize an invention, but rather raise money by asserting the patent against those who do.⁵ Patent trolling has ignited a highly polarized policy debate. On one hand, patent trolls are characterized as “profiteers” that demonstrate that something has “gone very wrong” with the U.S. patent system, having turned the purpose of the patent right “on its head, using [patents] to tax, blackmail, and even shut down productive companies unless they pay high enough ransoms.”⁶ On the other hand, this activity has been argued to constitute “simply enforcing the right of exclusion granted to them by the Constitution, and . . . help[ing] to ensure that the system is functioning properly and as intended.”⁷ Indeed, one prominent lawyer who specializes in asserting patents has been described as “a guardian angel” for solo inventors who would otherwise be unable to enforce their patents.⁸ At the same time, it is difficult to avoid the evidence that the system is being used to create considerable private wealth.⁹ Although the term has been characterized as too vague,¹⁰ overly broad,¹¹ and “used unfairly to deride” patentees,¹² the phrase patent troll is always used in the pejorative and contrary to how a healthy patent system should operate.

Patent trolls have become the fulcrum for public debate about the underlying incentive structure of the patent laws. The necessity for patent reform depends, to some degree, on whether patent trolls are a permanent fixture in the patent landscape. At the same time, another trend has emerged that may prove more enduring. Although patent trolling raises some troubling issues, some patent holders have developed even more systematized and strategic methods to obtain revenues from the patent system, building business plans around leveraging value from asserting patents. This activity—which for purposes of this article is

4. The term “patent troll” was reportedly coined in 2001 by Peter Detkin, a patent attorney, while working as counsel for Intel Corp. See Rob Garretson, *Has the Enemy of the Patent Trolls Become One?*, CIO INSIGHT, Dec. 5, 2005, <http://www.cioinsight.com/article2/0,1540,1902291,00.asp>.

5. Testimony of Peter Detkin, TRANSCRIPT OF THE FTC/DOJ HEARINGS ON THE IMPLICATIONS OF COMPETITION AND PATENT LAW AND POLICY 112 (Feb. 2, 2002), http://www.abanet.org/antitrust/word_docs/competition.doc.

6. *Patently Ridiculous*, *supra* note 2.

7. John LaPlante, *The Case for Abandoning the Term “Patent Troll,”* INTELL. PROP. LITIG., Winter 2006, available at http://www.rkmc.com/The_Case_for_Abandoning_the_Term_Patent_Troll.htm.

8. Lisa Lerer, *Meet the Original Patent Troll*, IP L. & BUS., July 20, 2006, available at <http://www.law.com/jsp/article.jsp?id=1153299926232>.

9. *Id.*

10. *What the Heck Is a Patent Troll?*, PHOSITA: AN INTELLECTUAL PROPERTY LAW BLOG, Apr. 14, 2006, http://www.okpatents.com/phosita/archives/2006/04/what_the_heck_i.html.

11. See Dennis Crouch, *What is a Patent Troll?*, PATENTLY-O, May 12, 2006, http://www.patentlyo.com/patent/2006/05/what_is_a_patent.html#comments (excluding from the definition of “patent troll” those entities who do research and development).

12. LaPlante, *supra* note 7.

termed “liquidizing patents”— treats patents as a commodity. As explored further in this article, using patents as liquid assets invokes probing questions about patent policy and the manner in which the system is administered.

Recognizing that the patent right can be monetized into licensing fees and damages in an action for patent infringement, some entities have undertaken formalized programs to gather or acquire critical patents in particular fields.¹³ Firms have made patents the financial centerpiece of their businesses, by developing patentable ideas internally or through purchase.¹⁴ Other entities have become market makers, undertaking programs such as patent auctions to facilitate patent transfers.¹⁵ Some uses of patents as assets have become financially creative, for example one entity uses patents as collateral, having established a multi-million dollar fund to provide loans that are secured by the debtor’s intellectual property.¹⁶

The framers of the U.S. Constitution authorized the patent system with the purpose of promoting invention.¹⁷ Specifically, the patent system was developed to provide inventors a reward of the right of exclusivity for a limited period of time.¹⁸ The patent laws provide this advantage to inventors for the ultimate benefit of the public.¹⁹ Under current law, the patent right can be transferred from the original owner of the idea—the patent’s inventor—in a written contract to an assignee who becomes the patentee and thereby succeeds to all of the rights originally held by the inventor.²⁰ The patentee can license infringers or seek court intervention to prevent others from practicing the invention and seek monetary relief.

The U.S. patent system treats the patent right as immutable. Objectivity, uniformity and certainty are driving forces in the development and application of patent law. Under these policies, the patent has taken on a monolithic quality that, once the right is set in the patent document, becomes unchangeable as an engraving in stone unaffected by changes in ownership. Thus, unlike other legal rights for which the plaintiff’s individual circumstances are legally relevant to the existence of the plaintiff’s right to recover, a liquid patent holder can purchase, sell, license

13. See *infra* text accompanying notes 69-72.

14. See *infra* text accompanying notes 76-83.

15. See *infra* text accompanying notes 47-67.

16. OCEAN TOMO, OCEAN TOMO INTELLECTUAL CAPITAL EQUITY (print on file with author).

17. U.S. CONST. art. I, § 8, cl. 8 (granting Congress the power “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”).

18. *Id.*

19. *In re Fisher*, 421 F.3d 1365, 1371 (Fed. Cir. 2005) (explaining that in order to obtain a patent, the invention must have substantial utility, meaning it must provide some benefit to the public).

20. 35 U.S.C.A § 261 (West 2006).

and assert the patent without concern that the scope of the right is changed or diminished by any of this activity. Those who commoditize patents obtain all of the benefits of the laws that were created for the protection of inventors.

Perhaps inadvertently, the patent laws have created incentives for the transfer and financial exploitation of patents that are disconnected with the development of inventions for public benefit. The profit-seeking activities of liquid patent holders seem intuitively at odds with the public interest sought to be served by the patent system. Further, liquid patents pose the potential to harm inventive activity in the long term by amassing control of patents that extracts above-market licensing fees or that entirely prevents others from performing research or making improvements on existing technology.

Part I of this article examines how a liquid patent holder uses established patent laws to create the liquid patent right. This section further explores various examples of how liquid patent holders use patents to create or amass markets from the patent system. Part II considers how the patent system has created opportunities for patent holders to shift their use of patents as means to protect commercial markets to liquid assets. Part III examines whether the patent system should be modified to accommodate liquid patents, in light of the system's goals to promote uniformity. Part IV explores whether the use of liquid patents fits with the existing justifications for the patent system, and finds that such uses are either dissonant or contrary to these policies. After considering the importance of uniformity to the patent system, Part V explores modifications to the remedies provisions of the Patent Act to resolve concerns created by the use of liquid patents. Part VI considers a modification to the protections that patentees have historically enjoyed against antitrust theories as a further means to prevent liquid patent holders from acting in a manner that forecloses consumer choice. The final section concludes that the activities of liquid patent holders are likely to continue, and that those who administer patent law must remain sensitive to this activity so that the overall goal of fostering invention is advanced.

I. LIQUID PATENTS AND THEIR OWNERS

The creation of a market for liquid patents depends on the patent system's ability to create and allow the enforcement of rights that are severable from the patent's initial inventor. An exploration of the present patent system reveals that the statutes not only facilitate liquid patent rights, but in some instances create incentives to do so. Although the creation of separate markets for patents may not be based on conscious or deliberate decisions by lawmakers, nonetheless a number of entities are using the patent system as a means to transfer and exploit patents as commodities. The following section explores the creation of liquid patent rights under the present patent laws. This section also provides some

examples of several entities engaged in different facets of the creation of separate markets for patent rights.

A. *Creating the Liquid Patent Right*

Perhaps the simplest explanation for why liquid patents are growing in popularity is that this activity “is not only profitable but also perfectly legal.”²¹ A liquid patent right is created through a straightforward application of the current patent laws. These laws consider the patent right a bundle of rights similar to a personal property interest that can be conveyed, subdivided and exploited for its owner’s benefit.²²

As background, an application for a patent must be made by or on behalf of the actual inventor.²³ A party can license and bring an action for patent infringement if that party is the “patentee,” defined by statute as one who owns the patent or is an exclusive licensee.²⁴ U.S. patents can be granted for ideas that have not yet been refined to the point of a commercially viable product.²⁵ Thus, an inventor who wishes to patent an idea before development into a marketable product can do so.

Although the inventor is the presumptive owner of a patent,²⁶ ownership can be assigned to another.²⁷ Patents and patent applications can be readily purchased through individual negotiation, auction or any other means devised to transfer the right in writing.²⁸ Except for the writing, no legal relation between the transferor and the transferee need exist for a valid assignment. Once ownership is transferred, the patent owner becomes the patentee and can assert the patent against infringers in court.²⁹ Patentees can also license, sublicense, further assign and otherwise fully exploit the patent right to the full extent permitted by the laws.³⁰

Liquid patent holders use the rules authorizing patent transfers to obtain rights directly from individual inventors, corporations who wish to raise revenue, or other sources.³¹ Such individuals or entities may lack

21. Marcus Reitzig et al., *On Sharks, Trolls, and Other Patent Animals—“Being Infringed” as a Normatively Induced Innovation Exploitation Strategy*, at 3 (Feb. 2006), available at <http://ssrn.com/abstract=885914> (select “Social Science Research Network, New York, USA” icon under SSRN Electronic Paper Collection).

22. *Vaupel Textilmaschinen KG v. Meccanica Euro Italia S.P.A.*, 944 F.2d 870, 875 (Fed. Cir. 1991).

23. 35 U.S.C.A. § 111 (West 2006); *Kennedy v. Hazelton*, 128 U.S. 667, 672 (1888).

24. 35 U.S.C.A. §§ 100(d), 261, 281; *see also* *Waterman v. Mackenzie*, 138 U.S. 252, 255 (1891); *Speedplay, Inc. v. Bebop, Inc.*, 211 F.3d 1245, 1249-50 (Fed. Cir. 2000).

25. *In re Brana*, 51 F.3d 1560, 1568 (Fed. Cir. 1995) (“Usefulness in patent law . . . necessarily includes the expectation of further research and development.”).

26. *Teets v. Chromalloy Gas Turbine Corp.*, 83 F.3d 403, 407 (Fed. Cir. 1996).

27. 35 U.S.C.A. § 261 (West 2006).

28. *Id.* (“Applications for patent, patents, or any interest therein, shall be assignable in law by an instrument in writing.”).

29. *See, e.g., Vaupel Textilmaschinen KG*, 944 F.2d at 873-74.

30. *Hooker Chems. & Plastics Corp. v. United States*, 591 F.2d 652, 659 (Ct. Cl. 1979).

31. *See, e.g., Geoff Daily, Acacia Makes Its Case*, STREAMINGMEDIA.COM, Mar. 9, 2005, <http://www.streamingmedia.com/r/printerfriendly.asp?id=9041>.

the resources or desire to engage in the risk and expense of exploiting patents themselves. As an exploited patent raises no money on its own, the inventor or original owner has an incentive to transfer the patent in exchange for either a lump sum or share in royalties earned by the purchasing liquid patent holder.

B. Liquid Patent Holders' Strategic Assertion of Patents

After acquiring the patent right, the liquid patentee selects and investigates a potential infringer and may decide to commence licensing negotiations.³² One common strategy is to find patentees who have integrated the patented invention into a commercial product.³³ Both the liquid patent holder and the potential infringer are aware that a failed negotiation can lead to litigation, with the possibility for both monetary damages and injunctive relief.³⁴ Such negotiations raise the concern expressed by Justice Kennedy in his concurring opinion of *eBay Inc. v. MercExchange, L.L.C.*,³⁵ that in such circumstances “the threat of an injunction is employed simply for undue leverage in negotiations,” particularly when the patent at issue covers only one aspect of a complex product.³⁶

Some liquid patent holders employ a number of strategies to maximize their leverage, and consequently their profit. For example, some liquid patent holders own patents through holding companies that do not produce any products. Such entities cannot be countersued for patent infringement and thus the alleged infringer is in a poor position to exercise any counter-leverage in the licensing negotiation. This consideration does not bar enforcement of the patent right, as the existence of the patent right is unaffected for patentees who decide not to commercialize their invention.³⁷ Indeed, one entity creates a shell corporation for each

32. *License to Gamble: In-House IP Experts Offer Advice On Making Money From Licensing*, CORPORATE LEGAL TIMES, March 2005, at 56 (roundtable interview with individuals from IBM, Qualcomm, Burnham Institute, Sun World, and TARGUSinfo concerning licensing strategies).

33. *Business Perspectives on Patents: Hardware and Semiconductors*: FTC/DOJ HEARINGS TO HIGHLIGHT BUSINESS AND ECONOMIC PERSPECTIVES ON COMPETITION AND INTELLECTUAL PROPERTY POLICY, Feb. 28, 2002 (statement of Robert Barr, Vice President, Worldwide Patent Counsel, Cisco Systems, Inc.) (“They try to patent things that other people or companies will unintentionally infringe and then they wait for those companies to successfully bring products to the marketplace. They place mines in the minefield.”), <http://www.ftc.gov/opa/2002/02/ipsecond.htm> (scroll down to February 28, select “Robert Barr” hyperlink); see generally Reitzig, *supra* note 21 (discussing the problem with patent trolls by use of a microeconomic model).

34. 35 U.S.C.A. §§ 283, 284 (West 2006).

35. 126 S. Ct. 1837 (2006).

36. *eBay Inc.*, 126 S. Ct. at 1842 (Kennedy, J., concurring); see Jeremiah Chan & Matthew Fawcett, *Footsteps of the Patent Troll*, 10 INTELL. PROP. L. BULL. 1, 9 (2005) (“An injunction can be a death sentence for a company, especially an emerging technology firm without a diversified product portfolio. Patent trolls often target such companies for quick cash because the targets cannot afford to risk an injunction.”).

37. *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 424-25 (1908).

technology subject matter in which it acquires patents,³⁸ which in many cases would even further insulate a parent corporation against any liability incurred by the shell for any conduct associated with patent assertion activities in each individual field.

A liquid patent holder who acquires a large number of patents in the same field as the alleged infringer is well positioned to demand payment, as the possibility of litigating the validity or infringement of a large number of claims becomes an expensive impracticability.³⁹ In a sense, these multiple patents covering a single product create a “patent thicket” by a single patent owner.⁴⁰ This is because patent litigation is sometimes too costly for small companies or those with marginal profit margins to sustain.⁴¹ Such companies may be forced to settle with liquid patent owners rather than to litigate infringement and validity of all of the asserted patent claims.

Those asserting patents may keep their patent ownership quiet, and then assert the patent against inadvertent infringers who are already engaged in manufacturing and selling product based on an infringing design.⁴² This strategy is based on the view that an infringer who discovers a patent before a product is manufactured will simply redesign around the patent.⁴³ By contrast, an infringer is more likely to pay for a license after locking into an existing design and being faced with the potential for a large litigation damage award.⁴⁴

If a patent that covers a key aspect of a feature for which no substitutes are available, the patentee may threaten to shut down a manufacturer, leading to a “hold up” problem that throws the infringer’s business

38. Michael Kanellos, *Microsoft Alums Amass Thousands of Patents*, C|NET NEWS.COM, Nov. 3, 2005, http://news.com.com/Microsoft+alums+amass+thousands+of+patents/2100-1014_3-5929360.html.

39. The litigation costs for a case involving a single patent with approximately \$1-25 million at issue costs over \$1 million. American Intellectual Property Lawyers Ass’n, 2005 REPORT OF THE ECONOMIC SURVEY I-109 (2005); see also Gary L. Reback, *Patently Absurd*, FORBES.COM, June 24, 2002 (describing IBM’s negotiation strategy in response to invalidity and non-infringement arguments made in licensing negotiations asserting seven patents, in which IBM asserted, “. . . we have 100,000 patents. Do you really want us to go back to Armonk [IBM headquarters in New York] and find seven patents you do infringe? Or do you just want to make this easy and just pay us \$20 million?”).

40. See, e.g., Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting*, at 1-2 (Mar. 2001), available at <http://ssrn.com/abstract=273550> (select “Social Science Research Network, New York, USA” icon under SSRN Electronic Paper Collection) (describing a “patent thicket” as “a dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology.”).

41. See *supra* note 39 and accompanying text. See also Vincent J. Napoleon, *Patents Take Center Stage in Business Litigation and the Global Business Environment*, INSIDECOUNSEL, July 2006 (“Some have referred to patent litigation as ‘the sport among kings’ because of its expense and complexity.”).

42. See Reitzig et al., *supra* note 21, at 5.

43. *Id.* at 17-18.

44. *Id.* This source points out that litigation damage awards tend to be higher than negotiated royalty rates. *Id.*

into doubt.⁴⁵ As others have noted, this problem may be most acute in the biotechnology area where the proliferation and goals of various interests prevent vital downstream research.⁴⁶

In combination, such strategies have the potential to allow liquid patent holders to obtain more licensing revenue than the value of the patent, even if the patent is invalid. This imposes a monetary burden that acts as tax on those commercializing or seeking to improve on the subject matter of the liquid patent. Moreover, hold ups prevent subsequent invention entirely, perhaps for years as a case is litigated. Such techniques pose a threat to the larger goals of encouraging advancement in developing knowledge, creating follow-on inventions and commercializing the benefits of this knowledge for use by the public.

C. Liquid Patent Markets and Holders

A number of business models have developed to facilitate liquid patents. These include brokerage services that work with either buyers or sellers and provide assistance for valuation and negotiation and offering strategic advice.⁴⁷ Governmental, educational and some commercial entities have set up formal technology transfer offices that facilitate license or transfer of intellectual property rights generated by the offering institution.⁴⁸ A number of companies who commercialize products open separate departments to license or assert patents in order to raise licensing revenue.⁴⁹ Other entities that are engaged in activities that use patents as financial or strategic assets may assert patents for licensing fees or attempt to create markets for patent transfers. These are more fully described in the following subsections.

1. Patent Auctions

A reference to “patent auctions” has a ripped-from-the-headlines quality that is associated with catchphrases like “[t]he new IP market-

45. *Id.* at 19.

46. Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anti-commons in Biomedical Research*, *SCIENCE*, May 1, 1998, at 698, 699-700 (arguing that the proliferation of patents in biotechnological research can set up a “tollbooth on the road to product development” that may hamper research, noting “[w]hen owners have conflicting goals and each can deploy its rights to block the strategies of the others, they may not be able to reach an agreement that leaves enough private value for downstream developers to bring products to the market.”).

47. Examples of patent brokers include IPotential, <http://www.ipotential.org/overview/index.htm>, and Thinkfire, <http://www.thinkfire.com>.

48. An organization which lists a number of these offices is The Association of University Technology Managers, <http://www.autm.net/memberConnect/index.cfm>. This organization prints an annual report that features various success stories that demonstrate transfers from idea to commercial use. *See, e.g.*, THE ASSOCIATION OF UNIVERSITY TECHNOLOGY MANAGERS, *TECHNOLOGY TRANSFER STORIES: 25 INNOVATIONS THAT CHANGED THE WORLD* (2006), available at <http://www.betterworldproject.net/documents/AUTM-BWR.pdf>.

49. For example, companies such as IBM both create patentable inventions and offer certain patents for licensing. *See* IBM, <http://www.ibm.com/ibm/licensing/> (last visited Sept. 4, 2006).

place,”⁵⁰ “here to stay,”⁵¹ and drawing in a “carnival buzz.”⁵² A number of auction formats exist, such as the Sotheby’s-style auctions held at four star locations,⁵³ bankruptcy proceedings designed to raise funds to pay off creditors,⁵⁴ do-it-yourself auctions on eBay.com and a free patent auction website.⁵⁵

The name most widely associated with patent auctions is Ocean Tomo, a self-described “integrated intellectual capital merchant banc” that plans to conduct two patent auctions per year for the next three years.⁵⁶ Introduced in April 2006, Ocean Tomo’s first patent auction attracted over 400 professionals, including 30 press attendees, and resulted in the transfer of over \$8 million in patent rights.⁵⁷

Ocean Tomo precedes each auction with a structured process that requires sellers to pre-qualify their patents according to Ocean Tomo’s own quality and valuation system, which measures the patent’s potential auction value.⁵⁸ Sellers must also provide information about the patent’s ownership, validity, licensing activity and any known or suspected infringers.⁵⁹ A due diligence meeting between the seller and potential bidders takes place.⁶⁰ The auction is conducted live, and a contract for the sale of the patent is formed by the highest bid made above the seller’s reserve and before the fall of the auctioneer’s hammer.⁶¹

50. See GREENBERG TAURIG, *THE NEW IP MARKETPLACE: PATENT AUCTIONS* (2006), <http://www.gtlaw.com/pub/alerts/2006/0403.pdf>.

51. *Id.* at 4; see also Barry Evans & Gregory Dolin, *Why Patent Auctions Are Here to Stay*, *THE DAILY DEAL*, Apr. 18, 2006.

52. *First Patent Auction Draws Buzz*, REDHERRING.COM, Apr. 6, 2006, <http://www.redherring.com/article.aspx?a=16433#>.

53. For example, on April 6, 2006, Ocean Tomo held an auction at the San Francisco Ritz Carlton Hotel, which charged \$1,500 fee to bidders preceded by a Gala Dinner. OCEAN TOMO, *THE OCEAN TOMO SPRING 2006 PATENT AUCTION*, April 5-6, 2006, at 5, (print on file with author) [hereinafter OCEAN TOMO, *SPRING 2006 PATENT AUCTION*]. Ocean Tomo will hold another auction in Fall 2006 at a Ritz Carlton in New York City. See Ocean Tomo, <http://www.oceantomo.com/auctions.html>.

54. John Markoff, *Auction of Internet Commerce Patents Draw Concern*, *N.Y. TIMES*, Nov. 16, 2004, at C4.

55. See, e.g., Item No. 230006349370, eBay.com (U.S. Patent No. 6,286,439, filed Apr. 20, 1999, asking price \$150,000); Item No. 130002119843, eBay.com (asking price \$28,000,000); Item No. 170006433907, eBay.com (U.S. Patent No. 6,570,340, filed July 10, 2000, asking price \$20,999,999 plus 10% royalties); see also Free Patent Auction, <http://www.freepatentauction.com/>.

56. See Ocean Tomo, <http://www.oceantomo.com/>; *First Patent Auction Draws Buzz*, *supra* note 52.

57. Press Release, Ocean Tomo, *World’s First Live, Multi-Lot Patent Auction Exceeding Expectations* (Aug. 5, 2006), http://www.oceantomo.com/auction_results.html; see Ocean Tomo, *Auction Frequently Asked Questions*, http://www.oceantomo.com/auctions_FAQ.html (print on file with author).

58. See Ocean Tomo, *Open Call for IP Submissions*, <http://69.59.189.170/auctions/submission1.asp> (last visited Sept. 15, 2006).

59. See OCEAN TOMO, *SPRING 2006 PATENT AUCTION*, *supra* note 53, at 9; see also Patentrating.com, <http://www.patentrating.com> (last visited Sept. 1, 2006).

60. See Ocean Tomo, *Auction Frequently Asked Questions*, *supra* note 57, at 13.

61. *Id.* at 14.

Ocean Tomo's first auction offered patents from patentees including Motorola, Clorox, The University of California and Ford Motor Company.⁶² Bids ranged from \$2,000 to \$1.9 million, and attendees included GE, DuPont, Microsoft, Nokia, Kodak, IBM, AT&T and some who bid anonymously.⁶³ Ocean Tomo declared its own first auction a success, stating, "We are now poised to make a true market for intellectual property liquidity a reality."⁶⁴ When combined with certain sales that were negotiated post-auction, about forty percent of the offered patents had been sold.⁶⁵

Ocean Tomo touts the benefits of a patent auction over individualized negotiation as a means to transfer intellectual property rights, explaining "the live auction creates a sense of urgency and closure to the sales process it keeps the assets in public forum which result in a bidding war, and shifts the burden to purchase from the sellers to the buyers."⁶⁶ At the same time, Ocean Tomo views auctions as means to create a market for patents as assets, in other words as "a stepping stone to a new way of thinking about invention" and to "help people to become more accustomed to buying and selling intellectual property."⁶⁷ Ocean Tomo's efforts serve as one example of a transition to a market where patents are used as liquid assets.

2. Acacia Research Corp.

Acacia Research Corp. was founded in 1995 as a venture capital firm, shifting focus in 2001 to concentrate on patents after earning \$26 million from licensing technology.⁶⁸ Currently, Acacia is a publicly traded company that includes a division that liquidizes patents on a large scale, controlling over 160 U.S. patents through subsidiaries and holding companies which are estimated to be valued at over \$19,600,000.⁶⁹ In a recent filing, Acacia reported licensing revenues of \$4.7 million for the first three months of 2006.⁷⁰ Acacia also reports thirty-one (31) ongoing patent infringement lawsuits, some of which name multiple alleged in-

62. See GREENBERG TAURIG, *supra* note 50.

64. OCEAN TOMO, SPRING 2006 PATENT AUCTION, *supra* note 53, at 6.

65. See Kanellos, *supra* note 38.

66. Ocean Tomo, *Auction Frequently Asked Questions*, *supra* note 57.

67. *First Patent Auction Draws Buzz*, *supra* note 52 (quoting Jim Malackowski, CEO of Ocean Tomo's Auction division).

68. L. Gannes, *Q&A: Acacia's Paul Ryan*, REDHERRING.COM, July 9, 2006, <http://www.redherring.com/Article.aspx?a=17514&hed=Q%26amp%3BA%3A+Acacia%E2%80%99s+Paul+Ryan§or=QAndA&subsector=Executives>.

69. Acacia Research Corp., Quarterly Report (Form 10-Q), at 4, 11 (May 10, 2006).

70. *Id.* at 39.

fringers.⁷¹ Acacia claims to have settled lawsuits against over two hundred companies.⁷²

In response to criticisms,⁷³ Acacia points out that their business model helps inventors who lack resources to enforce their patent rights, explaining that, “[w]hat we are doing is leveling the playing field by giving inventors the opportunity to monetize all of their hard work.”⁷⁴ Additionally, Acacia states that patent licensing serves companies with expertise in inventing and innovating, rather than commercialization and marketing.⁷⁵

3. Intellectual Ventures

Intellectual Ventures is a privately held company that was founded in 2000 by two former software executives, including Nathan Myhrvold, who formerly oversaw Microsoft’s two billion dollar research and development budget.⁷⁶ Intellectual Ventures views itself as a type of market maker that has “set out to amass one of the biggest holdings of patents in the information technology world,” as “part of a plan to create a new investment market” around patents.⁷⁷

Intellectual Ventures’ patenting strategy is built on acquiring a high volume of patents in a broad spectrum of industries.⁷⁸

Intellectual Ventures acquires patents from other inventors, reportedly thousands of them.⁷⁹ Additionally, the company works with both staff and external engineers and scientists to conceive and patent inventions, filing five hundred patent applications to date.⁸⁰ Intellectual Ventures does not currently commercialize, but professes plans to later create spin-off companies to develop, commercialize and manufacture products based on its patents⁸¹ and to generate revenue by licensing the patents that Intellectual Ventures has acquired.⁸² Others are more skeptical of Intellectual Ventures’ plans, anticipating that asserting enforcement liti-

71. *Id.* at 40-42.

72. See Charles Cooper, *Have Patent, Will Sue*, C|NET NEWS.COM, July 10, 2006, http://news.com.com/Have+patent%2C+will+sue/2008-1014_3-6091975.html.

73. See, e.g., Zachary Roth, *Patent Troll Menace*, WASHINGTON MONTHLY, June 2005, <http://www.washingtonmonthly.com/features/2005/0506.rothsidebar2.html>.

74. Daily, *supra* note 31.

75. See Gannes, *supra* note 68.

76. See Ken Auletta, *The Microsoft Provocateur*, THE NEW YORKER, May 12, 1997, at 66-67.

77. Richard Waters, *Invention Shop or Patent Troll Factory*, FINANCIAL TIMES, Apr. 25, 2006, at 10.

78. Lisa Lerer, *Tech World Worries as Company’s Patent Stockpile Grows*, IP LAW AND BUSINESS, June 14, 2006, at 32-33; see also Intellectual Ventures, <http://intellectualventures.com> (“Our current focus is on developing our invention portfolio.”).

79. Brad Stone, *Factory of the Future?*, NEWSWEEK.COM, Nov. 22, 2004, at 60; see also Lerer, *supra* note 78, at 32.

80. Press Release, Intellectual Ventures, Intellectual Ventures Files 500th Patent Application (June 26, 2006) (on file with author).

81. *Id.*

82. Nicholas Varchaver, *Who’s Afraid of Nathan Myhrvold?*, FORTUNE, July 10, 2006, at 110.

gation will necessarily follow.⁸³ Regardless, Intellectual Ventures devotes a significant portion of its business toward patents as liquid assets.

D. An Incentive to Liquidize

Although critics accuse liquid patent holders of trolling or abusing the patent system, established rules of the patent system presently support the use of patents for private benefit. The law authorizes private assignments of patent rights.⁸⁴ According to Congress, a patent has “the attributes of personal property.”⁸⁵ Some courts have likewise characterized the patent right as a property right⁸⁶ that is intended to create incentives for invention and investment.⁸⁷ As such, the patent right fits within the classic legal definition of an entitlement subject to transfer without government intervention for a privately negotiated value.⁸⁸

The ability to transfer the patent right for profit is well established. For example, the 1888 case *Dolbear v. American Bell Telephone Co.*,⁸⁹ describes patent rights transferred by a solo inventor to a company “composed of leading business men from all parts of the country,” who pooled five million dollars to establish a telephone company that would “certainly result in the driving out of all telephones in the market, save the ones they hold, or else the compelling the Gray, Bell, and Edison lines to pay the new company a munificent royalty.”⁹⁰ *Dolbear* is an early example of a solo inventor seeking to use a patent to obtain a financial return through transfer.

83. *Id.* (citing Joe Beyers and Shane Robison of Hewlett-Packard).

84. 35 U.S.C.A. § 261 (West 2006).

85. *Id.* (“Subject to the provisions of this title, patents shall have the attributes of personal property.”).

86. See *Hartford-Empire Co. v. United States*, 323 U.S. 386, 415 (1945) (observing that “a patent is property . . .”); *Carl Schenck, A.G. v. Nortron Corp.*, 713 F.2d 782, 786 n.3 (Fed. Cir. 1983) (“The patent right is but the right to exclude others, the very definition of ‘property.’”); see also *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 730 (2002) (explaining that the patent laws provide “a temporary monopoly . . . [which] is a property right.”).

87. *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 599 (Fed. Cir. 1985) (quoting J. BENTHAM, *THEORY OF LEGISLATION*, chs. 7-10 (6th ed. 1890)). Specifically, the *Patlex* court described patent rights with reference to Bentham’s justification for property as follows: “It is supposed that men will not labor diligently or invest freely unless they know they can depend on rules which assure them that they will indeed be permitted to enjoy a substantial share of the product as the price of their labor or their risk of savings.”

88. See Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1092 (1972) (describing one form of property as a government granted entitlement that can be transferred on the basis of an individually negotiated price).

89. 126 U.S. 1 (1888).

90. *Dolbear*, 126 U.S. at 549. The inventor who claimed priority was described as a “poor mechanic” who “[o]wing to his poverty,” “was unable to push his patent on the market” using his own resources. *Id.* Ultimately, the “poor mechanic” lost the priority battle to the patent obtained by Alexander Graham Bell. *Id.* at 567.

From a number of perspectives, significant social benefits derive from the transferability of intellectual property rights.⁹¹ Today, research for more complex technology frequently requires a significant monetary investment, multiple inventors and firms that can foster inventive activity. Some benefits derive from a firm's ability to combine large financial resources with the work of employee inventors.⁹² In a typical scenario, the employees work under patent rules authorizing assignment or pursuant to common law shop rights that transfer the invention to the firm.⁹³ The firm seeks a patent and develops a product or service based on the invention disclosed in the patent application.⁹⁴ The patent is granted, and the patentee is able to exclude competitors and thereby charge a sufficiently high price for the product to enable recovery of the investment in the research and development of the product.⁹⁵

Patent transfers may be necessary to facilitate innovation.⁹⁶ For example, a typical model to bring an idea to a commercial market may require the effort of several companies which must obtain rights to the patent to bring a product to market.⁹⁷ For example, basic research may be performed at universities or research laboratories.⁹⁸ Some percentage of these inventions may be transitioned to a small company, which incubates the idea and undertakes the risk of taking the idea toward a "commercially viable" product or service.⁹⁹ A larger company may then undertake late-stage product development and market access.¹⁰⁰ Creating

91. See Edmund W. Kitch, *Elementary and Persistent Errors in the Economic Analysis of Intellectual Property*, 53 VAND. L. REV. 1727, 1740 (2000) (recognizing that transferability permits inventors to capitalize on inventions). Kitch states

It is clear that the ability of owners of intellectual property rights to transfer these rights in whole or in part is an important feature of the systems. The rights can easily arise in the hands of persons or firms who are not in the best position to exploit them. In order to involve others in the full exploitation of the economic potential of the right, the owners must be able to enter into a wide range of arrangements with other firms.

Id.

Permitting inventors to assign or license patent rights may permit more inventions to reach consumers in the form of commercialized products.

92. See Dan L. Burk, *Intellectual Property and the Firm*, 71 U. CHI. L. REV. 3, 15 (2004) (discussing the lack of a "work made for hire provision" in current United States patent law).

93. *Id.*

94. *King Instruments Corp. v. Perego*, 65 F.3d 941, 950 (Fed. Cir. 2005).

95. *Id.*; see also F. Scott Kieff, *Property Rights and Property Rules for Commercializing Inventions*, 85 MINN. L. REV. 697, 708-09 (2001) (discussing the need to develop inventions "into some commercial embodiment").

96. The distinction between the terms *invention* and *innovation* highlights how a patent is different from a final, commercial product. See Robert P. Merges, *Commercial Success And Patent Standards: Economic Perspectives On Innovation*, 76 CAL. L. REV. 805, 807 (1988) (An *invention* refers to an inventor's idea as patented. By contrast, an *innovation* is the "functional version of the invention: the version first offered for sale.").

97. *Developments in Nanotechnology: Hearing Before the Sen. Comm. On Commerce, Science, and Transportation* (Feb. 15, 2006), at 1 (Statement of Dr. Todd L. Hylton, Director, Ctr. for Advanced Materials and Nanotechnology Sci. Applications Int'l Corp.), available at <http://commerce.senate.gov/pdf/hylton-021506.pdf>.

98. *Id.*

99. *Id.*

100. *Id.*

alliances and relations through patent transferability rules among these different entities thus may be crucial to the full development of a single idea. Such collaboration will be even more critical for new fields of research and development, such as nanotechnology,¹⁰¹ which requires significant research and development costs.

Another alternative to facilitate innovation is a cross-license between firms that allows freedom to operate without concern over patent lawsuits.¹⁰² A cross-license permits two companies to carry out product design and manufacture based on non-exclusive cross-licenses to the intellectual property of the other.¹⁰³ In contrast to liquid patents, these examples of the alienation of patent rights assist product or service development that may inure to the benefit of the public.

Few would argue that the transfer of patents should be prohibited because such transfers may be critical to the growth of innovation. The patent statute explicitly authorizes patent transfers.¹⁰⁴ As a system based on economic and commercial principles, patent transfers do not carry the same difficult moral and societal freight that warrant the prohibition on transfers of voting rights, human organs or illegal substances.¹⁰⁵

Patent licenses also offer benefits to the inventor.¹⁰⁶ Facilitating information transfers through patent assignments have benefits such as certainty and efficiency, particularly compared to trade secret transfers which are typically encumbered by confidentiality agreements, monitoring mechanisms and ownership uncertainty.¹⁰⁷ Preventing the transfer of information may create undesirable societal effects. For example, im-

101. *Id.* at 2 (noting the long lead time and significant investment necessary for nanotechnology research, which can be expected to require a more complex and interdependent business and funding model).

102. Kenneth W. Dam, *Some Economic Considerations In The Intellectual Property Protection Of Software*, 24 J. LEGAL STUD. 321 n.173 (1994) (discussing the award of a cross-license to smaller firm).

103. Bronwyn H. Hall & Rosemarie Ham Ziedonis, *The Patent Paradox Revisited, An Empirical Study of Patenting in the U.S. Semiconductor Industry, 1979-1995*, 32 RAND J. ECON. 101, 109-110 (2001) (discussing the use of patents for cross-license bargaining).

104. 35 U.S.C.A. § 261 (West 2006).

105. See Margaret Jane Radin, *Market-Inalienability*, 100 HARV. L. REV. 1849, 1854-55 (1987) (explaining that "market-inalienability negates a central element of traditional property rights").

106. DAVID J. TEECE, *MANAGING INTELLECTUAL CAPITAL* 101-02 (2000). Teece notes that patent holders enjoy a number of benefits by contracting their intellectual property rights. These include permitting the innovator to have the benefits of a commercialized invention without incurring the cost of the assets needed to incorporate the invention into a product, which reduces both risk and cash requirements. *Id.* In addition, Professor Teece notes that "contractual relationships can bring added credibility to the innovator, especially if the innovator is relatively unknown when the contractual partner is established and viable." *Id.* at 101.

107. Paul J. Heald, *A Transaction Cost Theory of Patent Law*, 66 OHIO ST. L.J. 473, 482 (2005) (explaining that "partitioning an information asset through contract law and secrecy can be vastly more complex and costly").

peding or barring assignments may force inventors into becoming managers of those rights, even if ill-suited for that role.¹⁰⁸

At the same time, the private transfer of patent rights causes concern because control over the exclusive use of an idea has far broader implications than a typical private transfer of goods.¹⁰⁹ This is because patents have the potential to impact competition, society and future innovation. As has long been recognized, the patent system is fundamentally intended to benefit the public.¹¹⁰ Availability may affect such vital issues as public health,¹¹¹ education¹¹² and communication,¹¹³ among other things.

In effect, the patent rules create an incentive for inventors to liquidize, a circumstance that is perhaps inadvertent on behalf of those who create and implement patent law. The patent system readily permits private patent transfers, which carry the right to enforce against innocent infringers and which have enormous potential to impact public welfare and the future of innovation.

Such transfers have the ability to affect society and have a potential for abuse. Patent owners can single-handedly control an entire area of research merely by paying the price to which an inventor agrees. A solo inventor or nearly bankrupt inventing company finds such transfers not only profitable, but many find undertaking the risk of bringing an invention to market impossible. Transfers of otherwise unused patent rights may be profitable, providing an incentive to the fruits of research and development into the hands of those primarily interested in private gain.

108. See Mark A. Lemley, *Ex Ante Versus Ex Post Justifications For Intellectual Property*, 71 U. CHI. L. REV. 129, 137-38 (2004) (noting that “[c]reators are often terrible managers”).

109. Kimberly A. Moore, *Judges, Juries, And Patent Cases—An Empirical Peek Inside The Black Box*, 11 FED. CIR. B.J. 209, 224 (2002) (A patent “is not a private contract between two parties, but rather a property right that impacts all competition in a given technology.”).

110. See *Kendall v. Winsor*, 62 U.S. 322, 327-28 (1859).

It is undeniably true, that the limited and temporary monopoly granted to inventors was never designed for their exclusive profit or advantage; the benefit to the public or community at large was another and doubtless the primary object in granting and securing that monopoly. This was at once the equivalent given by the public for benefits bestowed by the genius and meditations and skill of individuals, and the incentive to further efforts for the same important objects.

Id.

111. *Medecins Sans Frontieres, A Matter of Life and Death: The Role of Patents in Access to Essential Medicines*, Nov. 2001, http://www.doctorswithoutborders.org/publications/reports/2001/doha_11-2001.pdf (arguing that “[p]atents can become obstacles in providing affordable treatment . . .”); see Keith Bradsher, *Pressure Rises on Producer of a Flu Drug*, N.Y. TIMES, Oct. 11, 2005, at 1 (describing international controversy over access to vaccine against avian flu pandemic, which is covered by a patent owned by Swiss pharmaceutical maker Roche).

112. Corey Murray, *Schools Targeted In Streaming Video Patent Claim*, ESCHOOL NEWS ONLINE, Mar. 3, 2004, <http://www.eschoolnews.com/news/showStory.cfm?ArticleID=4937> (detailing Acacia Research Corp.’s assertion of patent claims against university distance learning programs).

113. Tom Krazit & Anne Broache, *BlackBerry Saved*, C|NET NEWS.COM, Mar. 3, 2006, http://news.com.com/BlackBerry+saved/2100-1047_3-6045880.html (describing settlement of patent dispute that appeared on the verge of shutting down wireless email communication system).

II. PATENT POLICIES THAT FOSTER THE PERSISTENCE OF LIQUID PATENTS

Some insight into specific provisions of existing patent law shed light on how liquid patents have facilitated—and perhaps even encouraged—liquid patent holders to use patents as assets. These provisions are the result of policy decisions made about the historic uses of patents as intended to create “new jobs and new industries, new consumer goods and trade benefits.”¹¹⁴ The cumulative effect of these doctrines is that liquid patent holders obtain their advantages without providing the societal benefits that these rules were intended to foster.

A. *The Patent as Monolith: A Uniform System of Rights*

Patent law has been viewed as an area of law where uniformity of application matters, although the extent to which uniformity should be permitted has been the subject of some controversy. The U.S. Federal Court of Appeals, which exercises jurisdiction over all patent appeals for the federal courts within the U.S., was formed by Congress in 1982 with the express purpose of enhancing uniformity in the administration of the patent system.¹¹⁵ This change has been observed to “have increased the respect enjoyed by patents in the United States and the value patents command in the global economy” and to have played an important part in the development of the U.S. economy.¹¹⁶ With these important principles at stake, the Federal Circuit treats patent rights as “central to the new information-age economy in the United States and . . . as having significant value as intellectual assets.”¹¹⁷ Further, the Federal Circuit has been noted to have a pro-patent bias.¹¹⁸

As purchasers of these favored rights, liquid patent holders are the recipients of this system of strengthened rights. At present, the patent right is viewed as a document that is valuable and derives value from immutability.¹¹⁹ Once crystallized into a right, a patent’s strength does

114. *Paulik v. Rizkalla*, 760 F.2d 1270, 1276 (Fed. Cir. 1985).

115. See 28 U.S.C.A. § 1295 (West 2006) (providing that the U.S. Court of Appeals has exclusive jurisdiction over appeals of patent cases decided in the U.S. District Courts); Richard Linn, *The Future Role of the United States Court of Appeals for the Federal Circuit Now That It Has Turned 21*, 53 AM. U. L. REV. 731, 732 (2004) (Federal Circuit jurist noting the court’s “mission to bring understanding and uniformity to judicial interpretations of the patent statutes”).

116. Linn, *supra* note 115, at 734-35; see also Fed. Trade Comm’n, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy, Executive Summary*, 19 BERKELEY TECH. L.J. 861, 865 (2004) (“The Court of Appeals for the Federal Circuit, the sole court for most patent law appeals, has brought stability and increased predictability to various elements of patent law.”).

117. Linn, *supra* note 115, at 734.

118. *Id.* at 734 (recognizing the criticism that the court favors of patentees, and stating, “I admit to some bias . . .”).

119. *Id.* at 735 (noting the “reflection in the court’s opinions of the value patents command as legal documents, deserving of full and fair consideration by the courts and entitled to enforcement”).

not vary based on differences in use, lack of use or ownership. As discussed in a recent article:

Patents are bundles of rights, the most important of which is the right to exclude others from practicing the invention. Whether for business reasons, spite, or pure stupidity, a patent owner can exclude others from using his property, much as a land owner can keep out trespassers. A purchaser at auction, therefore, will have no rights different from or in addition to those of the original owner. The new owner may commercialize the invention or not as he wishes.¹²⁰

The Federal Circuit's administration of patent law has exhibited a trend toward preferring the promulgation of rules over flexible standards, emphasizing certainty and predictability.¹²¹ Uniformity has unquestionable benefits. Generally, the use of such rules fosters a sense of equal treatment consistent with a sense of justice and fair play, enhances predictability, and acts as a check on the judiciary and the influence of public will into the rule of law.¹²² The commercial context in which much patent law operates has contributed to the perception that stability is a necessary component for application.¹²³

As explained by now-Chief Judge Michel of the Federal Circuit, creating law for patent rights can be analogized to a country's efforts to draw borders based on citizenship.¹²⁴ According to Judge Michel, flexibility inherent in case-by-case determinations is undesirable because of the tendency of decision-makers to interject subjectivity in drawing lines and also because variation creates uncertainty among those trying to fix their own legal citizenship status.¹²⁵ Applying Judge Michel's analogy to the patent system leads to the concern that patent examiners, prospective patentees, their competitors and the public enjoy benefits from a uniform, predictable system that does not always require redress from the courts.¹²⁶

According to Judge Michel, absent such predictability, the Federal Circuit is in danger of impeding "the very commerce our court was cre-

120. Evans & Dolin, *supra* note 51.

121. John R. Thomas, *Formalism at the Federal Circuit*, 52 AM. U. L. REV. 771, 792-93 (2003) ("The Federal Circuit seems ever more prone to the pronouncement of categorical rules meant to govern future patent disputes.").

122. See Antonin Scalia, *The Rule of Law as a Law of Rules*, 56 U. CHI. L. REV. 1175 (1989).

123. Pauline Newman, *The Federal Circuit: Judicial Stability or Judicial Activism?*, 42 AM. U. L. REV. 683, 687 (1993) ("Like all commercial law, the cost of guessing wrong about the law and its application is rarely recoverable. The responsibility placed on the Federal Circuit mirrors that placed on all courts, for a useful and reliable law requires that the law is known and knowable.").

124. Paul R. Michel, *The Challenge Ahead: Increasing Predictability in Federal Circuit Jurisprudence for the New Century*, 43 AM. U. L. REV. 1231, 1235 (1994).

125. *Id.*

126. *Id.* at 1233-35; cf. Paul M. Janicke, *Do We Really Need So Many Mental And Emotional States in United States Patent Law?*, 8 TEX. INTELL. PROP. L.J. 279, 296-97 (2000) (arguing that case-by-case determinations made based on the inventor's or infringer's mental state encumbers the adjudication of patent disputes and makes such litigation too expensive and complicated).

ated to promote.”¹²⁷ Proponents of uniform application of patent law principles stress that consistency helps a number of those affected by patent rights.¹²⁸ Uncertainty about the categorization of rights creates difficulties for the U.S. Patent and Trademark Office’s patent examiners who must determine whether to grant patent rights in the first instance.¹²⁹

Once fixed, the patent right remains unchanged as the patent is licensed or assigned. Unlike other legal rights in which the plaintiff’s circumstances are legally relevant to the existence of the plaintiff’s right to recover,¹³⁰ the patent right is embodied in the document which leaves the patent’s owner entirely out of the picture. A liquid patent holder can purchase, sell, license and assert the patent without concern that the scope of the right is changed or diminished by any of this activity.

The uniformity with which the patent system has been administered has inured to the benefit of liquid patent holders. There are few, if any, policy-based exceptions to the administration of the patent law. The system, established for the benefit of inventors, society and the economy more generally, carries all of these rights forward when the patent right is transferred.

B. Patent Enforcement

The right to enforce the patent right has been economically justified as a means to prevent free-riding from significant invention investments. According to theorists, patent law’s protection for a patentee against infringers who independently developed their products is supported by the necessity to maintain a reward for initial inventor who may have made a high level of investment in the invention. As explained by William Landes and Judge Richard Posner:

If patents did not protect against independent duplication, then an inventor who had spent enormous sums to be the first to discover some useful new idea might find himself unable to recoup his costs because someone else, working independently toward the same goal,

127. Michel, *supra* note 124, at 1233, 1235, 1242 (recognizing that infringement decisions “may lead to plant closings or even business failures.”).

128. *Id.* at 1234-35.

129. *Id.* at 1233-34.

130. In this regard, patent law stands in contrast to trademark law, where the trademark owner’s conduct in using the trademark within particular channels of commerce is relevant to whether there is a likelihood of confusion with the defendant’s use of a mark. *See e.g.*, *Malletier v. Burlington Coat Factory Warehouse Corp.*, 426 F.3d 532, 539 (2d Cir. 2005) (describing the importance of analyzing effect on consumers in the markets for both the mark holder and the accused infringer); *Surfvivor Media, Inc. v. Survivor Prods.*, 406 F.3d 625, 631 (9th Cir. 2005) (listing the respective parties’ marketing channels as relevant to whether there is a likelihood of confusion as the test for trademark infringement).

had duplicated his discovery within weeks or months after he made it.¹³¹

Landes and Posner's rationale justifies maximum levels of patent protection most neatly for innovations which are expensive or time-consuming to develop.¹³²

However, liability for patent infringement extends much further, encompassing implementations that have been independently developed by the innocent infringers, where no free riding has or could have occurred. Specifically, patent infringement is demonstrated by a comparison between the patent claim and the accused device, method or process.¹³³ Infringement acts essentially as strict liability under tort law—that is, if the accused device incorporates the claim elements then infringement is found.¹³⁴ There is no requirement for a patent holder to show that the infringer actually copied the invention in order for liability to exist.¹³⁵ Patent infringement can be established where the infringer has independently developed the technology that is the subject of the patent holder's claim.¹³⁶ If the accused device includes the invention stated in the patent claims, the fact that the infringer included additional innovations or improvements does not preclude a finding of patent infringement.¹³⁷

Further, patent law does not distinguish levels of protection based on the level of investment required for the development of the invention. The patent protection afforded to a life-saving pharmaceutical¹³⁸ which requires hundreds of millions of dollars to develop is entitled to the same strength of protection as a fortuitously conceived invention.¹³⁹ One famous example is the invention of Teflon, invented in an experiment gone awry and ultimately incorporated into "everything from space capsules to

131. WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 295-96 (2003). Landes and Posner point out that this protection comes at an economic cost, because the rule "fosters patent races and the rent-seeking costs that such races can impose." *Id.* at 296.

132. See generally SUZANNE SCOTCHMER, *INNOVATIONS AND INCENTIVES* 16, 27 (2004) (recognizing the high cost of developing increasingly complex technological solutions).

133. See, e.g., *Kahn v. Gen. Motors Corp.*, 135 F.3d 1472, 1476 (Fed. Cir. 1998) (describing standard for determining patent infringement as a comparison of the claims with the accused device).

134. Timothy R. Holbrook, *The Intent Element of Induced Infringement*, 22 SANTA CLARA COMPUTER & HIGH TECH. L.J. 399, 401 n.8, 408 (2006); cf. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1353 (Fed. Cir. 2001) (refusing to construe a claim element as requiring any state of mind on the part of the infringer).

135. Holbrook, *supra* note 134, at 401 n.8; see also *Amazon.com, Inc.*, 239 F.3d at 1353 (refusing to construe a claim element as requiring any state of mind on the part of the infringer).

136. Holbrook, *supra* note 134, at 401 n.8.

137. *Atlas Powder Co. v. E.I. Du Pont de Nemours & Co.*, 750 F.2d 1569, 1580-81 (Fed. Cir. 1984).

138. See, e.g., Neal Masia, *The Cost of Developing a New Drug* (2006), <http://usinfo.state.gov/products/pubs/intelprp/cost.htm> (estimating that costs to develop a new pharmaceutical through delivery to customers range from \$800 million to \$2 billion).

139. 35 U.S.C.A. § 103(a) (West 2006) ("Patentability shall not be negated by the manner in which the invention was made.").

heart valves to frying pans” and patented in 1941.¹⁴⁰ Patentability does not require inquiry into the level of investment made by the patentee.

Additionally, the value, significance of the invention or the likelihood that a particular invention might be appropriated is not relevant to patentability.¹⁴¹ As a practical effect, the reward policies that protect incentives for the most expensive, valuable inventions set the level of legal protection for *all* patents.

Liquid patent holders benefit from these policies by seeking to maximize the obtainable profit for the lowest possible sum, perhaps more than the patent is worth based on an objective market measure. A liquid patentee can assert the patent against any infringer, including those who are innocently infringing. A liquid patent holder has the luxury of holding onto the patent, waiting to determine which infringers are going to be successful enough to pursue, as the patentability remains the same until the patent expires. Indeed, a liquid patent holder’s damages may be driven upward by infringers who have experienced market success after infringement has begun¹⁴² and may become locked into a particular design once the market has accepted their product.¹⁴³

Although the patent system rests on the prevention of free riding to protect significant incentives to invest in innovation, the system is administered with uniformity into areas where such policy considerations are factually absent. A liquid patent holder who purchases a patent right at low cost may assert the patent against an innocent infringer. Liquid patent owners thereby obtain the benefit of an economic policy justification for the patent system even where such justifications have no place in their practice.

C. The Utility Standard

35 U.S.C. section 101 requires that inventions be “useful” as a condition to patentability.¹⁴⁴ An appropriate level of patentability requires sensitivity to several underlying considerations. The trajectory of development ranges from the thought of a problem to be solved on one end of the spectrum, to a fully developed, commercialized product on the other end. The transition from one side of the spectrum to the other may take time, financial resources, research and development. When determining

140. See Robert Friedel, *The Accidental Inventor*, DISCOVER, Oct. 1996, at 58, available at <http://www.discover.com/issues/oct-96/features/theaccidentalinv893> (describing Roy Plunkett’s accidental invention of Teflon, which occurred while Plunkett was researching a new type of Freon); U.S. Patent No. 2,230,654 (filed Feb. 4, 1941) (Plunkett’s original Teflon patent).

141. LANDES & POSNER, *supra* note 131, at 300.

142. *Fromson v. W. Litho Plate & Supply Co.*, 853 F.2d 1568, 1575-76 (Fed. Cir. 1988), *overruled by Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp.*, 383 F.3d 1337 (Fed. Cir. 2004) (indicating that courts can consider post-infringement sales in determining royalty awards).

143. See Reitzig et al., *supra* note 21.

144. 35 U.S.C.A. § 101.

where on the spectrum to set the utility standard, courts are making a normative choice that influences a potential patentee's ability to obtain legal protection during a particular phase of development.

A utility standard that would grant patents for abstract ideas has the potential to harm innovation by granting a right to exclude others who may wish to research and develop within a new field, without providing a sufficient social benefit.¹⁴⁵ On the other hand, a utility standard might be set which requires a fully developed, commercialized product for a patent grant to issue. In *In re Brana*,¹⁴⁶ the Federal Circuit rejected this view, recognizing that usefulness "necessarily includes the expectation of further research and development" in the context of a pharmaceutical invention.¹⁴⁷ The *Brana* court reasoned that a contrary rule and its "associated costs would prevent many companies from obtaining patent protection on promising new inventions, thereby eliminating an incentive to pursue, through research and development, potential cures in many crucial areas"¹⁴⁸

Courts such as *Brana* have established a rule of law based on certain assumptions about how patents will be used which are not sustained by the use of liquid patents. Certainly in a traditional invention-innovation-commercialization cycle, the court's reasoning is sound and demonstrates how the patent system can lead to tremendous public benefits. However, liquid patent holders do not attempt to deliver on any promise of further research and development. Although the utility standard is set low enough in anticipation of further efforts at commercialization, liquid patent holders seek revenue by asserting patents against companies that have commercialized successfully.

D. Uniform Construction of the Patent Right

The strength, scope and nature of the patent right is viewed as one that should be objectively verifiable from the four corners of the patent itself and the public record of the patent's prosecution history whenever possible. For example, the doctrines surrounding patent interpretation favor the use of the four corners of the patent as the fundamental starting point.¹⁴⁹ Considerations which might be deemed "subjective" in the sense that these matters are outside the patent and prosecution history,

145. See *Brenner v. Manson*, 383 U.S. 519, 534 (1966) (explaining that a low standard of utility "may confer power to block off whole areas of scientific development, without compensating benefit to the public.") (footnote omitted).

146. 51 F.3d 1560 (Fed. Cir. 1995).

147. *In re Brana*, 51 F.3d at 1568.

148. *Id. Brana*, which considered an invention in the pharmaceutical area, is arguably at odds with the higher utility standard that the U.S. Supreme Court sought to establish in *Brenner*. See Rebecca S. Eisenberg, *Analyze This: A Law And Economics Agenda for the Patent System*, 53 VAND. L. R. 2081, 2087 (2000) (recognizing a conflict between the *Brenner* and *Brana* standards for utility).

149. See, e.g., *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388 (1996) ("A patent is a legal instrument, to be construed, like other legal instruments, according to its tenor").

such as inventor, expert or lay witness testimony about the meaning of patent claims, are considered the exception rather than the rule.¹⁵⁰

In *Phillips v. AWH Corp.*,¹⁵¹ the Federal Circuit set forth a hierarchy of interpretive sources for the interpretation of patent claims that relies most centrally on the intrinsic patent document.¹⁵² There, the court reaffirmed the primacy of the patent claim as delineating the meaning and scope of a patent claim.¹⁵³ In *Phillips*, the Federal Circuit further recognized that the claims must be considered in light of the patent specification.¹⁵⁴ *Phillips* places the strongest emphasis on these two interpretative sources—the patent claims and the written specification, both of which appear within the four corners of the patent document—for determining the scope of the patent right.¹⁵⁵ Evidence that is extrinsic to the patent, such as expert and inventor testimony, dictionaries, and treatises, are lower on the hierarchy of determining the meaning of patents.¹⁵⁶

The necessity for resting the meaning of the patent on the claims, written description and prosecution history has been viewed as a critical feature for placing the public on notice of the metes and bounds of the patent right.¹⁵⁷ The *Phillips* court outlined reasons that extrinsic evidence is disfavored and viewed with some suspicion. For example, *Phillips* viewed expert evidence as testimony created for litigation that “thus can suffer from bias.”¹⁵⁸

150. *Markman*, 517 U.S. at 388-89. In *Markman*, the U.S. Supreme Court rejected the contention that a jury—rather than a judge—should interpret the claims of a patent. *Id.* In doing so, the U.S. Supreme Court explained that cases the court was “doubtful that trial courts will run into many cases” in which witness credibility determinations were critical, stating, “[i]n the main, we expect, any credibility determinations will be subsumed within the necessarily sophisticated analysis of the whole document, required by the standard construction rule that a term can be defined only in a way that comports with the instrument as a whole.” *Id.* at 389.

151. 415 F.3d 1303 (Fed. Cir. 2005).

152. *Phillips*, 415 F.3d at 1312.

153. *Id.* (“It is a ‘bedrock principle’ of patent law that the ‘claims of a patent define the invention to which the patentee is entitled the right to exclude.’”) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)).

154. *Id.* at 1314-15 (noting that claims “are part of ‘a fully integrated written instrument,’ consisting principally of a specification that concludes with the claims. For that reason, claims ‘must be read in view of the specification, of which they are a part.’”) (citation omitted) (quoting *Herbert Markman & Positek, Inc. v. Westview Instruments, Inc.*, 52 F.3d 967, 978-79 (Fed. Cir. 1995)).

155. *Id.* at 1315 (“[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’”) (citation omitted) (quoting *Vitronics Corp. v. Conception, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

156. *Id.* at 1318-19; see also *N. Am. Vaccine, Inc. v. Am. Cyanamid Co.*, 7 F.3d 1571, 1577 (Fed. Cir. 1993) (suggesting that generally, the inventor’s testimony as to the meaning of the patent claims is not considered a relevant interpretive source).

157. See, e.g., *Phillips*, 415 F.3d at 1312 (“Because the patentee is required to ‘define precisely what his invention is . . . it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms.’”) (quoting *White v. Dunbar*, 119 U.S. 47, 52 (1886)).

158. *Id.* at 1318.

Phillips also recognized that relying on extrinsic sources of information undermines “the public notice function of patents.”¹⁵⁹ The public notice function of patent claims has been viewed as important to the patent system’s goal of encouraging innovation. As the U.S. Supreme Court explains: “The monopoly is a property right; and like any property right, its boundaries should be clear. This clarity is essential to promote progress, because it enables efficient investment in innovation. A patent holder should know what he owns, and the public should know what he does not.”¹⁶⁰

The Federal Circuit’s reliance on the four corners of the patent gives the patent right a monolithic quality.¹⁶¹ The objective rules of patent interpretation militate toward a meaning that becomes crystallized into the patent document that is as immutable as engraving in stone.¹⁶² One who purchases the right can therefore be assured that no change in scope or meaning will occur due to the patent’s transfer.

E. The Headless Patentee

As set forth in the U.S. Constitution, the patent system was conceived as an incentive for inventors.¹⁶³ Giles Rich, a patent jurist and influential author in the patent field, presents this tongue-in-cheek view:

The inventor labors in his garret and brings forth something new and useful and beyond the capabilities of the ordinary worker in his field. He has spent his small savings and deprived himself and his family of comforts and invested much of his time. He has bettered the lot of mankind in some way. There is an instinct in human nature which holds him entitled to a reward or compensation for his achievement, partly out of gratitude, partly from a sense of fairness which engenders the feeling that he should be repaid his investment of time and money.¹⁶⁴

That such effort should be sheltered from the rigors of competition and rewarded through the grant of a valuable right is a powerful theme in

159. *Id.* at 1319.

160. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 730-31 (2002).

161. See Timothy R. Holbrook, *Substantive Versus Process-Based Formalism in Claim Construction*, 9 LEWIS & CLARK L. REV. 123, 133 (2005) (noting that the Federal Circuit “trumpets in mantra fashion the public notice function served by a patent and its prosecution history, offering formalistic rules to protect against the evisceration of this policy objective”).

162. See Craig Allen Nard, *A Theory of Claim Interpretation*, 14 HARV. J.L. & TECH. 1 (2000) (describing a hyper-textual approach to claim construction).

163. *Eldred v. Ashcroft*, 537 U.S. 186, 216 (2003) (stating “that [p]atents are not given as favors . . . but are meant to encourage invention by rewarding the inventor with the right, limited to a term of years fixed by the patent, to exclude others from the use of his invention.”) (quoting *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225, 299 (1964); *Graham v. John Deere Co.*, 383 U.S. 1, 8-9 (1966) (describing the patent system as “a reward, an inducement, to bring forth new knowledge”).

164. Giles S. Rich, *The Relation Between Patent Practices and The Anti-Monopoly Laws*, 14 FED. CIR. B.J. 21, 32 (2004). Rich stated that he believed that relying on the inventor “as inventor as though he were the principal character in this economic drama” was “a great mistake.” *Id.*

patent jurisprudence.¹⁶⁵ This imagery is particularly prevalent in cases decided before the 1952 amendments to the Patent Act. At that time, the “flash of creative genius” standard was used to determine the minimum standard of novelty for patentability.¹⁶⁶ The cases analyzed the inventive process in vivid detail, attempting to define circumstances under which it might be determined whether the inventor had “perceive[d] the vital forward step to which predecessors had been blind.”¹⁶⁷ Courts analogized to Edison’s inventive process, including reliance on such maxims as “genius as ‘2% inspiration and 98% perspiration’”¹⁶⁸ and “genius has well been defined as ‘an infinite capacity for taking pains.’”¹⁶⁹

Although the 1952 Patent Act attempted to establish objective criteria for inventions,¹⁷⁰ the language of a reward for the inventor as a creative genius still resonates within court decisions. For example, in *Eldred v. Ashcroft*,¹⁷¹ the Supreme Court has reiterated that the purpose of the constitutional provision supporting the patent system is “by holding out a reasonable reward to inventors, and giving them an exclusive right to their inventions for a limited period, to stimulate the efforts of genius”¹⁷² Similarly, in *Markman v. Westview Instruments*,¹⁷³ the court underscored that a patent’s meaning must be defined for “[t]he encouragement of the inventive genius of others”¹⁷⁴

Modern courts maintain these assumptions in generalized terms, without a subjective inquiry into the *actual* inventor’s state of mind except for some limited circumstances.¹⁷⁵ This is because individualized inquiries into an inventor’s subjective mental states have been seen as

165. The use of narrative imagery as a device in judicial reasoning has been explored in legal literature. See Robert M. Cover, *The Supreme Court, 1982 Term—Foreword: Nomos and Narrative*, 97 HARV. L. REV. 4 (1982); Roberta Rosenthal Kwall, “*Author-Stories*”: *Narrative’s Implications for Moral Rights and Copyright’s Joint Authorship Doctrine*, 75 S. CAL. L. REV. 1 (2001) (describing the use of narrative in copyright cases).

166. *Cuno Eng’g Corp. v. Automatic Devices Corp.*, 314 U.S. 84, 91 (1941) (“That is to say the new device, however useful it may be, must reveal the flash of creative genius not merely the skill of the calling. If it fails, it has not established its right to a private grant on the public domain.”).

167. See, e.g., *Trabon Eng’g Corp. v. Dirkes*, 136 F.2d 24, 27 (6th Cir. 1943).

168. *Trabon Eng’g Corp.*, 136 F.2d at 28.

169. *U.S. Gypsum Co. v. Consol. Expanded Metal Cos.*, 130 F.2d 888, 892 (6th Cir. 1942).

170. Giles S. Rich, *The Vague Concept of “Invention” as Replaced by §103 of The 1952 Patent Act*, 14 FED CIR. B. J. 147, 158-59 (2004) (describing the amendments to the 1952 Patent Act).

171. 537 U.S. 186 (2003).

172. *Eldred*, 537 U.S. at 224 (quoting *Penock v. Dialogue*, 27 U.S. 1, 19 (1829)).

173. 517 U.S. 370, 390 (1996).

174. *Markman*, 517 U.S. at 390 (quoting *Gen. Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938)).

175. Some aspects of the inventor’s state of mind are relevant to U.S. patent law. See, e.g., Janicke, *supra* note 126. These include establishing the date of conception of an invention. 35 U.S.C.A. § 102(g) (West 2006). Another example is the statutory disclosure requirement, which mandates that the patent disclose the inventor’s subjective best mode of making the invention. 35 U.S.C.A. § 112 (requiring that the patent specification “set forth the best mode contemplated by the inventor of carrying out his invention”).

interfering with the objective nature of the patent right.¹⁷⁶ Additionally, subjective inquiries are viewed as introducing unnecessary factual complexity and expense into the litigation of patent cases.¹⁷⁷

The synergy between the perception of the inventor as genius and the view that subjective inquiries are disfavored leads to a curious thematic presumption that the patent system protects a creative genius even where the actual inventor has no such qualities. More significantly for the purpose of this analysis, patent owners are not considered *at all* in the patentability inquiry, yet as recipients of all rights to the patent get all of the attendant presumptions and benefits that the patent system provides. In many ways, the true patentee becomes invisible. Instead, the inventive genius takes the actual patentee's place as the driver of the justifications for the patent right.

Simplification and certainty are considered primary goals of patent law, but this view operates to mask that not every inventor is Thomas Edison and that not every patentee owner is interested in the larger goals of society and innovation. The patent system is built on the assumption that the inventor must be rewarded and protected, an assumption that has created a system that benefits liquid patent owners who use patents for individual gain. An emphasis on patents as a purely objective, streamlined system without inquiry into the circumstances of invention (or, into ownership) thus furthers the liquid patent's goal to create private wealth.

III. WHETHER LIQUID PATENTS SHOULD BE TREATED DIFFERENTLY: THE DEBATE OVER INDIVIDUALIZED VERSUS UNIFORM PATENT RIGHTS

Over the past several years, there has been some debate over whether more individualized treatment of patent law would better effectuate patent policy. These arguments shed light on whether different rules for liquid patent holders should be developed to curb the potential for abuses of the system and to maintain the patent system's consistent goal of encouraging invention.

As previously outlined, stability and predictability is the Federal Circuit's primary and clear goal.¹⁷⁸ More individualized treatments of patents have been proposed. One example is Professor A. Samuel Oddi's proposal to establish an alternative to the present utility patent

176. Janicke, *supra* note 126, at 296 (questioning "whether, by insisting on conduct norms in the form of mental states embedded in patent law, the U.S. patent law system is encumbered more than it needs to be and disproportionately so to any value achieved.").

177. See, e.g., COMM. ON INTELLECTUAL PROPERTY RIGHTS IN THE KNOWLEDGE-BASED ECONOMY, NAT'L RESEARCH COUNCIL OF THE NAT'L ACADS., A PATENT SYSTEM FOR THE 21ST CENTURY 7, 117-23 (Stephen A. Merrill et al. eds., 2004).

178. Newman, *supra* note 123, at 688 ("[U]nless there can be reasonable reliance on legal advice given during the stages of invention and innovation, unless that advice can correctly predict the legal principles to be applied by the court, the court is not fulfilling its obligations to the public.").

system: a patent system for “revolutionary” patents.¹⁷⁹ Professor Oddi’s system would expand the categories of patentable inventions by broadening the classes of statutory subject matter and lowering the utility requirement.¹⁸⁰ At the same time, Professor Oddi’s system would modify the current novelty and non-obviousness standards to take into account other characteristics of the proposed invention is considered “revolutionary” or “extraordinary” based on the standards set by experts in the field of endeavor.¹⁸¹

In return, Oddi proposes that applicants who successfully obtain revolutionary patents would receive twice the term of protection than is available for utility patents under current law.¹⁸² Oddi’s proposal is intended to further proposition that the patent system produces a net benefit to society where patents are only granted for those inventions induced by the patent system—that is, patents should only be granted where the invention “would not have been made but for the availability of patents.”¹⁸³

The Federal Trade Commission (FTC) has proposed that patent policy be implemented in view of competitive policy.¹⁸⁴ Specifically, the FTC proposes that the inquiry of patent law’s non-obviousness standard¹⁸⁵ be shifted to consider “whether an invention likely would emerge in roughly the same time frame – that is, without significant delay – ‘but for’ the prospect of a patent.”¹⁸⁶

Another discussion concerning the modification of patent law’s uniform treatment of innovation include the work of Professors Dan Burk and Mark Lemley.¹⁸⁷ Burk and Lemley identify various points of the Federal Circuit’s disparate application of certain patent doctrines in the consideration of biotechnology patent cases when contrasted to the application of these same rules to computer software cases.¹⁸⁸ Specifically, Burk and Lemley state the courts have developed “a unique enclave of

179. See A. Samuel Oddi, *Beyond Obviousness: Invention Protection in the Twenty-First Century*, 38 AM. U. L. REV. 1097, 1115 (1989).

180. *Id.* at 1129-30.

181. *Id.* at 1131-32; see also *Roberts v. Sears, Roebuck & Co.*, 697 F.2d 796, 798 (7th Cir. 1983) (noting that an invention “was entitled to patent protection only if it was the kind of contribution unlikely to be induced except by the promise of a monopoly, and we do not think it was that kind of invention, because we think it would have been made anyway, and soon.”).

182. Oddi, *supra* note 179, at 1138-39 (“To provide an incentive for applicants to seek an early grant, the system should offer either the period of thirty-four years from grant or the longer period of thirty-six to forty years from the filing date.”).

183. *Id.* at 1101.

184. FED. TRADE COMM’N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY, EXECUTIVE SUMMARY 7-8 (2003), <http://www.ftc.gov/os/2003/10/innovationrpt.pdf> [hereinafter FTC PATENT REPORT].

185. 35 U.S.C.A. § 103 (West 2006).

186. FTC PATENT REPORT, *supra* note 184, at ch. 4, § II(A)(2).

187. See generally Dan L. Burk & Mark A. Lemley, *Biotechnology’s Uncertainty Principle*, 54 CASE W. RES. L. REV. 691 (2004).

188. *Id.* at 706-07.

patent doctrine for biotechnology” resting on assumptions about the person of ordinary skill in this art.¹⁸⁹ Burk and Lemley argue that the Federal Circuit’s choices fail to serve innovation in the biotechnology field.¹⁹⁰ They propose changes to the substantive requirements for patentability in order to facilitate an increased level of biotechnology invention.¹⁹¹ The authors conclude that “as a practical matter, it appears that, although patent law is technology-neutral in theory, it is technology-specific in application.”¹⁹²

The degree of variation that patent law should tolerate is controversial. Each of these proposals for change to the patent system has been made in the interest of furthering the patent system’s goals. Differences in the administration of patent law create uncertainty and complexity¹⁹³ and therefore stand in contrast to the congressional purpose in creating the Federal Circuit.¹⁹⁴ Likewise in this circumstance, proposed modifications to accommodate the use of liquid patents should be made only to the extent that such changes further patent policy.

Developing separate patentability rules for liquid patents is theoretically possible, of course.¹⁹⁵ For example, one might condition patent transfers on approval by a governmental agency, such as the U.S. Patent and Trademark Office. Utility standards for liquid patents could be raised to prevent potential interference with nascent markets.¹⁹⁶ A further proposal might be to create a standard whereby one considered the patent owner’s motives or reasons for asserting the patent in determining enforceability. Enforceability or remedies might be weakened for those engaged in licensing programs that have adverse economic consequences for innovation. Commercializing entities might be permitted an infringement defense of independent development for innocent infringement. Enforcement against abuses of the patent system could be considered under alternative causes of action such as through tort or antitrust theories.

Any proposed changes would be disruptive to the patent system’s goal toward preserving uniformity and objectivity in the patent system. For example, resting the standards of patentability on subsequent changes in ownership would interject a significant level of uncertainty into a decision to invest in invention. Certainly, the U.S. Patent and Trademark Office could not be expected to foresee transfer when issuing

189. *Id.* at 716.

190. *Id.* at 736-38.

191. *Id.* at 736-37.

192. *Id.* at 691.

193. R. Polk Wagner, *Exactly Backwards: Exceptionalism and the Federal Circuit*, 54 CASE W. RES. L. REV. 749, 755 (2004).

194. Newman, *supra* note 123, at 688.

195. See 35 U.S.C.A. § 101 (West 2006).

196. See *Brenner v. Manson*, 383 U.S. 519, 536, (1966) (discussing utility standard, stating “a patent system must be related to the world of commerce rather than to the realm of philosophy”).

patents in the first instance. Rendering the patent right vulnerable to later changes in ownership may hurt or discourage inventors who wish to engage in licensing or exchanging patent rights in return for funding that may be necessary for commercialization. However, such disruption may be warranted if liquid patents are inconsistent with the patent system's underlying justifications and Constitutional purpose. An examination of liquid patents in light of those policies follows.

IV. FOUNDATIONAL PUBLIC POLICIES SERVED BY THE PATENT SYSTEM

Although the creation and enforcement of liquid patents are well supported as a matter of patent law, their contribution to established patent policy is far less certain. To the extent that the patent system was created to facilitate invention and the commercialization of products which flow from those ideas, the creation of markets for patents as commodities seems to fall short. Further, to the extent that the patent system creates incentives to liquidize, measures should be undertaken to ensure that the use of patents is not contrary to the fundamental goals of the patent system.

A. The Constitutional Basis of the Patent Reward as Incentive

Patents are awarded to inventors for the development and disclosure of ideas that would otherwise be subject to copying.¹⁹⁷ Over the years, the incentive for which the patent system offers rewards has been refined to encourage: 1) invention of new and improved technology; 2) disclosure of this technology to the public; and 3) investment in the commercialization of patented ideas.¹⁹⁸

The patent as reward has infused U.S. patent policy since its inception in the U.S. Constitution, which authorized Congress to create the intellectual property protection "[t]o promote the Progress of Science and useful Arts"¹⁹⁹ As stated by the U.S. Supreme Court:

But in order to induce him to make that invention public, to give all a share in the benefits resulting from such an invention, Congress, by its legislation, made in pursuance of the Constitution, has guaranteed to him an exclusive right to it for a limited time; and the purpose of the patent is to protect him in this monopoly, not to give him a use which, save for the patent, he did not have before, but only to separate to him an exclusive use.²⁰⁰

197. See, e.g., Mark F. Grady & Jay I. Alexander, *Patent Law and Rent Dissipation*, 78 VA. L. REV. 305, 310-11 (1992).

198. *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1575 (Fed. Cir. 1995) (Nies, J., dissenting).

199. U.S. CONST. art. I, § 8, cl. 8 (granting Congress the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries").

200. *United States v. Am. Bell Tel. Co.*, 167 U.S. 224, 239 (1897).

The patent is “a reward, an inducement, to bring forth new knowledge” to further fields of human endeavor.²⁰¹

The reward for the inventor’s effects is the limited time period to exclude others from making, using, selling or importing the invention.²⁰² This period of exclusivity prevents others from practicing the invention until the patent expires, at which time the invention falls into the public domain and can be freely practiced by the public without permission of the patent holder.²⁰³ Innovators are deemed to develop patentable inventions in expectation of receiving any rewards that can be reaped from the period of exclusivity.²⁰⁴

In addition to justifying the patent laws as a whole, the patent as an incentive has also long influenced specific policy choices in the jurisprudence of patent law. These include critical components of the patent system, such as substantive requirements for patentability.²⁰⁵ Other examples include the utility requirement,²⁰⁶ inventorship,²⁰⁷ and the enablement requirement.²⁰⁸ As an additional example, this policy also provides support for the rule that inventors are the presumptive owners of their inventions.²⁰⁹

The “reward” that is the heart of the reward theory is the right to exclude competitors for the entire patent term. As the Federal Circuit has explained, the patent system depends on the right to exclude as an essential component of the reward incentive, as “without the right to exclude the express purpose of the Constitution and Congress, to promote the progress of the useful arts, would be seriously undermined.”²¹⁰ The

201. *Graham v. John Deere Co.*, 383 U.S. 1, 9 (1966).

202. *Pennock v. Dialogue*, 27 U.S. 1, 19 (1829) (stating “[w]hile one great object was, by holding out a reasonable reward to inventors, and giving them an exclusive right to their inventions for a limited period, to stimulate the efforts of genius; the main object was ‘to promote the progress of science and useful arts’”).

203. *Am. Bell Tel. Co.*, 167 U.S. at 239; see also *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 186-87 (1933).

204. *King Instruments v. Perego*, 65 F.3d 941, 950 (Fed. Cir. 1995) (“[T]he Patent Act creates an incentive for innovation. The economic rewards during the period of exclusivity are the carrot. The patent owner expends resources in expectation of receiving this reward.”).

205. *Graham*, 383 U.S. at 9 (“Only inventions and discoveries which furthered human knowledge, and were new and useful, justified the special inducement of a limited private monopoly.”).

206. *Brenner v. Manson*, 383 U.S. 519, 536 (1966) (“But a patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion.”).

207. *Univ. of Colo. Found., Inc. v. Am. Cyanamid Co.*, 196 F.3d 1366, 1372 (Fed. Cir. 1999) (noting that setting a uniform federal standard of inventorship is necessary to achieve the patent system’s reward system goal).

208. *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997) (recognizing that sufficient detail must exist within the patent to demonstrate the invention to one of ordinary skill in the arts).

209. *Teets v. Chromalloy Gas Turbine Corp.*, 83 F.3d 403, 407 (Fed. Cir. 1996) (“Ownership springs from invention. The patent laws reward individuals for contributing to the progress of science and the useful arts. As part of that reward, an invention presumptively belongs to its creator.” (citation omitted)).

210. *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 600, (Fed. Cir. 1985), modified on other grounds, 771 F.2d 480 (Fed. Cir. 1985).

right to exclude captures the idea into a legally enforceable ability to preclude others from practicing the invention, recognizing that the idea that is the subject matter of patents are, as with other intellectual property, a non-rivalrous knowledge good.²¹¹ That is, the information can be used by more than one party simultaneously. Because information can be easily shared and copied, a patentable idea could be copied and used by others. In economic terms, information is considered a “public good.”²¹² Absent an enforceable patent right, the inventor’s incentive would be destroyed by others who would use the invention to compete with the inventor. That is, because patent law requires inventors to publicly disclose sufficient details about their invention to permit reproduction as a condition of patentability, a patented invention can be copied by anyone willing to undertake that effort.²¹³ Those who choose to copy do not need to invest the time, money or risk that the initial inventor was required to undertake. The public goods problem that the patent system seeks to resolve is that, absent some form of legal protection, patents might be used as templates for copyists who could reproduce the invention without the burden of the investment risk undertaken by the inventor.²¹⁴ The legal protection afforded by the patent system permits enforcement and compensation for infringement as a legal barrier against free-riding and to protect the inventor based on the creation and disclosure of the invention.²¹⁵

The patent system acts to prevent a disadvantage to the inventor—who may have expended significant costs for the invention and development of a commercial application incorporating the invention—by a competitor who copies the product and therefore has “a cost advantage that may lead to a fall in the market price to a point at which the developer cannot recover his fixed costs.”²¹⁶

211. Non-rivalrous goods may be consumed by multiple users without diminishing the quantity or the utility of the good. In contrast, rivalrous goods are consumed as they are used and available only to one user at a time. Some rivalrous goods cannot be used again, such as when a particular apple is consumed. See, e.g., John F. Duffy, *The Marginal Cost Controversy in Intellectual Property*, 71 U. CHI. L. REV. 37, 40 (2004); Mark A. Lemley, *Property, Intellectual Property and Free Riding*, 83 TEX. L. REV. 1031, 1050-51 (2005) (describing the non-rivalrous nature of information as a public good).

212. See LANDES & POSNER, *supra* note 131, at 14 (explaining that a “public good” in the economic sense is that consumption by one person does not reduce its consumption by another).

213. 35 U.S.C.A. § 112 (West 2006) (requiring patent applicants to disclose information that enables one of ordinary skill in the art to reproduce the claimed invention); Lemley, *supra* note 108, at 129 (“Because ideas are so easy to spread and so hard to control, only with difficulty may creators recoup their investment in creating the idea. As a result, absent intellectual property protection, most would prefer to copy rather than create ideas, and inefficiently few new ideas would be created.”).

214. See Brett Frischmann, *An Economic Theory of Infrastructure and Commons Management*, 89 MINN. L. REV. 917, 947-48 (2005).

215. SCOTCHMER, *supra* note 132, at 34.

216. LANDES & POSNER, *supra* note 131, at 294.

B. Analysis of Liquid Patent and Patent Incentives

1. Incentive to Invent

Transfer of a patent right is temporally disconnected from invention. Liquid patents holders are interested in maximizing profits by asserting patents against infringers for licensing revenues.²¹⁷ Stated simply, the liquid patent holder's role takes place after invention has already taken place.

At best, liquid patent holders provide services that assist inventors in asserting their rights.²¹⁸ One could analogize liquid patent entities as supplemental to the inventive process as auction houses are to artistic and creative works. Such entities facilitate a secondary market to maximize private wealth and are not themselves the primary drivers of invention. At present, the secondary market for patents is a nascent one. The uncertain significance of this market, including the types and numbers of patents that can be supported, may provide an insufficient incentive to encourage investment in invention. The possibility of obtaining a financial reward in the market for liquid patents may not warrant the expense and time of developing an incentive, unless a clearer path to that market exists.²¹⁹

To the extent that a liquid market for patents becomes viable, care must be taken to avoid creating incentives to "invent" based on commercialized products already developed by others through the application of the novelty and non-obviousness standards, as well as through the application of prosecution history estoppel.²²⁰

217. See, e.g., Lisa Lerer, *Quick Draw*, IP LAW & BUSINESS, July 20, 2006 (describing attorney Raymond Niro's strategy of finding a buyer for a patent, then asserting the patent against forty companies in order to obtain \$65 million in licensing fees).

218. See Acacia Technology Group, *Why Use Acacia?*, <http://www.acaciatechnologies.com/whyuse.htm> (print on file with author).

219. For example, Intellectual Ventures has filed 500 patent applications to date, and holds invention sessions with scientists and engineers to generate ideas for patenting. See Press Release, Intellectual Ventures, *Intellectual Ventures Files 500th Patent Application* (June 26, 2006) (print on file with author), available at <http://www.intellectualventures.com/docs/500apps.pdf>. This organization is developing its own strategy to create a secondary market for patents, thus providing a comparatively certain path to market for patents that issue from these applications. A certain market also existed for the late Jerome H. Lemelson, who had been found to have "systematically extended the pendency of his applications by sitting on his rights . . . while waiting for viable commercial systems to be designed and marketed" and then "drafted and prosecuted hundreds of new claims in the late 1980's and 1990's specifically worded to cover those commercial systems." *Symbol Techs., Inc. v. Lemelson Med., Educ. & Research Found., Ltd. P'ship*, 301 F. Supp. 2d 1147, 1156 (D. Nev. 2004), *aff'd*, 422 F.3d 1378 (Fed. Cir. 2005) (invalidating Lemelson's patents). Because Lemelson's patents were based on an already-existing commercialized market, the path for obtaining revenue from Lemelson's efforts at "invention" was certain.

220. See *Symbol Techs.*, 301 F. Supp. 2d at 1156.

2. Incentive to Disclose

The patentability requirements include the inventor's obligation to disclose the details of the invention.²²¹ An inventor must include a written specification that describes the invention and tells the public how to make and use the invention.²²² In return, a patent applicant forgoes the potentially lengthier trade secret protection and the public gains the inventor's knowledge reproduced in the patent.²²³ Thus, meaningful description of the invention and its underlying technical information is part of the *quid pro quo* of the patentee's grant of the right to exclude²²⁴ "in the hope that, among other things, the disclosure of all inventions will add to the sum total of knowledge available to the general public."²²⁵ Including sufficient details about the invention permits members of the public to make and use the invention after the patent's expiration.²²⁶

As with invention, post-patent application transfers of the patent right are temporally disconnected from the inventor's decision to file a patent application. Non-commercializing inventors are likely to pursue patenting and the required disclosure. This is because non-commercializing inventors that seek to license are unlikely to be concerned about maintaining their inventions as trade secrets, as trade secrets are much more difficult to license compared to patent protection.²²⁷ Commercializing inventors will be unlikely to liquidize their patents, so long as they continue to commercialize the product made under the patent. Thus, the likelihood that the availability of a system of liquid patents will assist the disclosure policy of the patent laws is not significant.

Over time, patenting practices may increase if a stable asset market for patents emerges. If more patents are filed as the potential for profit becomes more readily realizable, the disclosure of more technical information may occur. As the Supreme Court has cautioned, however, "in light of the highly developed art of drafting patent claims so that they disclose as little useful information as possible—while broadening the

221. 35 U.S.C.A. § 112 (West 2006) states:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Id.; see also *Paulik v. Rizkalla*, 760 F.2d 1270, 1276 (Fed. Cir. 1985).

222. *Capon v. Eshhar*, 418 F.3d 1349, 1355 (Fed. Cir. 2005).

223. See Margo A. Bagley, *Academic Discourse and Proprietary Rights: Putting Patents in their Proper Place*, 47 B.C. L. REV. 217, 238 n.95 (2006).

224. *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 977 (Fed. Cir. 2002).

225. *Litton Systems, Inc. v. Honeywell, Inc.*, 145 F.3d 1472, 1474 (Fed. Cir. 1998) (Gajarsa, J., dissenting).

226. See *J.E.M. AG Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.*, 534 U.S. 124, 142 (2001).

227. Heald, *supra* note 107, at 482.

scope of the claim as widely as possible—the argument based upon the virtue of disclosure must be warily evaluated.”²²⁸

i. Commercialization

Commercialization has been called “the fundamental purpose”²²⁹ of the patent system, and is intended to encourage public benefits in the form of available commercial products and the private rewards generated in the sale or licensing of the patent. In the 1974 case *Kewanee Oil Co. v. Bicron Corp.*,²³⁰ the U.S. Supreme Court explained the reward incentive in terms of the need to use the patent system to develop, commercialize and sell products that derive from the inventions:

The patent laws promote this progress by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development. The productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens.²³¹

Commercialization of the ideas embodied in patents has been argued to provide significant social benefits that outweigh costs that the patent system imposes on society.²³² By way of example, innovative products and cost reductions that flow from research and development have been argued to be “quite remarkable,” and to outweigh the economic loss that society pays in licensing rates and other rents.²³³ One Federal Circuit jurist has explained that the court has allowed patent law to be “placed in the perspective of the marketplace: the destination contemplated in the Constitution.”²³⁴

The importance of commercialization as an incentive to the patent system was thoroughly discussed at the time of the 1952 amendments to the patent laws and the writings of a significant proponent and co-author

228. *Brenner*, 383 U.S. at 534.

229. *See Mossinghoff*, 758 F.2d at 599; *see also*, *Rohm & Haas Co. v. Crystal Chem. Co.*, 722 F.2d 1556, 1571 (Fed. Cir. 1983) (“Another policy of the system is to stimulate the investment of risk capital in the commercialization of useful patentable inventions so that the public gets some benefit from them, which may not occur in the absence of some patent protection.”).

230. 416 U.S. 470 (1974).

231. *Kewanee Oil Co.*, 416 U.S. at 480.

232. Kenneth W. Dam, *The Economic Underpinnings of Patent Law*, 23 J. LEGAL STUD. 247, 252 (1994) (explaining that innovation “leads directly to consumer benefits in the form of new products and lower prices”). The expansion of output and the reduction in price achieved through technological progress resulting from research and development may be quite remarkable, far beyond any possible social loss from rent seeking.

233. *Id.* (citing Andrew S. Rappaport & Shmuel Halevi, *The Computerless Computer Company*, 7/1/91 HARV. BUS. REV. 69, 70 (finding the price of computers measured in millions of instructions per second fell from about \$250,000 in 1980 to less than \$2,500 in 1990)).

234. *See, e.g.*, Newman, *supra* note 123, at 687.

of those amendments, Giles Rich.²³⁵ In a five-part essay that described the tension between the patent system and antitrust law, Rich placed the greatest emphasis on the last of these as “by far the greatest in practical importance” as “responsible for the actual delivery of the invention into the hands of the public.”²³⁶

Rich’s article quoted Conway P. Coe, then-Commissioner of Patents, emphasizing that, “[a]n inventor will not be rewarded and society will not be benefited until the invention passes into commercial channels.”²³⁷ Coe likened the U.S. Patent and Trademark Office to “sort of a national suggestion box” which others could use to further innovation.²³⁸ Critically, Rich recognized that many patents which had been submitted to this “national suggestion box” had never and would never be exploited, and opined that these “unused potential rights to exclude . . . do not adversely affect the public.”²³⁹ However, liquid patent holders have disturbed Rich’s calculus that unused patents impose no social costs.²⁴⁰ This is because holders of liquid patents have taken the unused patents out of the U.S. Patent and Trademark Office’s so-called “suggestion box”²⁴¹ to seek royalties on those engaged in commercialization.²⁴²

Liquid patents contradict the commercialization goal of patent law, because such patents are expressly not commercialized. Rather, such patents are used to generate revenue without undertaking the risks that innovation, commercialization and marketing would require.

Generally, economists assume that those willing to be exposed to increased risk might be expected to earn higher returns than if they had less exposure to risk.²⁴³ Applying this rule to patent principles, however, liquid patents provide inventors with the option of declining to avoid the risks of commercialization and instead sell their patents to a liquid patent holder for a specific and certain sum. Liquid patent holders have the luxury of holding onto the patent right until an appropriate and perhaps innocent commercializing infringer emerges. This raises the potential for waste, as the commercializing infringer independently develops the invention and incorporates the design into a product. In this scenario, all

235. Kieff, *supra* note 95, at 741.

236. *Id.* at 741-42 (citing Rich, *supra* note 164, at 133-34).

237. Rich, *supra* note 164, at 35.

238. *Id.*

239. *Id.*

240. *Id.*

241. *Id.* (quoting then-U.S. Patent and Trademark Commissioner Coe).

242. According to the U.S. Patent and Trademark Office, patentees abandon patents by failing to pay maintenance fees. Specifically, 20% of patentees abandon their patents by failing to pay their first maintenance fee at 3.5 years, 43% abandon by failing to pay at 7.5 years, and 75% abandon at 11.5 years. See United States Patent and Trademark Office *Questions and Answers Regarding the GATT Uruguay Round and NAFTA Changes to U.S. Patent Law and Practice* (Feb. 1995), available at <http://www.uspto.gov/web/offices/com/doc/uruguay/QA.html>.

243. See *Economics A-Z*, THE ECONOMIST.COM, <http://www.economist.com/research/Economics/alphabetic.cfm?LETTER=R#RISK> (defining “risk”) (print on file with author).

the risk of commercialization is on the infringer. Further, liquid patents are likely to encourage the anticommons problem²⁴⁴ by creating a potentially lucrative market for patents that are not commercialized into products for use by the public. That is, given the choice an inventor may sell the patent to a liquid patent holder rather than brave the market by creating a product. The patent system has allowed a right to be created without the corresponding social benefit that encourages the inventor to innovate and commercialize based on the original idea. Moreover, the opportunity to generate more ideas in the process of innovation (such as the better means of manufacture) or during commercialization (for example, improvements to the original idea based on customer feedback) are lost.

The courts' view of the reward system as a means to assist firms in invention and ultimately in taking steps toward commercialization has created an anomaly in the discussion of the goals of the patent system. Although the courts long ago recognized that as a policy matter the public was intended to benefit from products created by the patent owner's commercial exploitation of invention,²⁴⁵ more recently courts have made clear that the strength and existence of the patent right is unaffected where the owner decides not to commercialize or license the invention.²⁴⁶ Thus, the rule of patent law is that the existence of the patent right is entirely separate from those considerations—stated simply, one does not have to practice or license the patent as a condition of patentability.²⁴⁷

As a consequence, the problem of liquid patents sits squarely between the fundamental policy of reward theory and the rule of law. That is, reward policy favors implementation of the claimed invention, but patent law rules do not require incorporation of the patented idea into any product or service. Liquid patents seek the full level of protection that the patent system can provide despite their failure to contribute to the commercialization goal of the patent system.

244. The anticommons problem occurs where multiple early patent owners restrict development for later innovators. See Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 HARV. L. REV. 621, 624 (1998). This results in inefficient pricing. See Burk & Lemley, *supra* note 187, at 729 ("If a product must include components A and B, and A and B are each covered by patents that grant different companies monopoly control over the components, each company will charge a monopoly price for its component. As a result, the price of the integrated product will be inefficiently high—and output inefficiently low—because it reflects an attempt to charge two different monopoly prices."). Further, if a single patentee of a key component refuses to license, all subsequent innovation relying on that component may be impossible.

245. See *Kendall v. Winsor*, 62 U.S. 322, 327-28 (1859).

246. *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 213-14 (1980); *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 424-25 (1908).

247. See, e.g., *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1547 (Fed. Cir. 1995). When invoking this rule, Rite-Hite invoked the disclosure policy without crediting the commercialization policy. *Id.* ("A patent is granted in exchange for a patentee's disclosure of an invention, not for the patentee's use of the invention.").

C. *Ex Ante* Justifications for the Patent System: Kitch's Prospect Theory

A further goal of the patent system is outlined in a prominent 1977 article by Edmund Kitch describing his "prospect theory" of patents.²⁴⁸ In that article, Kitch describes certain *ex post* justifications for the patent system.²⁴⁹ Liquid patents operate *ex post*, that is, such transfers and related assertions occur after the patent has issued. Thus, an examination of how liquid patents fare under Kitch's theory may be helpful in determining where liquid patents fit within the current theoretical framework of the *ex post* use of patents.

1. Kitch's Prospect Theory

Analogizing patents to the mining claim system for public lands in the developing American West in the latter half of the nineteenth century, Kitch theorizes that the patent system confers socially beneficial activity after a patent right is created.²⁵⁰ Kitch's prospect theory is grounded on the patent system's award of exclusive and publicly recorded rights to first inventors who seek to develop a particular technology solution—typically, one who seeks the status of a pioneer in a particular field.²⁵¹ Just as the former mineral claim system created incentives "for prospectors to pack their burros and walk off in the desert in search of mineralization," Kitch believed that the patent system could allow pioneering inventors to control the development of their field of technology as an *ex post* reward for obtaining the patent right.²⁵²

Kitch argued that once a patent is granted, the public disclosure of the patent's issuance signals rivals to stop duplicative innovative activity for that technological field.²⁵³ According to the prospect theory, this circumstance puts the first inventor in the exclusive position to efficiently coordinate resources to enhance the patent's value.²⁵⁴ Under this theory, patent exclusivity provides an incentive to invent first to capture the patent, and prevents the waste of resources that would otherwise result if competing inventors continue duplicative inventive activity.

Kitch's theory makes a clean separation between the inventions which appear in patent claims, and the later commercial embodiments which typically require additional research, refinement and optimiza-

248. Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 266 (1977).

249. *Id.*

250. *Id.* at 271, 274.

251. *Id.* at 266.

252. *See id.* at 274, 276.

253. *Id.* at 278. As Kitch explains, "[n]o one is likely to make significant investments searching for ways to increase the commercial value of a patent unless he has made previous arrangements with the owner of the patent." *Id.* at 276.

254. *Id.* at 276.

tion.²⁵⁵ Further to this same point, Kitch argued that the patents encourage their owners to undertake the investment necessary to finalize and manufacture a commercial product based on the patent prospect without concerns about the competitive disadvantages that might be created, such as where a patent owner expends resources to promote consumer demand for a product in a manner that might benefit others firms within the same market.²⁵⁶ Kitch's prospect theory also recognizes a patent owner's incentive to seek licenses before the patent issues, based on the likelihood that the patent will issue.²⁵⁷ Indeed, Kitch proposes that patent licenses could be used to prevent wasteful duplication of innovative activity by allowing the patent holder to seek agreements that preclude competitors from designing around the patent owner's invention.²⁵⁸

At its core, Kitch's prospect theory argues in favor of early, broad grants of patent protection to a single inventor. In Kitch's world, the public grant to a single pioneer prevents wasteful duplicative technological investigation by others, because a publicly disclosed patent grant signals others that a winner has been declared. As one commentator has noted, "[b]ecause the right to innovate is a common right (it is not under exclusive control of any one firm), competition among firms will lead to inefficient races to invent that can dissipate any social surplus associated with an invention."²⁵⁹ The prospect theory holds that permitting a broad patent granted in the early stages of an innovative activity prevents this inefficiency as a disincentive to perform wastefully duplicative research.²⁶⁰

2. Application of the Prospect Theory to Liquid Patents

Although Kitch's prospect theory has been subject to criticism,²⁶¹ Kitch argued that "the prospect function is a significant, if not predominant, function of the American patent system as it has operated in fact."²⁶² Yet Kitch's prospect theory as proposed does not address how the patent system operates in situations where the invention as embodied in a patent is created to be transferred or sold to another.²⁶³ The theory focuses on *ex post* incentives that are intended to drive the inventor's initial decision to engage in innovative activity as well as the prevention

255. *Id.* at 271 ("Many inventions, including many important ones, are patented in a commercially significant form, yet the patented form is trivial in significance as compared to the later derived and improved versions.")

256. *Id.* at 277.

257. *Id.* at 278 ("[T]he patent gives [the] owner an affirmative incentive to seek out firms and inform them of the new technology, even before issuance, if the most efficient and hence patent-value-optimizing way to exploit the invention is to license it.")

258. *Id.* at 279.

259. John F. Duffy, *Rethinking the Prospect Theory of Patents*, 71 U. CHI. L. REV. 439, 440 (2004).

260. *Id.* at 444.

261. *See id.* at 442-43 (recognizing scholarly criticism of Kitch's prospect theory).

262. Kitch, *supra* note 248, at 267.

263. *See, e.g., id.* at 269 (examining priority rules).

of socially wasteful activity in the commercial market by non-inventors.²⁶⁴

It might be argued that liquid patents are entirely consistent with Kitch's theory, which hypothesizes that the patent system puts "the patent owner in a position to coordinate the search for technological and market enhancement of the patent's value so that duplicative investments are not made and so that information is exchanged among the searchers."²⁶⁵ Liquid patents may be argued to carry out the view that patent transfers permit a patent's maximum value and potential exploitation.²⁶⁶

There are several problems with this argument that demonstrate that the prospect theory fails to account for liquid patents. As an initial matter, the patentee's right of control—using the term "control" in the same sense as Kitch described as continuing to invent and commercialize around the original grant—ends with the patent's transfer of ownership to another. Kitch's fundamental assumption that a single inventor/owner has an incentive to mine the innovative activity that led to the patent grant simply disappears when the patent is sold.

Although it is possible that liquid patents can be used in a manner consistent with the rewards that Kitch identified by permitting transferability to an entity which is better positioned to market the benefits of the patent in the most economically and socially desirable manner possible, nothing in the patent law requires or even encourages a patentee to do so.²⁶⁷ Liquid patents can be readily sold to a licensing entity which adds the patent to its portfolio in the hopes of using the patent to generate licensing revenue, without any further incentive to invent or innovate around the original patent. That is, Kitch's interest rewarding patentees as prospectors is not backed by any patent rules that provide the benefits of commercialization of the products incorporating the patented invention. This is because the strength of the patent does not depend on whether or how a patentee seeks to reap the benefits of the right in a commercialized product.²⁶⁸ Further, nothing in patent laws requires that

264. *Id.* at 266 (noting the patent system's ability to achieve efficiency in the development and management of technological prospects "by awarding exclusive and publicly recorded ownership of a prospect shortly after its discovery").

265. *Id.* at 276. Burk and Lemley point out that Kitch's Prospect Theory operates in this respect as classic Coasean bargaining. Burk & Lemley, *supra* note 187, at 725 ("This is the Coase theorem at work. Under that theory, giving one party the power to control and orchestrate all subsequent use and research relating to the patented technology should result in efficient licensing, both to end users and to potential improvers . . ."); see, e.g., R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960) (setting forth the Coase theorem).

266. See, e.g., Robert P. Merges, *Of Property Rules, Coase and Intellectual Property*, 94 COLUM. L. REV. 2655, 2656 (1994) (describing the Coase Theorem as a system of allocating rights which permits transfer of rights to permit their highest-value use through private bargains).

267. See, e.g., *Bement v. Nat'l Harrow Co.*, 186 U.S. 70, 90-92 (1902) ("[T]he general rule is absolute freedom in the use or sale of rights under the patent laws of the United States."); *United States v. Studiengesellschaft Kohle, m.b.H.*, 670 F.2d 1122, 1127 (D.C. Cir. 1981).

268. See, e.g., *Cont'l Paper Bag*, 210 U.S. at 424-25.

a patent transfer be socially beneficial, economically efficient or allow for public access to the benefits of the invention.

Fundamentally, Kitch's theory envisions an inventor who undertakes efforts to manage resources, such as manufacturing, raising consumer interest in the product and resources necessary to finalize a commercial embodiment based on the patented invention, to maximize a patent's value.²⁶⁹ The benefits that flow from single stewardship of a broad patent granted early in the life of a patent do not necessarily flow where the patentee relinquishes that benefit to an entity engaged in licensing as a revenue generation model.²⁷⁰ The subsequent sale of the patent to an entity that does not itself engage in innovative activity is entirely attenuated from a patent system designed—to use Kitch's analogy—“for prospectors to pack their burros and walk off in the desert in search of mineralization.”²⁷¹ Kitch's prospect theory does not stretch far enough to justify the full range of rights afforded to those who purchase patents at an open market.

D. Summary of Liquid Patents and the Relation to Patent Theory

Liquid patents are geared to take financial advantage of rules that have stabilized and maximized patent protection in order to serve the overarching goals of innovation. Yet liquid patents do not serve—and in some cases act in contravention to—the policies developed by the courts and in the legal scholarship. While these rules may serve the goals of the patent system well in most instances, their application to permit profit-taking from using patents as assets is not supportable.

Patents raise the opportunity for strategic behavior²⁷² that does not always maximize social access to the fruits of inventive activity. An entity that seeks to license patents is interested in maximizing negotiating leverage against those who are commercializing products in order to obtain the maximum amount of licensing fees or damages in a lawsuit. Some of this behavior can adversely affect innovation by seeking to “tax” subsequent innovation with license fees that exceed an objective market licensing rate for the patent.²⁷³ Moreover, liquid patent holders can use their patents to threaten or even prevent entire areas of research while attempting to maximize their negotiating position.

269. See Kitch, *supra* note 248, at 276 (theorizing that ex ante benefit of a patent is that the right “puts the patent owner in a position to coordinate the search for technological and market enhancement of the patent's value”).

270. This circumstance might occur where a patent is purchased solely to “hold up” one's competitors or seeks to use the patent only to raise money through licensing revenue.

271. See Kitch, *supra* note 248, at 274.

272. See Merges, *supra* note 266, at 2659.

273. See *supra* text accompanying notes 32-46.

To the extent that patents are viewed as a system of regulation,²⁷⁴ the patent laws have not attempted to regulate liquid patent holders' strategic behavior. The disposition of post-grant patent rights are considered private rights which can be freely used to further the owner's—and not the public's—interest.²⁷⁵ Although in formation the patent right is fundamentally intended to benefit the public, post-grant uses of patents are generally deemed to be essentially free of regulation even when those rights are used in contravention to the public interest.

Proposed changes that would specifically target liquid patents conflict with the goal of uniformity that pervades the patent system. The patent as an immutable right has been entrenched in the U.S. patent system for the past two hundred years, and this circumstance has not been interfered with lightly. Modifications to the patentability standards or the ability to transfer patent rights create the possibility of interfering with favorable goals.

The patent laws currently consider the patentee's status primarily in determining remedies for patent infringement. A proposal that focuses on the remedies aspect of the patent statutes is therefore most consistent with the current structure of the patent system as a set of uniform rules. As liquid patent holders are primarily interested in maximizing licensing rates, a proposal for change that affects remedies may have the greatest potential effect on patent holders' negotiating conduct.²⁷⁶ Moreover, limiting the immunities that patent holders obtain under tort theories, such as the antitrust law, may serve to curb abuses of the patent system that are currently insulated from liability.

V. A PROPOSAL: USING PATENT REMEDIES AS A SOLUTION

A. Injunctive Relief

Before the recent case of *eBay Inc. v. MercExchange L.L.C.*²⁷⁷ was decided, as a general rule, a district court would issue a permanent injunction in patent cases that prohibited the future manufacture, import and sale of an infringing device after a judgment of infringement had been entered.²⁷⁸ At that time, the Federal Circuit noted that “courts have in rare instances exercised their discretion to deny injunctive relief in

274. See, e.g., Shubha Ghosh, *Patents and The Regulatory State: Rethinking the Patent Bargain Metaphor After Eldred*, 19 BERKELEY TECH. L.J. 1315, 1317 (2004).

275. See, e.g., Lemley, *supra* note 108, at 149 (“Individual companies are neither omniscient, pure-hearted, nor necessarily rational. Indeed, at best, they are out to line their pockets with as much money as they can find. No less a capitalist than Adam Smith warned us not to expect individual private companies to behave in the public interest.”).

276. Cf. Robert H. Mnookin & Lewis Kornhauser, *Bargaining in the Shadow of the Law: The Case of Divorce*, 88 YALE L.J. 950, 950-52 (1979) (arguing that parties reach agreements in private ordering based on considerations on the alternatives that adjudication would likely award).

277. 126 S. Ct. 1837 (2006).

278. *MercExchange, L.L.C. v. eBay, Inc.*, 401 F.3d 1323, 1338 (Fed. Cir. 2005), *rev'd*, 126 S. Ct. 1837 (2006).

order to protect the public interest.²⁷⁹ A case had to be “sufficiently exceptional” to the degree that, as a practical matter, the discretion to deny injunctive relief was very rarely exercised.²⁸⁰

The general rule favoring injunctive relief was reversed in *eBay Inc. v. MercExchange L.L.C.*²⁸¹ In that case, the U.S. Supreme Court held that a patentee must satisfy the traditional test before a court would exercise its power to grant permanent injunctive relief.²⁸² In order to obtain a permanent injunction, the patentee must demonstrate:

(1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.²⁸³

By requiring courts to meaningfully apply this four-factor test, the *eBay* court severed the patent right to exclude from the previously held law that permanent injunctions nearly always and almost inevitably followed a judgment of infringement.

Justice Kennedy’s concurring opinion in the *eBay* case agreed that the well-established, four-factor test must be used to determine whether a permanent injunction should be granted against a defendant who has been found to have infringed a valid patent.²⁸⁴ Justice Kennedy’s concurrence proposed that the historic outcome that injunctive relief should be granted may be different now that “[a]n industry has developed in which firms use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees.”²⁸⁵ Justice Kennedy recognized that in those circumstances the patent “can be employed as a bargaining tool to charge exorbitant fees to companies that seek to buy licenses to practice the patent.”²⁸⁶ Although Justice Kennedy singled out licensing entities as a potentially inappropriate case for permanent injunctive relief, Justice Kennedy’s opinion expressly rejected that such determinations should turn on “categorical rules.”²⁸⁷ Thus, Justice Kennedy’s opinion appears to reject any notion that *all* non-commercializing patentees be barred from permanent injunctive relief.

279. *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d at 1538, 1547 (Fed. Cir. 1995).

280. *MercExchange*, 401 F.3d at 1339.

281. *eBay*, 126 S. Ct. at 1841.

282. *Id.* at 1839.

283. *Id.*

284. *Id.* at 1842 (Kennedy, J., concurring).

285. *Id.* (Kennedy, J., concurring).

286. *Id.* (Kennedy, J., concurring).

287. *Id.* (Kennedy, J., concurring).

The *eBay* case presents an opportunity to solve part of the problem that liquid patents create—that is, the hold up problem that can prevent the implementation of subsequent invention and commercialization by others. Justice Kennedy’s concurrence should be adopted as an instructive example of how the majority opinion can be applied to liquid patents. As a practical matter, many liquid patent holders may have difficulty establishing a right to permanent injunctive relief now that *eBay* has shifted the legal standard. Primarily, liquid patent holders may have difficulty demonstrating irreparable harm, a critical element of the four-part test adopted by the *eBay* court.

Generally, irreparable harm is defined as an injury that cannot be compensated by monetary damages.²⁸⁸ Violation of the patent right alone is not irreparable harm, at least in the manner in which courts have defined that term in determining motions for preliminary injunctions.²⁸⁹ Companies can show irreparable harm by demonstrating an inability to calculate their injury by demonstrating, for example, a harmful impact to goodwill, erosion of a customer base or the diminishment of a competitive position in the marketplace.²⁹⁰ Liquid patent holders who do not sell product cannot establish any irreparable harm relevant to their competitive market position or lost customer base, because such companies have no market or customer base to protect. As the Federal Circuit has acknowledged in the context of considering preliminary injunctive relief, “[a]lthough a patentee’s failure to practice an invention does not necessarily defeat the patentee’s claim of irreparable harm, the lack of commercial activity by the patentee is a significant factor in the calculus.”²⁹¹

The remaining three factors of the *eBay* four-factor test are more fact-dependent and therefore the result may vary depending on the liquid patent holder’s conduct. For example, a liquid patent holder’s willingness to license has been viewed to demonstrate that an adequate remedy at law exists.²⁹² As for the balance of the parties’ hardships, an infringing product that brings significant public benefits may be found to outweigh a non-producing patentee’s interest in enforcement through injunction.²⁹³ Similarly, if a liquid patent holder can be made whole with

288. See, e.g., *Dominion Satellite, Inc. v. Echostar Satellite Corp.*, 356 F.3d 1256, 1257-58 (10th Cir. 2004).

289. *Reebok Int’l Ltd. v. J. Baker, Inc.*, 32 F.3d 1552, 1557 (Fed. Cir. 1994) (rejecting argument that harm to the patent right to exclude constitutes irreparable harm); *Ill. Tool Works, Inc. v. Grip-Pak, Inc.*, 906 F.2d 679, 683 (Fed. Cir. 1990) (“Application of a concept that every patentee is always irreparably harmed by an alleged infringer’s pretrial sales would . . . disserve the patent system.” (emphasis omitted)).

290. *Dominion*, 356 F.3d at 1261.

291. *High Tech Med. Instruments v. New Image Indus. Inc.*, 49 F.3d 1551, 1556 (Fed. Cir. 1995).

292. *T.J. Smith & Nephew Ltd. v. Consolid. Med. Equip., Inc.*, 821 F.2d 646, 648 (Fed. Cir. 1987) (licensing is “incompatible with the emphasis on the right to exclude that is the basis for the presumption” of irreparable harm).

293. See *MercExchange, L.L.C. v. eBay, Inc.*, 275 F. Supp. 2d 695, 714 (E.D. Va. 2003) (“[I]n a case such as this, the public does not benefit from a patentee who obtains a patent yet declines to

licensing fees awarded in the form of monetary relief, a court may be reluctant to hold that the balance of hardships warrants an injunction.

As for the public interest factor, courts are generally reluctant to assist a defendant who has been adjudged an infringer. This is because the public interest is generally considered to favor relief for those whose valid patent rights have been violated, and an injunction might be viewed as integral to the reward theory's encouragement of invention and disclosure. However, a patentee who does not make or sell any product cannot establish that the patent system's interests have been served.

eBay's requirement for an individualized assessment of the parties' positions will necessarily ask courts to examine the liquid patent holder's position in relation to the patent system and the public, both as a general matter and within the specific factual circumstances of the case. Liquid patent holders are likely to encounter significant impediments to permanent injunctive relief. If Justice Kennedy's guidance is adopted in the lower court's application of the *eBay* case, liquid patent holders will not have the threat of injunction as a negotiation tool.

B. Monetary Remedies

1. Background: Money Damages Under the Patent Act

According to the patent statute, "[u]pon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement"²⁹⁴ A key term in the statutory language is "compensate."²⁹⁵ Section 284 was enacted to "ensure that the patent owner would in fact receive full compensation for 'any damages' he suffered as a result of the infringement."²⁹⁶

Monetary compensation includes the patentee's lost profits, a reasonable royalty, or a combination of both. A patentee can establish recovery for lost profits by demonstrating that the infringing products or services resulted in the patentee's loss of earnings.²⁹⁷ The fundamental

allow the public to benefit from the inventions contained therein."), *rev'd*, 401 F.3d 1323 (Fed. Cir. 2005), *rev'd*, 126 S. Ct. 1837 (2006).

294. 35 U.S.C.A. § 284 (West 2006).

295. *Id.*

296. *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 654-55 (1983). A patentee may also seek damages for infringement for up to three times the damages award. 35 U.S.C.A. § 284; *see, e.g., Transclean Corp. v. Bridgewood Serv. Inc.*, 290 F.3d 1364, 1377-78 (Fed. Cir. 2002). In addition, a patentee obtains attorney fees, prejudgment interest and costs under certain circumstances. 35 U.S.C.A. §§ 284, 285 (West 2006).

297. Typically, patentees demonstrate lost profits by relying on the test in *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*, 575 F.2d 1152 (6th Cir. 1978). To meet the *Panduit* test, "a patent owner must prove: (1) demand for the patented product, (2) absence of acceptable non-infringing substitutes, (3) [its] manufacturing and marketing capability to exploit the demand, and (4) the detailed profit he would have made." *Id.* at 1156. A patentee does not need to demonstrate these factors with absolute certainty, but rather a reasonable probability that such sales would have been made absent infringement. *Rite-Hite*, 56 F.3d at 1545. Polaroid's burden of proof on the lost profits is not absolute, but one of "reasonable probability." *Id.* To obtain lost profits, a patentee does not

question for determining whether a patentee can obtain lost profits is whether the patentee can demonstrate with reasonable probability that, but for the infringement, the patentee would have made the sales that were made by the infringer.²⁹⁸

As liquid patent holders do not sell product, the more realistic means of recovery is a reasonable royalty, which also derives from section 284. This section explains that “[u]pon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, *but in no event less than a reasonable royalty for the use made of the invention by the infringer . . .*”²⁹⁹ Typically, a patentee who has never commercialized a product will be in a poor position to demonstrate lost profits.³⁰⁰ This provision was enacted to “ensure that the patent holder would in fact receive full compensation for ‘any damages’ he suffered as a result of the infringement.”³⁰¹ The inquiry to find reasonable royalty consists of two steps: 1) determination of a reasonable compensation base, i.e., the total value of the infringing items on which the patentee is entitled to royalty payments; and 2) determination of a reasonable royalty rate to apply to that compensation base.³⁰²

To determine the royalty rate, courts consider evidence from a number of sources. These include a fifteen-factor test from the *Georgia Pacific* case, otherwise known as the *Georgia Pacific* factors.³⁰³ The most salient portions of the *Georgia Pacific* test are the prior license rates obtained by the licensee, the commercial relationship between the patentee and the infringer, and the market rate for the patented invention that the parties would have reached if a rate had been negotiated between them.³⁰⁴ All factors do not need to be considered in every case, but rather fact finders have discretion to consider those that the court deems most relevant.³⁰⁵ Generally, a very important factor in this inquiry is the hypo-

need to prove that the patentee’s product incorporates the asserted patent, so long as the patentee’s product competes with the infringing product. *Id.* at 1548-49.

298. *Id.* at 1545.

299. 35 U.S.C.A. § 284 (emphasis added).

300. *Rite-Hite*, 56 F.3d at 1548 (“Normally, if the patentee is not selling a product, by definition there can be no lost profits.”). *But see* *King Instruments Corp. v. Perego*, 65 F.3d 941, 944 (Fed. Cir. 1995) (holding that a patent holder who did not practice the patent could recover lost profits where both parties marketed competing tape loading machines that that court found sufficient related to the patented technology for tape reel changing assembly). Specifically, the Federal Circuit affirmed a district court finding that the patentee would have made sales of the patentee’s machine absent infringement by the defendant. *Id.* at 953.

301. *Devex*, 461 U.S. at 654-55.

302. *See generally* *Gargoyles, Inc. v. United States*, 113 F.3d 1572, 1581 (Fed. Cir. 1997) (affirming trial court’s use of royalty rate multiplied by a royalty base).

303. *See, e.g.*, *TWM Mfg. Co., v. Dura Corp.*, 789 F.2d 895, 899 (Fed. Cir. 1986). The test derives from *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *modified and aff’d*, 446 F.2d 295 (2d Cir. 1971), *cert. denied*, 404 U.S. 870 (1971).

304. *Georgia-Pacific Corp.*, 318 F. Supp. at 1120.

305. *TWM Mfg. Co.*, 789 F.2d at 899 (affirming reasonable royalty and rejecting the argument that the calculation method was flawed due to the special master’s determination not to analyze all of the *Georgia Pacific* factors).

thetically negotiated rate between the parties.³⁰⁶ Despite the fact that the fundamental purpose of patent damages is compensation for the patentee, the reasonable royalty test contains no linguistic tether to the patentee's actual harm.

2. Disparities between Patent Value and the Value of a Liquid Patent

a. The Problem of Using Patent Purchase Prices In Litigation

One misconception that relates to liquid patents is whether price paid for the patent equates to the liquid patent holder's damages. This error fails to appreciate the theoretical distinction between the two. Patent damages represent compensation for harm suffered by the patentee for the infringer's use of the invention in a particular product, process or method.³⁰⁷ Because patent damages have a causative requirement, recovery for patent infringement is necessarily the specific harm from the use of a particular patent *in a particular infringing device*.³⁰⁸ That is, the right to recover for patent infringement measures the right of the patent holder to recover as against one particular party, the infringer, as that patent is being used in the infringer's products.³⁰⁹ By contrast, market prices represent an amount paid for an entire patent right separate and apart from the context of actual use.

This issue becomes significant because liquid patent purchasers who seek to exploit patents as commodities may base the potential value of the patent on licensing expectations drawn from anticipated jury awards. A court's acceptance of the purchaser's assumptions of the patent's value as correlative of an appropriate liability amount would both usurp the jury's role and create an unfortunate echo effect of the buyer's expectations of a patent's value influencing the measure of their own

306. *Rite-Hite*, 56 F.3d at 1554.

307. *Id.* In this case, the Federal Circuit explained the modern formulation of compensation under the patent statute. The *Rite-Hite* court emphasized that compensation for harm to the patentee was the fundamental purpose of the patent damages statute. *Id.* at 1544-45. The court found that damages required a causative relation between the infringement and the patentee's harm. See Paul E. Strand, *Back to Bedrock: Constitutional Underpinnings Set "New" Standards for Patent Infringement Causation*, 8 B.U. J. SCI. & TECH. L. 375, 392 (2002).

308. See *Riles v. Shell Explor. & Prod. Co.*, 298 F.3d 1302, 1311 (Fed. Cir. 2002); *TWM Mfg. Co.*, 789 F.2d at 901 (calculating damages separately based on the particular point in time at which the infringing act occurred). This rule has been expanded by the Federal Circuit's reading of the entire market value rule, as well as the court's willingness to permit recovery for bundled and conveyed sales into the base figure of a reasonable royalty award for damages. Amy L. Landers, *Let the Games Begin: Incentives to Innovation in the New Economy of Intellectual Property Law*, 46 SANTA CLARA L. REV. 307, 356-62 (2006); see also *Union Carbide Chem. & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366, 1378 (Fed. Cir. 2005).

309. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 508 (1964). Patent holders can recover only nominal damages if the infringer's use causes no actual harm to the patentee. *Aro Mfg. Co.*, 377 U.S. at 510.

harm. This result interferes with the objective standards by which liability rules operate.³¹⁰

Further, a patent purchaser's expectations of value may not reflect the patent's actual market value. For example, patents obtained at a liquidation bankruptcy or from a distressed company may have prices that fail to represent the full potential value of the invention.³¹¹ A bankruptcy trustee or individual responsible for the transfer may not have sufficient experience with technology assets or sufficient contacts to maximize the asset's value.³¹²

The price paid for a liquid patent may be of limited usefulness in a damages award, as the circumstances of the patent's acquisition and ultimate use of the patented invention play an important role.³¹³ The purpose of providing compensation for the patentee's harm may not be served with reference to the price paid by the liquid patent holder.

b. The Problem of Using Patent Auction Pricing in Litigation

Just as there are misconceptions surrounding the effect of a patent's purchase price on monetary damages, patent auctions have been erroneously argued to represent an objective measure of a liquid patent's licensing value:

In an auction, the determination of the fair price of the patent will not be the blind man's bluff exercise that often characterizes two-party negotiations, where neither party knows exactly what the other side is willing to accept and where both therefore risk either overpaying or underselling. In an open auction, the true value of the patent can be measured by the interest of multiple buyers. The seller can gauge the market value of his patent in the bidding process and the buyers can gauge the behavior of rival buyers.³¹⁴

An examination of these assumptions demonstrates that the dynamics of auctions do not deliver the same results as a negotiated royalty. This issue is significant because the patent holder may seek to pin the

310. Calabresi & Melamed, *supra* note 88, at 1107-08 (noting that liability awards are based on objective measures and that "there is no reason to believe that a market, a decentralized system of valuing, will cause people to express their true valuations and hence yield results which all would in fact agree are desirable").

311. David E. Leta & James H. Jones, *Valuing Intangible Assets in Bankruptcy Cases*, 18 UTAH B.J. 22, 22 (2005) ("In general, an intangible asset will have the highest value when it is being used in the business that created the asset, rather than when it is being sold apart from that business.").

312. Ronald J. Mann, *An Empirical Investigation of Liquidation Choices of Failed High Tech Firms*, 82 WASH. U. L.Q. 1375, 1390-92 (2004).

313. See, e.g., *Integra Life. I, Ltd. v. Merck KGaA*, 331 F.3d 860, 871 (Fed. Cir. 2003) (amended December 3, 2003), *rev'd on other grounds*, 545 U.S. 193 (2005) (recognizing that where the purchase price of an entire company was \$20,000,000, "[a] \$15,000,000 award figure to compensate for infringement of only some of [the patent owner's] patents before [the] acquisition seems unbalanced in view of the overall acquisition price").

314. Evans & Dolin, *supra* note 51.

patent's actual value to the auction price. Secondly, the patentee may attempt to license the patent based on the price paid at auction. Further, the liquid patent holder may argue that the auction price represents a significant figure for purpose of setting a damage award. However, there are a number of reasons why an auction price varies from each of these.

For example, the number of bidding parties at auction influences price, while bargaining power tends to be more significant in a two-party negotiation.³¹⁵ Competition among a number of bidders tends to drive prices higher at auctions when compared with prices resulting from two-party negotiations.³¹⁶ Moreover, it has been recognized that an auction winner is not the bidder who paid *market value* but rather the bidder with the *highest estimated value* for common value items, a phenomenon known as the "winner's curse."³¹⁷ This factor is difficult to quantify, as the price differential associated with the winner's curse varies with the structure of the auction and the sophistication of the bidder.³¹⁸

The auction value paid may also vary due to an individual bidder's circumstances, such as his or her ability to learn from the information disclosed during an open auction, and the bidder's attitudes toward taking risks more generally.³¹⁹ Research on the effect of emotions on bidding behavior is in a nascent stage, one recent study has introduced the emotional state of the bidder as another factor that affects bidding behavior.³²⁰ This study was based on a controlled experiment found that bid-

315. Jeremy Bulow & Paul Klemperer, *Auctions Versus Negotiations*, 86 AM. ECON. REV. 180, 180 (1996) (study analyzing auctions for the sale of a company).

316. See Paul Milgrom, *Auctions and Bidding: A Primer*, 3 J. ECON. PERSP. 3, 19 (1989).

[W]hen a seller employs an English auction to sell an item worth \$100 to himself to a pair of potential buyers with reservation values of \$170 and \$200, the equilibrium theory suggests that the sale will occur at \$170. Not only is the result efficient, but the seller gets a good price: By bargaining singly with the \$200 evaluator, the seller can at best hope to split the gains, getting a price at \$150 . . .

Id. (citation omitted).

317. Paul R. Milgrom & Robert J. Weber, *A Theory of Auctions and Competitive Bidding*, 50 ECONOMETRICA 1089, 1094 (1982). Most literature finds that the winner's curse does not exist for purely private value auctions, because bidder evaluations for such auctions are inherently individualized and therefore it cannot be said that one overpaid relative to an objective price. See, e.g., Robert C. Marshall & Michael J. Meurer, *Bidder Collusion and Antitrust Law: Refining the Analysis of Price Fixing to Account for the Special Features of Auction Markets*, 72 ANTITRUST L.J. 83, 95 (2004).

318. Dan Levin, et. al., *Revenue Effects and Information Processing in English Common Value Auctions*, 86 AM. ECON. REV. 442, 442-43 (1996); see also Marshall & Meurer, *supra* note 317, at 95 ("A sophisticated bidder avoids the winner's curse by recognizing that winning means all other bidders received less favorable signals, so she should adjust her expected valuation and bid accordingly.").

319. See John H. Kagel & Dan Levin, *The Winner's Curse and Public Information in Common Value Auctions*, 76 AM. ECON. REV. 894, 912 (1986) (noting that some bidders who adopted more aggressive bidding strategies were more successful than others, suggesting that bidders' attitudes toward risk and individual abilities toward processing information were important to auction outcomes).

320. Ronald Bosman & Arno Riedl, *Emotions and Economic Shocks in a First-Price Auction: An Experimental Study*, Tinbergen Institute Discussion Paper No. 2003-056, 1 (May 2003), available at <http://ssrn.com/abstract=417660>.

ders who were in a negative emotional state tended to increase their bid amounts.³²¹ The authors concluded, “emotions influence behavior of economic agents in a non-trivial way, even in competitive environments [such] as first-price auctions.”³²²

Prices obtained at an auction may vary from the market price for other reasons, including either explicit or implicit collusion among bidders or predatory behavior.³²³ One famous example involves the auction of ten blocks of spectrum sold by Germany in 1999,³²⁴ where two parties used signals embedded in bid amounts to divide a market between them.³²⁵ Such collusion may be difficult to detect, as an auction seller may not wish to police collusion by eliminating bidders because seller may be in a better position by keeping more bidders in the auction even if a depressed price is expected to result from the collusive activity.³²⁶ Thus, the effect of collusion may cause an effect on the patent price that makes calibration to the patent’s actual licensing value difficult to measure.

Prices set at auction may vary significantly for a number of reasons unrelated to an objective market measure of the good that is the subject of the auction, or as measured by a negotiated rate between the parties. The statement that “the true value of the patent can be measured by the interest of multiple buyers”³²⁷ fails to consider the full complexity that underlies auction pricing.

3. Compensation for Patent Infringement: Innovating Patentees and Liquid Patent Holders

One reason that the damages calculation presents an appropriate place for proposed changes is that damages focus precisely on the patentee. Proposed changes to the damages rules are also appropriate because some of the potential for harm to invention and innovation concern

321. *Id.* at 17.

322. *Id.* at 18.

323. Paul Klemperer, *Collusion and Predation in Auction Markets* 1 (February 2001 draft), available at <http://ssrn.com/abstract=260188>.

324. *Id.* at 2-3.

325. *Id.* In that instance, Germany set a rule that new bids on a block of spectrum had to exceed the previous high bid by at least 10 percent. *Id.* One company, Mannesman, submitted a high first bid on blocks 1-5 of 18.18 million deutschmarks per megahertz and 20 million on blocks 6-10. As one economist explains:

[t]he point . . . is that 18.18 plus a 10% raise equals 19.998 ≈ [approximately] 20. It seems T-Mobil understood that if it bid 20 million [deutschmarks] on blocks 1-5, but did not bid again on blocks 6-10, the two companies would then ‘live and let live’ with neither company challenging the other on ‘the other’s’ half. Exactly that happened.

Id. One of T-Mobile’s managers confirmed, “There were no agreements with Mannesman. But [T-Mobile interpreted] Mannesman’s first bid was a clear offer.” *Id.*

326. Klemperer, *supra* note 323, at 5 (noting a government seller that took no action against collusive bidding because the seller was afraid to reduce the number of potential bidders). The U.S. Department of Justice has expressed concerns about collusive bidding. See Marshall & Meurer, *supra* note 317, at 83 (noting the antitrust community’s lack of attention to auction collusion).

327. Evans & Dolin, *supra* note 51.

a liquid patent holder's ability to use strategies to increase licensing rates above the market. As illustrated by the comparison of two cases—*Polaroid Corp. v. Eastman Kodak*³²⁸ and *MercExchange LLC v. eBay Inc.*³²⁹—there is a distinction between the nature of the harm suffered by a patentee who commercialized a patented invention and the owner of a liquid patent.

a. *Polaroid v. Kodak*: The Nature of A Commercializing Patentee's Harm

Polaroid's patent infringement case against Kodak³³⁰ provides a useful illustration of a case involving an innovating patent holder. Polaroid filed suit against Kodak, who was found to have infringed twenty claims of seven patents that the court determined incorporated instant photography as implemented by both parties.³³¹ Polaroid sought damages on the two available damages theories—lost profits and a reasonable royalty.

Polaroid's case represents the paradigmatic case for the reward and prospect policies embodied in the patent laws. Polaroid's technology was developed by the company's founder, Edwin H. Land,³³² who obtained his first patent in the field in 1933.³³³ Upon the introduction of product to the market in 1948, "[i]nstant photography created a sensation"³³⁴ At that time, the technology was relatively crude. After taking a picture, end users had to pull out a positive and negative "sandwich" packet from the camera.³³⁵ The end user then had to separate the sandwich by peeling the negative away, to reveal a monotone, sepia-colored photograph.³³⁶

As Kitch's prospect theory might have foretold, Polaroid continued to innovate in the instant photography field and ultimately developed an "elegant, highly sophisticated camera and film system" such that "[t]he photographer needs to do nothing but focus the camera and expose the film to obtain a finished print."³³⁷ Polaroid continued to obtain patent improvements, some of which were asserted against Kodak in the law-

328. No. 76-1634-MA, 1990 U.S. Dist. LEXIS 17968 (D. Mass. Oct. 12, 1990, corrected Jan. 11, 1991).

329. 275 F. Supp. 2d 695 (E.D. Va. 2003), *aff'd in part, rev'd in part on other grounds*, 401 F.3d 1323 (Fed. Cir. 2005), *rev'd on other grounds*, 126 S. Ct. 1837 (2006).

330. *Polaroid Corp.*, 1990 U.S. Dist. LEXIS 17968.

331. *Id.* at *1.

332. *Id.* at *12.

333. *Polarizing Refracting Bodies*, U.S. Patent No. 1,918,848 (filed Apr. 26, 1929) (issued July 18, 1933).

334. *Polaroid Corp.*, 1990 U.S. Dist. LEXIS 17968, at *12.

335. *Polaroid Corp. v. Eastman Kodak Co.*, 641 F. Supp. 828, 830 (D. Mass. 1985) (describing the earliest versions of the technology).

336. *Polaroid Corp.*, 641 F. Supp. at 830.

337. *Id.* at 831.

suit.³³⁸ Consistent with the reward incentive, Polaroid enjoyed market exclusivity from 1948 until Kodak entered the market in 1976.

Beginning in 1969, Kodak began research and development efforts for an instant photography system for projected entry into the market in 1976.³³⁹ Several parallel projects were pursued with at least one project becoming abandoned after Kodak spent as much as \$94 million dollars in research and development.³⁴⁰ Kodak purchased large quantities of Polaroid's products, and ordered several groups to familiarize themselves with Polaroid's technology.³⁴¹ In September 1973, Kodak's Development Committee stated that Kodak's "development should not be constrained by what an individual feels is potential patent infringement."³⁴² Kodak ultimately entered the market with a series of simple cameras that sold at a lower price range than Polaroid's more sophisticated versions.³⁴³

After Kodak was found to have infringed Polaroid's patents, Polaroid asserted that Kodak's entry into the market had forced a price war, that Polaroid had been forced to change business strategy to prioritize lower-priced cameras to hold market share against Kodak's inexpensive products, and that Polaroid was unable to raise prices based on the fear that the market would tip in Kodak's favor.³⁴⁴ After reviewing substantial evidence submitted by the parties, the court found that Polaroid lost profits of over \$248 million.³⁴⁵ In addition, the court awarded a reasonable royalty of ten percent of Kodak's sales and prejudgment interest for a total award of over \$870 million.³⁴⁶

Kodak's infringement harmed Polaroid in a number of ways. Polaroid's right to exclude under the patent right was being violated by Kodak. Polaroid had incurred significant research and development costs for the technology at issue, building on work since the company had been founded several decades earlier.³⁴⁷ In addition, Polaroid suffered direct market harm by lost sales to Kodak as a competitor.³⁴⁸ Polaroid also claimed that its "historical business practices, and the sensible business direction it would have taken, was altered and diverted because it had to respond to Kodak's entry into the instant photography mar-

338. *See id.* at 830 (describing the patents at issue).

339. *Id.* at 831.

340. *Id.*

341. *Id.* at 832.

342. *Id.*

343. *Polaroid Corp.*, 1990 U.S. Dist. LEXIS 17968, at *17.

344. *See id.* at *28-30.

345. *Id.* at *208.

346. *Id.* at *220, 246; *see also* *Polaroid Corp. v. Eastman Kodak Co.*, No. 76-1364-MA, 1991 U.S. Dist. LEXIS 344, at *12 (D. Mass. Jan. 11, 1991) (noting the corrected final judgment amount).

347. *See Polaroid Corp.*, 1990 U.S. Dist. LEXIS 17968, at *183.

348. *See id.* at *20-21.

ket.”³⁴⁹ Polaroid further argued that Kodak had waged a price war that in turn forced Polaroid to reduce prices for its products.³⁵⁰

b. *MercExchange, L.L.C. v. eBay, Inc.*:³⁵¹ The Nature of a Liquid Patent Holder’s Harm

MercExchange, L.L.C. v. eBay, Inc. provides an opportunity to examine the damage positions of a liquid patent holder. MercExchange technology concerned particular methods for purchasing on the internet.³⁵² The patent was developed by MercExchange’s founder, Thomas Woolston, an electrical engineer and patent attorney.³⁵³ Woolston filed his first patent application in April 1995, which was the parent of the patent asserted against eBay in the lawsuit.³⁵⁴ Woolston invented his system to use in a business that would practice his invention.³⁵⁵ MercExchange developed a business plan, sought capital and hired employees to put the patents into practice.³⁵⁶ In addition, MercExchange sought to license the patents,³⁵⁷ including through discussions with eBay.³⁵⁸ In 2000, it became clear to MercExchange that it lacked the capital to commercialize its inventions.³⁵⁹

MercExchange filed suit against eBay, a successful Internet company, and two other entities alleged to be using MercExchange’s technology.³⁶⁰ At trial, these defendants were held to have willfully infringed MercExchange’s patent.³⁶¹ Despite the Schumpeterian view that “[a]s long as they are not carried into practice, inventions are economically irrelevant,”³⁶² the trial court entered judgment for \$29.5 million in favor of MercExchange.³⁶³ The amount awarded by the jury was three times higher than the figure proposed by MercExchange’s expert.³⁶⁴

349. *Id.* at *29.

350. *Id.*

351. 275 F. Supp. 2d 695 (2003), *aff’d in part, rev’d in part on other grounds*, 401 F.3d 1323, 1339–40 (Fed. Cir. 2005), *rev’d on other grounds*, 126 S. Ct. 733 (2006).

352. Brief for Respondent at 2, *eBay Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837 (2006) (No. 05-130).

353. *Id.* at 1.

354. *Id.*

355. *Id.* at 3.

356. *Id.*

357. *Id.*

358. *Id.*

359. *Id.* at 4.

360. *Id.* at 4, 29.

361. *Id.* at 6. The U.S. Supreme Court vacated a permanent injunction against eBay and remanded the case, directing the trial court to consider equitable principles in determining whether such relief was appropriate in the case. *eBay Inc.*, 126 S. Ct. at 1841.

362. See Julie S. Turner, *The Nonmanufacturing Patent Owner: Toward a Theory of Efficient Infringement*, 86 CAL. L. REV. 179, 188 (1998) (quoting JOSEPH A. SCHUMPETER, *THE THEORY OF ECONOMIC DEVELOPMENT* 88–89 (Redvers Opie trans., Harvard Univ. Press 1951)).

363. *MercExchange*, 275 F. Supp. 2d at 722.

364. *Id.* at 709.

The difference between the economic harm that Polaroid suffered compared to the type of harm suffered by MercExchange lies in the critical details of each plaintiff's position. Unlike Polaroid, MercExchange did not lose sales because MercExchange did not sell any product or provide any selling service relating to the patent. Rather, MercExchange's sole use of the patent was to license the patent to infringers.³⁶⁵ The argument that lost profits should be recoverable because the infringer effectively prevented the patentee's ability to enter the market was not at issue in the *MercExchange* case. Likewise, MercExchange did not argue that eBay's infringement prevented MercExchange's ability to obtain the financing necessary for MercExchange to commercialize. Rather than pursuing such theories, MercExchange sought a reasonable royalty and damages for willful infringement.³⁶⁶ MercExchange also took the position that eBay's infringement made licensing to others more difficult.³⁶⁷

In short, the type of harm that MercExchange suffered was different in kind that that suffered by Polaroid. Although both MercExchange and Polaroid developed technology, unlike Polaroid MercExchange was not harmed by the infringement with respect to costs relating to the creation of a market, lost sales to a competitor or by losing the costs to develop and commercialize a product. MercExchange did not suffer competitive harm.

There are a number of sound reasons why patentees do not commercialize their inventions.³⁶⁸ As with the patentee in the *MercExchange* case, the inventor may lack sufficient financial resources to bring the patented idea to the market. The patent may be targeted to a market that has not sufficiently developed to support manufacture and sale. There may be implementation problems for the commercial application of the idea. A patent holder may determine that licensing the patent is more profitable or poses fewer risks than commercialization. Under patent law, there is no question that compensation for non-commercialized patents is available.³⁶⁹

However, the case law has not clearly defined the analysis to sufficiently compensate harm from infringement of liquid patents. As a lost

365. Brief for Respondent, *supra* note 352, at 4.

366. See *MercExchange*, 275 F. Supp. 2d at 718.

367. Brief for Respondent, *supra* note 352, at 4.

368. Roger D. Blair & Thomas F. Cotter, *Rethinking Patent Damages*, 10 TEX. INTELL. PROP. L.J. 1, 75-76 (2001). This article cites the following: (1) the invention is not commercially viable, due to circumstances such as lack of demand, cost, lack of financing, inability to develop a marketable embodiment, or underestimation of its commercial value; (2) the technology is commercially viable but less promising than other technologies the patent owner is investigating; (3) the technology lacks commercial applications within the area of the patent owner's expertise; (4) the patent owner has been unable to find a willing licensee to commercialize the patent; and (5) the patent owner resists commercialization, because the new invention would compete against some other product the patent owner currently markets. *Id.*

369. *King Instruments*, 65 F.3d at 949.

profits analysis is unlikely to apply to an entity that is solely devoted to licensing, the relevant standard for damages for infringement of a liquid patent is reasonable royalty.³⁷⁰ Both the U.S. Supreme Court and the Federal Circuit agree that patentee compensation is the fundamental purpose of patent damages.³⁷¹ In short, “while the statutory text states tersely that the patentee receive ‘adequate’ damages, the Supreme Court has interpreted this to mean that ‘adequate’ damages should approximate those damages that will fully compensate the patentee for infringement.”³⁷² However, there is no test which assists the lower courts in determining how much a violation of the patent right—in the abstract and without any related market harm—is worth. Further, and somewhat curiously, no *Georgia Pacific* factor asks the fact finder to consider the type or extent of the patentee’s harm although this is the fundamental statutory purpose of section 284.³⁷³

Both the U.S. Supreme Court and the Federal Circuit have recognized that damages must have a *causative relation* to the harm suffered by the patentee to the damages awarded.³⁷⁴ Yet the *Georgia Pacific* factors, which represent the fundament test for reasonable royalty damages, do not contain *any* causative requirement.

Where both parties are competitors that innovate and sell products, the absence of considerations, such as the nature of the patentee’s harm from the *Georgia Pacific* factors creates little difficulty. Just as Polaroid’s right to exclude was accompanied by actual harm to Polaroid’s efforts to commercialize instant photography, many patentees suffer harm to business in a measurable, tangible way when encountering infringing competitors even though such harm is not compensable as lost profits under section 284.

At present, the reasonable royalty test does not include a concrete framework for differentiating between the types of harms suffered by liquid patent holders from those patentees who have undertaken the expense and risk of innovation and commercialization. A jury is given no criteria to measure harm that flows from the violation of the right to exclude in isolation. Yet it is precisely this violation that is at stake when a liquid patent is asserted in litigation. Creating a method to quantify such

370. See *supra* text accompanying note 299.

371. See, e.g., *Devex*, 461 U.S. at 653–54; *Rite-Hite*, 56 F.3d at 1544–45.

372. *Rite-Hite*, 56 F.3d at 1545.

373. See 35 U.S.C.A. § 284 (West 2006).

374. *Aro Mfg. Co.*, 377 U.S. at 507 (The question to be asked in determining damages is “how much had the Patent Holder and Licensee suffered by the infringement. And that question [is] primarily: had the Infringer not infringed, what would the Patentee Holder-Licensee have made?”) (quoting *Livesay Window Co. v. Livesay Industries, Inc.*, 251 F.2d 469, 471 (5th Cir. 1958)); see also *Rite-Hite*, 56 F.3d at 1545.

harm would permit more accuracy in jury awards, and would also provide parameters for licensing discussions with liquid patent holders.³⁷⁵

4. Proposal for Modifications: Addressing Monetary Damage Awards for Infringement of Liquid Patents

Proposals to change the patent system to accommodate the practices of liquid patent holders fit within the contours of existing law for patent damages. The damages calculation, which is directed to compensate harm to the patentee, should specifically consider the patent owner's use and exploitation of the patent. The following proposals are therefore appropriate for the damages calculation for a liquid patent.

- a. Fact finders should expressly consider the nature of the harm to the patentee.

The patent holder should outline the nature of the harm that is suffered, consistent with the acknowledged statutory purpose of 35 U.S.C. section 284. Currently, both innovating patentees and liquid patent holders may seek reasonable royalty recovery under the general rubric of the *Georgia Pacific* test.³⁷⁶ However, the nature of the harm suffered by each may be quite different in kind, as one who undertakes the risk and expense of innovation is likely to suffer different harm than one who purchases a patent. The *Georgia Pacific* test should be modified to expressly require patentees to identify the nature of the harm that has been suffered.

Additionally, the patentee should identify the causative relation between the amount sought to recover for infringement and the harm suffered by the patentee. Thus, those patentees who have been precluded from entering the market by an infringer are likely justified in seeking a higher royalty award than those who have made an independent decision to refrain from commercialization independent of any conduct of the infringer.

This proposal should not suppress royalty awards, as one would expect the owner of a very valuable liquid patent to obtain a substantial royalty award based on the infringer's use. If the patentee's harm is based on the infringer's failure to take a license, the standard is intended to focus the fact finder's attention on the effect of that conduct on the patentee.

375. Cf. Mnookin & Kornhauser, *supra* note 276, at 950-51 (arguing that parties reach agreements in private ordering based of considerations on the alternatives that adjudication would likely award).

376. See *Georgia-Pacific Corp.*, 318 F. Supp. at 1116.

- b. If the harm to the right to exclude a liquid patent is infringer's failure to take a license, the parties should proffer a proposed royalty rate that does not depend on the availability of a mandatory injunction against future infringement.

Until *eBay Inc. v. MercExchange, L.L.C.*³⁷⁷ was decided by the U.S. Supreme Court in 2006, the Federal Circuit applied a "general rule that courts will issue permanent injunctions against patent infringement absent exceptional circumstances."³⁷⁸ As a practical matter, permanent injunctions were routinely granted in the district courts after a finding of patent infringement.³⁷⁹

Historical license rates have been skewed upward by the practice that patent holders have been able to threaten to shut down production with these nearly automatic injunctions that would prevent their licensee targets from selling any future products.³⁸⁰ The widespread and certain availability of a permanent injunction in patent cases permitted patent holders to hold out and negotiate royalty rates that exceed the value of the patented invention.³⁸¹ Under those circumstances, patent owners were overcompensated for the inventions, particularly in those cases where the invention covered only a portion of the accused device or process.³⁸²

Negotiated royalties established under the threat of the entry of an automatic permanent injunction have been subject to the hold out effect. At the same time, the reasonable royalty damages calculation favors a rate based on historical licensing rates to the extent that such rates exist.³⁸³ To the extent that a patentee has had the benefit of licensing negotiation leverage based on the ready availability of injunctive relief, the established royalty should be discounted to reflect the patentee's harm.

377. 126 S. Ct. 1837 (2006).

378. *Id.* at 1839 (quoting *MercExchange, L.L.C. v. eBay, Inc.*, 401 F.3d 1323, 1339 (Fed. Cir. 2005)).

379. See Brief Amici Curiae of 52 Intellectual Property Professors in Support of Petitioners at 2, *eBay Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837 (2006) (No. 05-130) (noting the trend toward the automatic entry of an injunction in patent cases).

380. *eBay Inc.*, 126 S. Ct. at 1842 (noting that for licensing entities, "an injunction, and the potentially serious sanctions arising from its violation, can be employed as a bargaining tool to charge exorbitant fees to companies that seek to buy licenses to practice the patent") (Kennedy, J., concurring).

381. Carl Shapiro, *Injunctions, Hold Ups and Patent Royalties*, Aug. 2006, <http://faculty.haas.berkeley.edu/shapiro/royalties.pdf> ("Royalty over-charges are greatest for weak patents covering patented features that offer minor contributions to complex products sold at prices well above margin cost.").

382. *Id.* at 1 ("The principal finding in this paper is that the current U.S. patent system systematically overrewards the owners of weak patents, especially in the information technology sector where a single product can incorporate many patented features.").

383. *Rite-Hite*, 56 F.3d at 1554 ("The royalty may be based upon an established royalty, if there is one, or if not, upon the supposed result of hypothetical negotiations between the plaintiff and defendant.").

The patent holder's ability to hold out based on the threat of an permanent injunction under the former law should not supersede the fundamental purpose of the damages statute, which is to provide the patentee with compensation for harm.

- c. The amount paid for the patent by the patent holder should not be determinative of the royalty rate for infringement in the litigation.

As detailed above,³⁸⁴ the amounts paid by a patentee have limited assistance in determining the current value of a patent or in setting the measure of a patentee's harm. The circumstances and dynamics of the acquisition should be examined to determine whether the patent holder paid a price that is informative of the patent's fair market value.

Further, 35 U.S.C. section 284 dictates that damages be awarded "adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer..." This statutory language puts a clear focus on an examination of the patent as implemented in the infringing product. Thus, a patentee's recovery is in the nature of a non-exclusive license for a particular use for a specific time frame. The price paid to obtain the patent has limited usefulness for that purpose.

- d. The award to the patentee should not award the risks of innovation to the liquid patent holder.

Unless there is a causal relation between the infringement and the patentee's determination to license rather than to commercialize the patent, the fact finder should not award innovation costs to the patentee. The *Georgia Pacific* test asks the jury to consider as the thirteenth factor "[t]he portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer."³⁸⁵ However, this factor is stated too narrowly to allow attribution of all innovative activity to the infringer. For example, the popularity of a product that is due to the infringer's advertising, development of a market, superior consumer support, the infringer's name or development of marketing and distribution channels are not valid components of the patentee's harm.

Even if this issue were resolved, however, difficulties remain. A jury should be presented with relevant, scientifically valid evidence that permits consideration of the relevant contribution of both parties to the infringing product. The jury would then calculate a royalty that considers the efforts of both parties to product sales. Such a procedure would

384. See *supra* Part V.B.2.

385. See *Georgia-Pacific Corp.*, 318 F. Supp. at 1120.

attempt to isolate the value of the invention as used in the infringing product. To the extent that courts wish to include some damages to accomplish deterrence by increasing the damage award, that measure could then be added. Because courts have failed to apply damages policies and evidentiary standards meaningfully, royalties awarded in patent cases fail to be accurate measures of a patentee's harm.³⁸⁶

Moreover, the trend over the past several years has been to award more of the infringer's innovative activity to the patentee and not less. In part, this has been because the court has expanded the "entire market value" rule.³⁸⁷ The entire market value rule is applied where both patented and unpatented components are sold together.³⁸⁸ Essentially, the entire market value rule expands the royalty base to permit the patentee to recover for unpatented components, in recognition that "the economic value of a patent may be greater than the value of the sales of the patented part alone."³⁸⁹ Formerly, royalty awards were increased by expanding the royalty base if the patented components were of "substantial importance" the sale a multi-invention product.³⁹⁰ For example, the Federal Circuit permits expansion of the royalty base where the unpatented components are foreseeably sold with the patented components.³⁹¹ This broad foreseeability standard permits a jury to award damages for unpatented component to the patentee so long as all components are sold together. Indeed, recently the Federal Circuit has upheld a royalty award that was based on sales of products to the parent company of the patent holder.³⁹² In that case, the parent company commercialized the product, but the patent holder did not.³⁹³ The entire market value rule as recently applied awards more of the value of infringer innovation and commercialization to the patentee.

For liquid patent holders who have made a conscious decision not to engage in any product development, marketing or sales, expanded awards are not adequate reflections of the patentee's harm. Permitting liquid patent holders to recover the full benefit of the defendant's innovative activity does not serve the purpose of compensating patentees for the harm suffered, which for liquid patent holders amounts to a lost opportunity to grant a non-exclusive license to the infringer. Patentees operating under the current standards may determine that undertaking the risk of

386. Landers, *supra* note 308, at 334-35.

387. See *King Instruments*, 65 F.3d at 951 n.4.

388. See *id.*

389. See *id.*; see also *Site Microsurgical Sys., Inc. v. Cooper Cos.*, 797 F. Supp. 333, 340 (D. Del. 1992) ("The rule merely recognizes the actual economic value of the patented technology.")

390. *Leesona Corp. v. United States*, 599 F.2d 958, 962, 973-974 (Ct. Cl. 1979).

391. *Minco, Inc. v. Combustion Eng'g, Inc.*, 95 F.3d 1109, 1118 (Fed. Cir. 1996) (although the patent claims covered only a *device* for fusing materials, the court awarded damages on the *fused materials themselves*, as a foreseeable harm from the infringement).

392. *Union Carbide Chem. & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366, 1378 (Fed. Cir. 2005).

393. *Union Carbide Chem.*, 425 F.3d at 1377.

commercialization is irrational, as the monetary rewards of selling product will flow to them by succeeding against an infringer who has already done so. Thus, a more balanced approach that prevents patentees to recover more than their harm will better serve the commercialization purpose that the patent laws are intended to promote.

Fundamentally, the patent right provides patentees with the right to exclude and is intended to foster the encouragement of investment-based risk.³⁹⁴ The patent right provides no assurance of market acceptance, that manufacture will be feasible and cost effective nor that a more desirable means to solve the same problem will not compete with the patented invention. The concepts embodied by the term “investment-based risk” stand on uncertainty, and the risks of approaching the marketplace with a patented invention may be significant.³⁹⁵ A liquid patent holder is not entitled to obtain the benefits of the risks that the patentee did not undertake.

VI. LIQUID IP: PATENTS AND MONOPOLIES

Liquid patent holders have the potential to purchase some measure of power through acquisition of patent rights. The purchase of even a single key patent can prevent an entire industry from engaging in research, development and sales in a particular field. The liquid patent holder may be demanding fees based on a patent of questionable validity. License rates demanded by liquid patent holders may be far above the patent’s value. Although the parties can litigate the merits in court, the mere fact that a patent lawsuit is pending can harm an alleged infringer’s sales³⁹⁶ even if the lawsuit is ultimately dismissed or the patent is adjudicated as invalid.

Generally, a patentee’s activity in asserting and licensing is insulated from such forms of liability as antitrust law, even where the patent holder’s conduct is injurious. This protection is policy based, grounded in an assumption that subjecting a patentee to antitrust scrutiny would “severely trample upon the incentives provided by our patent laws and thus undermine the entire patent system.”³⁹⁷ However, this policy-based rationale lacks support for liquid patent holders. In many cases, the in-

394. *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 599 (Fed. Cir. 1985).

395. The phrase “investment-based risk” stands on much more uncertain ground than the phrase “investment backed expectation” that is used to define a compensable property right under takings law. *See, e.g., Lingle v. Chevron U.S.A. Inc.*, 544 U.S. 528, 538–39 (2005).

396. *See, e.g., Andrew R. Hickey, Experts: Don't Deploy BlackBerry*, MOBILE COMPUTING NEWS, December 9, 2005, http://searchmobilecomputing.techtarget.com/originalContent/0,289142,sid40_gci1151223,00.html (reporting warnings to potential customers not to invest in accused wireless messaging device, despite the fact that an appeal was pending and a request to invalidate the patent in suit was pending before the U.S. Patent and Trademark Office).

397. *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1209 (2d Cir. 1981); *Miller Insituform, Inc. v. Insituform of N. Am., Inc.*, 830 F.2d 606, 609 (6th Cir. 1987) (finding “[t]here is no adverse effect on competition since, as a patent monopolist, [the patentee], from the start, had exclusive right to manufacture, use, and sell his invention”).

ventor and innovator have sold the patent to a liquid patent holder, who is engaging in conduct similar to any other business. To such entities, patents operate as an asset and not as a vehicle for invention.

A. Antitrust Protection for Exploitation of the Patent Right

As background, there is an inherent tension between the patent law's right of exclusivity and the antitrust law's disfavor of economic monopolies.³⁹⁸ Antitrust laws were enacted to protect competition.³⁹⁹ Although not all patents confer monopoly power in the antitrust sense,⁴⁰⁰ a patent or the product based on a patented invention may develop into dominance in an industry. Fundamentally, a patent grants a patentee the right to exclude others entirely from profiting from the patented invention in one or several markets.⁴⁰¹ In such cases, a patentee's exercise of the right to exclude—whether by refusing to license or asserting the patent against an infringer—may prevent the type of competition that the antitrust laws were enacted to protect.

Yet a patentee's conduct in exploiting the patent right is typically insulated from antitrust scrutiny. The patent right includes the right to suppress the invention while continuing to prevent all others from using it, to refuse to license others and, if a patentee decides to license, to charge the highest royalty that the market permits during the patent term.⁴⁰² Although such actions may have anticompetitive effects, the government grant of exclusivity embodied in a patent in most cases shields patent holders against antitrust liability for exercising the patent right because such anticompetitive effects are considered "part and parcel of the patent system's role in creating incentives for potential inventors."⁴⁰³ Thus, courts have drawn a distinction⁴⁰⁴ between the economic monopoly prevented by the antitrust laws and patent assertion because a patentee is "the owner of a monopoly recognized by the Constitution and by the statutes of Congress."⁴⁰⁵

398. *United States v. Studiengesellschaft Kohle*, 670 F.2d 1122, 1128 (D.C. Cir. 1981) (recognizing "the fundamental fact that a patent by definition restrains trade, and in effect makes most exclusive patent licenses per se violations of the antitrust laws").

399. *Cargill, Inc. v. Monfort of Colo., Inc.*, 479 U.S. 104, 115 (1986).

400. *See, e.g., Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 126 S. Ct. 1281, 1292 (2006) (finding that products that are patented are not entitled to a presumption of market power on the patentee); LANDES & POSNER, *supra* note 131, at 374.

401. *Kohle*, 670 F.2d at 1127.

402. *Id.*

403. *Monsanto Co. v. McFarling*, 363 F.3d 1336, 1343 (Fed. Cir. 2004).

404. Some scholars have observed that this distinction is not considerable, as the antitrust laws "are generally hostile to" claims of refusing to deal, even where no intellectual property rights are at stake. Herbert Hovenkamp, Mark D. Janis & Mark A. Lemley, *Unilateral Refusals to License*, 2 J. COMPETITION L. & ECON. 1, 5 (2006) ("The Supreme Court's repeated invocation of the rule that the antitrust laws 'protection of competition, not competitors' seems applicable here." (citing *Brown Shoe Co. v. United States*, 370 U.S. 294, 320 (1962))) (footnote omitted).

405. *E. Bement & Sons v. Nat'l Harrow Co.*, 186 U.S. 70, 88 (1902).

The Federal Circuit has promulgated a general rule that “the conduct at issue is illegal if it threatens competition in areas other than those protected by the patent, and is otherwise legal.”⁴⁰⁶ For example, in *U.S. v. Studiengesellschaft Kohle*, the court rejected the United States’ argument that the patentee’s refusal to license created such anticompetitive harms as excluding potential sellers from the market, selling products made with the patented process in excess of competitive levels, and restraining trade in related technology were insufficient to establish an antitrust violation.⁴⁰⁷ The court found that “[n]one of these restraints go beyond what the patent itself authorizes,” and that the “exclusion of competitors, and charging of supracompetitive prices are at the core of the patentee’s rights, and are legitimate rewards of the patent monopoly.”⁴⁰⁸

According to the Federal Circuit, conduct that excludes competitors from competing in a market that may raise concerns under antitrust law will typically present no legal liability where that conduct is a legitimate exercise of a patent right.⁴⁰⁹ Further, in the Federal Circuit, a competitor’s subjective motivation to exclude a competitor is irrelevant if those circumstances are met.⁴¹⁰

The protection against antitrust penalty provided to patent owners is founded on the policy of preserving patent law’s incentives. The Federal Circuit has explained that certain protections against antitrust suits based on a patentee’s conduct are necessary to preserve intellectual property’s incentive system.⁴¹¹ As one scholar elaborates, the public benefit gained from innovation justifies permitting intellectual property holders to engage in conduct necessary to enforce their rights without antitrust scrutiny:

Even the introduction of a product subject to monopoly power can represent a gain to society. That is the underlying logic of our patent system, in which the monopoly profit expected from innovation cre-

406. *Kohle*, 670 F.2d at 1128.

407. *Id.* at 1125-26.

408. *Id.* at 1128.

409. *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1427 n.4 (Fed. Cir. 1997); see Robert Pitofsky, *Challenges of the New Economy: Issues at the Intersection of Antitrust and Intellectual Property*, 68 ANTITRUST L.J. 913, 921-23 (2001).

410. *In re Indep. Serv. Org. Antitrust Litig.*, 203 F.3d 1322, 1324, 1329 (Fed. Cir. 2000); see Simon Genevaz, *Against Immunity for Unilateral Refusals to Deal in Intellectual Property: Why Antitrust Law Should Not Distinguish Between IP and Other Property Rights*, 19 BERKELEY TECH. L.J. 741, 744 (2004) (noting that the case “establishes a rule of per se legality” for the exercise of the exclusionary rights under copyright and patent law). *But see* *Image Technical Serv., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1212 (9th Cir. 1997) (noting patent owner’s intellectual property justification for alleged exclusionary conduct could be rebutted by a showing that the justification was pretextual).

411. *Monsanto*, 363 F.3d at 1343-44; see *In Re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d at 1327-29; *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1068-69 (Fed. Cir. 1998); *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 876-78 (Fed. Cir. 1985), *overruled on other grounds by Nobelpharma AB*, 141 F.3d at 1059.

ates an incentive to provide the gain to society. It has been estimated that the social return to invention significantly exceeds the private return. That means that antitrust should be especially wary when its action reduces the return to innovators of intellectual property because we know that there already is too little incentive to create such intellectual property.⁴¹²

Some criticize the Federal Circuit's rulings as going too far by "exalt[ing] protection of intellectual property rights" to the detriment of antitrust enforcement.⁴¹³ Typical of this view, one commentator notes, "[t]oday it is quite clear that an antitrust claim at the Federal Circuit will fail."⁴¹⁴

B. Antitrust Limitations on Anticompetitive Patentee Conduct

There are exceptions to the doctrine that the exercise of a patent right is protected against antitrust liability. For example, a patent holder who procured the patent through "knowing and willful fraud" is not immune from antitrust liability.⁴¹⁵ Further, a patent holder is not shielded by antitrust liability if the patent owner asserts an objectively baseless suit that is subjectively motivated by a desire to impose collateral, anticompetitive injury rather than to obtain a justifiable legal remedy.⁴¹⁶ Conduct that reaches outside the patent may be actionable, for example where patent holders have pooled their patents and fix prices on the products for themselves and their licensees,⁴¹⁷ tying,⁴¹⁸ use the patent to or restrict sales of unpatented products⁴¹⁹ or to seek royalties beyond the expiration of the patent term.⁴²⁰ However, liquid patent holders can exercise a significant amount of market power without violating any of these exceptions.

There are antitrust principles which consider the problem that purchasing patents creates the possibility that monopoly power can be ac-

412. Dennis W. Carlton, *A General Analysis of Exclusionary Conduct and Refusal To Deal—Why Aspen and Kodak Are Misguided*, 68 ANTITRUST L.J. 659, 673-74 (2001) (footnote omitted) (citing Charles I. Jones & John C. Williams, *Measuring the Social Return to R&D*, 113 Q.J. ECONOMICS 1119 (1998)).

413. Pitofsky, *supra* note 409 at 921-22. ("[Q]uestions arise as to what the Federal Circuit's approach portends—i.e., an approach that seems to exalt protection of intellectual property rights—with respect to continuing validity in the Federal Circuit of the long-standing balance between antitrust and intellectual property."); J. Robert Robertson, *FTC Part III Litigation: Lessons from Chicago Bridge and Evanston Northwestern Healthcare*, 20 ANTITRUST 12, 13 (Spring 2006) (noting that the federal circuit "is not known to be pro-enforcement in the antitrust area").

414. Thomas, *supra* note 121, at 794.

415. *In re Indep. Serv. Org. Antitrust Litig.*, 203 F.3d at 1326.

416. *Id.*

417. *United States v. New Wrinkle, Inc.*, 342 U.S. 371, 380 (1952).

418. *See Atari Games Corp. v. Nintendo of Am., Inc.*, 897 F.2d 1572, 1576-77 (Fed. Cir. 1990).

419. *United States v. Westinghouse Elec. Corp.*, 648 F.2d 642, 647 (9th Cir. 1981); *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 136-37 (1969).

420. *Brulotte v. Thys Co.*, 379 U.S. 29, 32-33 (1964).

cumulated.⁴²¹ The antitrust laws create liability for the accumulation of market power through patent acquisition.⁴²² In particular, section 7 of the Clayton Act⁴²³ and Section 2 of the Sherman Act⁴²⁴ provide arguable grounds to address such conduct.⁴²⁵ Over the past several years, however, private parties have had an increasingly difficult time bringing such claims.

Although the U.S. Department of Justice has brought some enforcement actions under the antitrust laws for the accumulation of market power in patents during a corporate merger,⁴²⁶ and historically such relief was available to private parties, courts have become more reluctant to permit private litigants to succeed.

For example, in the 1952 case of *Kobe, Inc. v. Dempsey Pump Co.*,⁴²⁷ the court examined the conduct of patent holder Kobe, who had obtained seventy-two patents from a predecessor and entered into a closed pooling arrangement with another company to dominate the market for oil drills.⁴²⁸ Kobe asserted five of these patents against defendant Demsey, a new entrant competitor who was held to have infringed one of the patents that had been held valid.⁴²⁹ In assessing Demsey's counterclaim under the Sherman Act, the court found that "Kobe did not institute the infringement action in bad faith," but nonetheless found that Kobe had violated antitrust laws.⁴³⁰ The *Kobe* court explained that "although Kobe believed that some of its patents were infringed, the real purpose of the infringement action and the incidental activities of Kobe's representatives w[ere] to further the existing monopoly and to eliminate Dempsey as a competitor."⁴³¹

More recently, courts have been reluctant to grant relief for non-government plaintiffs. Examples include both *Axis, S.p.A. v. Micafil*,⁴³²

421. See Kitch, *supra* note 91, at 1740 (noting that "agreements which concentrate a number of single rights under common control have the obvious potential to create monopoly power").

422. *Id.*

423. 15 U.S.C.A. § 18 (West 2006).

424. 15 U.S.C.A. § 2.

425. 15 U.S.C.A. § 18; see also *Kobe, Inc. v. Dempsey Pump Co.*, 198 F.2d 416 (10th Cir. 1952); *SCM Corp.*, 645 F.2d at 1205; Yee Wah Chin, *Unilateral Technology Suppression: Appropriate Antitrust and Patent Law Remedies*, 66 ANTITRUST L.J. 441, 446 (1998).

426. See e.g., *United States v. 3D Sys. Corp.*, No. CIV. 1:01CV01237(GK) (D.D.C. Sept. 4, 2001), available at <http://www.usdoj.gov/atr/cases/f9000/9019.pdf>; *United States v. Miller Inds.*, No. CIV. 1:00CV00305 (D.D.C. Feb. 17, 2000), available at <http://www.usdoj.gov/atr/cases/f4100/4188.pdf>; In the Matter of CIBA-Geigy Ltd., CIBA-Geigy Corp., Chiron Corp., Sandoz Ltd., Sandoz Corp., and Novartis AG, Docket No. C-3725, File No. 961 0055, at 1, 19-20 (F.T.C. Apr. 8, 1997) (complaint, decisions, and orders available at <http://www.ftc.gov/os/caselist/c3725.htm>).

427. *Dempsey Pump*, 198 F.2d at 419-21.

428. *Id.* at 420-21.

429. *Id.* at 418.

430. *Id.* at 424.

431. *Id.* at 425.

432. 870 F.2d 1105 (6th Cir. 1989).

and *SCM Corp. v. Xerox Corp.*,⁴³³ both of which challenged the patentee's acquiring certain patents as a violation of the antitrust laws. In *Axis, S.p.A. v. Micafil*, antitrust plaintiff Axis asserted a violation of section 7 of the Clayton Act against defendant Micafil, who had acquired a company along with a number of patents on the only two methods of cutting wire for components used in small appliances.⁴³⁴ Axis alleged that Micafil's acquisition of those patents were "the only things preventing Axis' entry into the market."⁴³⁵ Axis further alleged that had suffered an antitrust injury—that is, an injury that reflects a causal connection to the anticompetitive act that is the subject of the antitrust violation.⁴³⁶ An antitrust injury is a necessary although not always sufficient requirement to demonstrate certain antitrust claims.⁴³⁷

The *Axis* court accepted that the acquisition violated section 7 of the Clayton Act, and that "the patents presented an impenetrable barrier to the plaintiff's entry" to the market.⁴³⁸ Rejecting Axis' damages claim for lost sales and lost profits, the court found that Axis could not establish an antitrust injury.⁴³⁹ Specifically, the court reasoned that the patents presented as much a barrier before the merger as afterwards, and therefore Axis would have suffered the injury regardless of the antitrust violation.⁴⁴⁰ On this basis, the *Axis* court affirmed dismissal of the antitrust claims.⁴⁴¹

The *Axis* case appears to create an impenetrable bar to antitrust suits brought by infringers where an antitrust injury is an essential element. An infringer can never establish antitrust injury from the acquisition of an existing patent, since a patent is always owned by someone and so the potential for enforcement exists regardless of the owner's identity.⁴⁴² The antitrust injury requirement for section 7 of the Clayton Act strictly thus limits the ability to enforce that provision.

Additionally, in *SCM Corp. v. Xerox Corp.*, the Second Circuit has held that liability under Section 7 of the Clayton Act for the acquisition of a patent with monopoly power cannot occur where the patent has not been commercialized at the time of the acquisition. In *SCM Corp.*, Xerox had acquired patents relating to copying that did not require using

433. 645 F.2d 1195 (2d Cir. 1981).

434. *Axis, S.p.A.*, 870 F.2d at 1105-06.

435. *Id.* at 1106 (quoted source contains an alteration to the original).

436. *See Cargill*, 479 U.S. at 111-12; *Axis, S.p.A.*, 870 F.2d at 1107.

437. *See id.*; *Axis, S.p.A.*, 870 F.2d at 1105-07.

438. *Axis, S.p.A.*, 870 F.2d at 1107.

439. *Id.*

440. *Id.*

441. *Id.* at 1111.

442. *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*, 114 F.3d 1547, 1558 (Fed. Cir. 1997) (denying antitrust claim for lack of antitrust injury finding that "[t]he cause of [the infringer's] injuries was not that [the patentee] enforced the . . . patent, but that the patent was enforced at all"), *abrogated on other grounds by Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448 (Fed. Cir. 1998).

any wet chemistry.⁴⁴³ After entering into a series of license agreements for the patents, Xerox purchased various patents for the technology between 1956 and 1959.⁴⁴⁴ However, Xerox did not commercially sell a plain paper copier until 1960.⁴⁴⁵ Plaintiff SCM Corp. sued Xerox, alleging that Xerox's acquisition of the patents violated Section 7 of the Clayton Act in the market for plain and coated paper copiers in the office copier market.⁴⁴⁶ The Second Circuit held that SCM Corp. could not establish this claim, because Xerox did not begin selling products into the market until one year after the last patent had been acquired.⁴⁴⁷

As with cases examining protections for a patentee to assert or refuse to license a patent, both the *Axis* and *SCM Corp.* courts rely on patent policy of encouraging incentives to invent as bases for their decisions.⁴⁴⁸ Acknowledging that "the acquisition of a patent can create the potential for tremendous market power,"⁴⁴⁹ the *SCM Corp.* court invoked the image of the inventor who bestows the benefit of genius on the public: "That the first patent laws were enacted at the second session of our first Congress manifests the importance our founding fathers attached to encouraging inventive genius, a resource that proved to be bountiful throughout this nation's history."⁴⁵⁰ Further, *SCM Corp.* acknowledged that the patent law's reward "with the power to exclude others from exploiting his invention" is balanced with "the public benefits from the disclosure of inventions, the entrance into the market of valuable products whose invention might have been delayed but for the incentives provided by the patent laws, and the increased competition the patented product creates in the marketplace."⁴⁵¹ Significantly, the SCM court found that these policies and protections apply to those who invest—and not only those who invent—within the patent system.⁴⁵²

More generally and because of these policy justifications, antitrust law provides leeway to liquid patent holders to acquire and assert patents, in some instances even where the patent has monopoly power. Particularly for cases adjudicated in the Federal Circuit where antitrust

443. *Id.* at 1199; see THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS, THE DEVELOPMENT OF XEROGRAPHY 4 (1983) (print on file with author), available at <http://files.asme.org/ASMEORG/Communities/History/Landmarks/5663.pdf>.

444. *SCM Corp.*, 645 F.2d at 1199-1200.

445. *Id.* at 1200.

446. *Id.* at 1199 n.1.

447. *Id.* at 1207, 1211 (inferring that the court left open the possibility that an acquisition made into a reasonably foreseeable economic market might violate section 1 and section 2 of the Sherman Act and section 7 of the Clayton Act).

448. *Axis, S.p.A.*, 870 F.2d at 1111 (noting "[o]ur patent and antitrust laws seek to further different and opposing policies. Patent laws grant a monopoly for a limited time in order "[t]o promote the Progress of Science and useful Arts . . ." Further, "a lawfully acquired patent creates a monopoly that does not violate the antitrust laws."); *SCM Corp.*, 645 F.2d at 1203-05.

449. *SCM Corp.*, 645 F.2d at 1205.

450. *Id.* at 1203.

451. *Id.*

452. *Id.* at 1206 n.9.

claims have been most difficult to bring, a liquid patent holder with a colorable assertion of infringement can assert the patent so long as exceptions to antitrust immunity are not present. If the liquid patent holder performs adequate due diligence to ensure against fraud, tying and frivolous claims, many of these exceptions can be eliminated as a legal or factual possibility.⁴⁵³ Assuming that the liquid patent holder does not itself possess monopoly power, those who seek to obtain patents in underdeveloped commercial markets may be able to avoid scrutiny for acquisitions of patents by a private actor who infringes, particularly under *Xerox* in a market that has not yet been commercialized.⁴⁵⁴ The courts have therefore left liquid patent holders with considerable room to acquire and use patents in a manner which might cause harm to the market or to consumers.

C. Liquid Patent Holders and Antitrust Law

The deference that antitrust law provides to liquid patents is not supported by the incentive policy justification. Patent purchasers who seek to profit from another's inventive activity lack any connection with those who require an incentive to invent. Unlike those who fund invention or patent prosecution, those who seek to profit by purchasing patents to assert against those engaged in commercial activity appear too late in the process to have contributed to the incentive to invent or disclose patented inventions.

The societal benefits of the assertion of liquid patents are not substantially supported by the traditional patent law policies. As evidenced by the need to enact section 7 of the Clayton Act, the acquisition of concentrated power may cause harm by foreclosing consumer choice through acquisition.⁴⁵⁵ Even where industry is content with the state of competition, the broader public interest may be harmed by the elimination of those engaged in commercial activity.⁴⁵⁶ The patent laws do not

453. Pitofsky, *supra* note 409, at 921 (explaining, for example, the fraud exception is not exceptionally difficult to avoid, having been described as "more difficult to prove than almost any antitrust allegation" because the patent applicant must be shown to have "made knowing and willful misrepresentations that resulted in a patent that would not have issued in the absence of a misrepresentation.") (citing *Nobelpharma*, 141 F.3d at 1070-71).

454. However, governmental inquiry into an already existing or reasonably foreseeable market may lead to liability into a patent acquirer's conduct.

455. *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 367 (1963) ("A fundamental purpose of amending [section 7 of the Clayton Act] was to arrest the trend toward concentration [and] the tendency to monopoly, before the consumer's alternatives disappeared . . ." (punctuation deleted)).

456. See *United States v. Bethlehem Steel Corp.*, 168 F. Supp. 576, 588 (D.C.N.Y. 1958) (noting the types of harm that were sought to be remedied by enacting section 7 of the Clayton Act include:

- (1) elimination in whole or in material part of the competitive activity of an enterprise which has been a substantial factor in competition,
- (2) increase in the relative size of the enterprise making the acquisition to such a point that its advantage over its competitors threatens to be decisive,
- (3) undue reduction in the number of competing enterprises, or
- (4) establishment of relationships between buyers and sellers which deprive their rivals of a fair opportunity to compete.

themselves allow consumers court access to challenge any patent-related anticompetitive conduct even when such patents are invalid.⁴⁵⁷ Likewise, the patent laws provide no relief for those against whom the patent is asserted. Any redress must be through other causes of action, such as the antitrust laws.

Antitrust protections for patentee conduct are concurrent with the scope of the claim language—that is, limited to the scope of the government-granted monopoly—look opaquely at the incentive rewards in the broadest sense. The decisions do not address the more complex and nuanced policy issues raised by liquid patent holders' methods of exploiting patents that provide—and indeed may interfere—with the patent system's purpose of serving innovation. For example, the *SCM Corp.* court notes that antitrust protection is appropriate for more than the inventor, explaining that:

Investors . . . play a key role, if not an indispensable one today, in both the inventive process and commercialization of inventions. And it is fair to say, we think, that the contribution of the investor in both the funding of research that leads to inventions and the promotion that necessarily must follow to achieve successful commercialization is of comparable value.⁴⁵⁸

The *SCM Corp.* court's justifications do not extend to liquid patent holders who do not fund research or assist in commercialization. The public benefit that is presumed to flow from the activity of an investor who funds research or bringing products to market is simply absent for many liquid patent holders. The *SCM Corp.* court's policy justification is illustrative of the larger problem. That is, the courts have articulated a policy basis that protects all patent holders but falls short for a liquid patent holder that engages in conduct that may harm a market as the public benefits that are presumed to flow from the operation of the patent system are substantially minimized.

Fundamentally, those who hold patents have the power and ability to foreclose consumer choice and forestall competition. Because the justifications for such conduct is lacking, there is little reason to continue to shield liquid patent holders as under the current law. Specifically, some consideration should be provided for the fact that liquid patent holders are engaged in profit-making enterprises that are no different from those in other industries. The continued deference that antitrust law provides to liquid patent holders may, in the end, tolerate conduct that harms both markets and innovation.

(citing H.R. REP. NO. 1191, at 8)).

457. *In re Ciprofloxacin Hydrochloride Antitrust Litig.*, 363 F. Supp. 2d 514, 541 (E.D.N.Y. 2005).

458. *SCM Corp.*, 645 F.2d at 1206 n.9.

CONCLUSION

The patent system's preference for the uniform administration of the patent laws has created an opportunity for liquid patent holders to create markets for patents as commodities. Currently, liquid patent holders work within the patent laws to create the right. Although at odds with the policies that support the patent system, liquid patents are likely to stay so long as their practice remains profitable and the long-established drive for a uniform patent system remains.

Creating modifications to patentability and enforcement laws based on use and ownership of the patent right may introduce a troubling and counterproductive uncertainty into the patent system. Much of the potential harm caused by liquid patent holders is financial in nature—that is, a liquid patent holder who is able to demand more than a patent is worth has the potential to harm subsequent innovators who are seeking to commercially exploit ideas. Some of this is due to the fact that liquid patent holders are able to extract above market prices due to the threat of an injunction. Although the *eBay* case opened the door to the possibility that such threats may be diminished, modification to the damages provisions should be adopted to prevent abuses of the system. As the law currently accommodates consideration of patent use and ownership into its remedies provisions, modifications to those portions of the patent law may best serve the overall goal of innovation. Further, the protections against abuse that are currently built into laws, such as the antitrust law, should be re-examined in light of the liquid patent holder's failure to support the policy goals of the patent system.

DEFINING THE RELEVANT MARKET: IMPACTS OF THE ABOLITION OF THE PRESUMPTION OF MARKET POWER IN PATENT TYING CASES

INTRODUCTION

The issue before the United States Supreme Court in *Illinois Tool Works Inc. v. Independent Ink*¹ was “whether, in a claim based on unlawful tying under Section 1 of the Sherman Act, the existence of a patent on the tying product raises a presumption that the patent holder has market power,”² thus rendering the tying agreement illegal *per se*. In a decision that logically followed the United States Supreme Court’s and Congress’s more recent expansion of patent holder rights, the Court held that the existence of a patent does not presumptively confer market power on patent holders. By abolishing the presumption, the Court rejected arguments to maintain an irrebuttable presumption of market power or to create a rebuttable presumption.

In future patent tying cases, the moving party must now prove that the patent holder has market power under a rule of reason standard. By adopting a rule of reason standard, the Court moves away from equating the *legal* monopoly granted on patent-holders with the *economic* monopoly that is assailed by antitrust law. While providing only vague guidelines to assess this standard, the Court properly recognized that each patent is unique, and sufficient information exists to analyze the market power of the patented tying product. By permitting defendants to contest the issue of the market power of its patent, the Court has increased 1) the burden to prove the market power of the patent, 2) the importance and role of experts in patent tying cases, and 3) the burden on the court system because parties will choose to fully litigate claims instead of settling. Despite these burdens, the most beneficial impact of *Independent Ink*, however, is that courts will decide an issue of law based not on a blanket presumption, but on the merits of each case. After *Independent Ink*, for a patent tying arrangement to violate § 1 of the Sherman Act, evidence must be presented to prove market power in the relevant market regardless of the existence of a patent.³

Part I of this Comment will examine the cases and legislative actions that influenced the *Independent Ink* Court. Part II will discuss how the case came before the Court, as well as analyze the Court’s unanimous

1. 126 S. Ct. 1281 (2006) (Alito, J. took no part in the consideration or decision of the case).

2. Kevin D. McDonald, *Baseball as a Metaphor: On Illinois Tool and the Presumption of Market Power in Patent Tying Cases*, SL025 A.L.I.-A.B.A. 25, 27 (2005).

3. *Indep. Ink*, 126 S. Ct. at 1291.

decision. Part III addresses the policies advocated by the parties in *Independent Ink* and the impact of the Court's ruling on patent tying arrangement antitrust litigation. This final section will also explain why any standard other than an irrebuttable presumption of market power increases the burden of a plaintiff bringing a patent tying arrangement antitrust claim.

I. BACKGROUND

A tying arrangement is a "form of marketing in which a seller insists on selling two distinct products or services as a package."⁴ The foundation of a tying claim lies in the Sherman Antitrust Act. Section 1 of the Sherman Act states that "[e]very contract . . . in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal."⁵ A patent confers upon its holder a limited monopoly, preventing others from manufacturing, selling, and using a patented invention and its substantial equivalents.⁶ In an antitrust context, the "essential characteristic of an invalid tying arrangement lies in the seller's exploitation of its control over the tying product to force the buyer into the purchase of a tied product that the buyer either did not want at all, or might have preferred to purchase elsewhere on different terms."⁷ The patent policy of encouraging innovation via a grant of a limited legal monopoly is at odds with the antitrust policy of prevention of restraints on competition and trade.⁸ Despite the inherent differences of antitrust and patent law, the Court's decisions interpreting the scope of the legal monopoly in patent tying cases have consistently been guided by antitrust law. By adopting antitrust law into its patent tying jurisprudence, the Court effectively presumed that a legal monopoly was the equivalent of an economic monopoly.

Presumptions are equitable constructs developed to take the place of evidence that was otherwise, at no fault of the offering party, unavailable.⁹ The presumption of market power in patent tying arrangements was created during an unsophisticated regulatory regime, in which antitrust law was in its infancy, seeking its boundaries. The presumption of market power in tying arrangements where the tying product is patented evolved over four distinct periods with its origins in the patent misuse doctrine. "Patent misuse is generally defined as an impermissible at-

4. *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 33 (1984) (O'Connor, J., concurring).

5. Sherman Antitrust Act, 15 U.S.C.A. § 1 (West 2006).

6. Craig McLaughlin, *Monopoly Power of Patents and Antitrust Law Collide in Patent Tying*, 48 ORANGE COUNTY LAW. 38, 44. (2006); see also 35 U.S.C.A. § 154(a)(1) (West 2006).

7. *Jefferson Parish*, 466 U.S. at 12.

8. Alison K. Hayden, *Patent Tying Agreements: Presumptively Illegal?*, 5 J. MARSHALL REV. INTELL. PROP. L. 94, 100 n.37 (2005).

9. *Id.* at 115 n.142.

tempt to extend the time or scope of the patent grant.”¹⁰ Initially, the patent misuse doctrine was created as a defense to patent infringement claims. The Court took a doctrine that had been solely applied as a defense to patent infringement, and applied it in an antitrust context in *International Salt Co. v. United States*.¹¹ At this period, the Court viewed all tying arrangements as *per se* illegal, regardless of whether the tying product was patented.¹²

In the half century following *International Salt*, however, the attitudes of the Court, Congress, and regulatory agencies slowly swung back in favor of patent holders. While it once may have been impossible to project a motion picture film or make a light bulb without access to patents that dominated those markets, such difficulties are less of an issue today.¹³ The Court eventually adopted the position that tying arrangements may offer pro-competitive effects.¹⁴ At the end of the twentieth century, the Court, Congress, and the government’s antitrust regulatory agencies each took actions that further undermined the strength of the market power presumption, setting the stage for *Independent Ink*.

A. Patent Misuse Doctrine and the Creation of the Presumption

The patent misuse doctrine evolved as a defense to patent infringement claims. The Supreme Court first encountered tying arrangements in the course of patent infringement in *Henry v. A. B. Dick Co.*¹⁵ A. B. Dick Co. brought a patent infringement action against a licensee.¹⁶ A. B. Dick patented and licensed a mimeograph to customers on the condition that all stencil paper, ink, and other supplies used with the mimeograph (all unpatented items) be purchased from A. B. Dick Co.¹⁷ The Court held that the defendants infringed on A. B. Dick Co.’s patent by using ink from a different supplier.¹⁸ Chief Justice White dissented from the majority, classifying the tying arrangement as an “attempt to increase the scope of the monopoly granted by a patent . . . which tend[s] to increase monopoly and to burden the public in the exercise of their common rights.”¹⁹

In response to the Court’s opinion in *A. B. Dick*, Congress amended antitrust laws to reflect Justice White’s fears of the anticompetitive ef-

10. Robin C. Feldman, *The Insufficiency of Antitrust Analysis for Patent Misuse*, 55 HASTINGS L.J. 399, 402 (2003).

11. 332 U.S. 392 (1947).

12. See McLaughlin, *supra* note 6, at 41.

13. 10 PHILLIP E. AREEDA ET AL., ANTITRUST LAW ¶ 1737c (2d ed. 2004).

14. See *Fortner Enters. v. United States*, 394 U.S. 495, 522-23 (1969) (Fortas, J. and White, J., dissenting).

15. 224 U.S. 1 (1912).

16. *A. B. Dick Co.*, 224 U.S. at 11.

17. *Id.*

18. See *id.* at 12, 49.

19. *Id.* at 70 (White, J., dissenting).

fects of patent-tying arrangements.²⁰ Through legislation, Congress classified the conditioning of a sale of a patented or unpatented product on the purchaser's promise to not use the supplies or materials offered by competitors of the merchant-seller as *per se* illegal.²¹ The amendment effectively overruled *A. B. Dick*.²²

Five years after *A. B. Dick*, the Court heard another patent-tying case, *Motion Picture Patents Co. v. Universal Film Manufacturing Co.*²³ Motion Picture Patents owned a patent on a film projection machine, and required, by a notice affixed to each projector, licensees of the projector to only show films containing a patent owned by Motion Picture Patents.²⁴ The patent on the films was separate and unrelated to the patent on the projector.²⁵ The Court found no support in the patent laws for the proposition that a patentee may "prescribe by notice attached to a patented machine the conditions of its use and the supplies which must be used in the operation of it, under pain of infringement of the patent."²⁶ Patent law "allows a grant only of the right to an exclusive use of the new and useful discovery which has been made—this and nothing more."²⁷

The final case in this period, *United States v. Loew's, Inc.*,²⁸ involved a copyright tying agreement. In *Loew's*, the Court held illegal, under Section 1 of the Sherman Act, the practice of conditioning the sale or license of one or more copyrighted films on the purchase of one or more inferior or unwanted films.²⁹ The Court stated that "[m]arket dominance—some power to control price and to exclude competition—is by no means the only test of whether the seller has the requisite economic power."³⁰ Abstaining from performing even the most spurious market analysis, the Court instead held that the "requisite economic power may be found on the basis of either uniqueness or consumer appeal . . . [and] it should seldom be necessary in a tie-in sale case to em-

20. See generally *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 517 (1917).

21. See 38 Stat. 730 (1914). It is unlawful

to lease or make a sale or contract for sale of goods . . . machinery, supplies or other commodities, *whether patented or unpatented*, for use, consumption or resale . . . or fix a price charged therefor . . . on the condition, agreement or understanding that the lessee or purchaser thereof shall not use . . . the goods . . . machinery, supplies or other commodities of a competitor or competitors of the lessor or seller, where the effect of such lease, sale, or contract for sale or such condition, agreement or understanding may be to substantially lessen competition or tend to create a monopoly in any line of commerce.

Id. (emphasis added).

22. *Motion Picture Patents Co.*, 243 U.S. at 518.

23. 243 U.S. 502 (1917).

24. See *id.* at 505-07.

25. See *id.*

26. *Id.* at 509.

27. *Id.* at 513.

28. 371 U.S. 38 (1962).

29. See *Loew's*, 371 U.S. at 40, 52.

30. *Id.* at 45.

bark upon a full-scale factual inquiry into the scope of the relevant market for the tying product”³¹

B. Migration of Presumption from Patent Infringement to Antitrust Law

In *International Salt Co. v. United States*,³² an antitrust case, the Court, while never citing the patent misuse doctrine directly, applied the presumption that a patent confers market power in an antitrust case.³³ While “patents confer a limited monopoly of the invention they reward [they] confer no right to restrain use of, or trade in, unpatented salt.”³⁴ In upholding the district court’s ruling, the Court stated that “by contracting to close this market for [unpatented] salt against competition, International [Salt] has engaged in a restraint of trade for which its patents afford no immunity from the antitrust laws.”³⁵

In *International Salt*, the Court broadened the scope of its analysis of the rights and limitations conferred on patent holders to consider the impact of a patent tying arrangement on the marketplace. The Court conducted a weak market analysis of International Salt’s patents, one lacking any quantifiable assessment of the product or competition, stating that “[t]he volume of business affected by these [tying] contracts cannot be said to be insignificant or insubstantial”³⁶ The paucity of the Court’s market power analysis in *International Salt* likely influenced the *Loew’s* Court’s aversion to economic analysis fifteen years later.

In the same term as *International Salt*, the Court reinforced the link between the patent misuse doctrine and antitrust law in *United States v. Columbia Steel Co.*³⁷ In *Columbia Steel*, the Court stated that “where a complaint charges that the defendants have . . . licensed a patented device on condition that unpatented materials be employed in conjunction with the patented device, then the amount of commerce involved is immaterial because such restraints are illegal *per se*.”³⁸

C. Unlinking of the Patent Misuse Doctrine from Antitrust Law

After *International Salt*, the Court expanded the scope of its patent tying jurisprudence beyond the traditional line of cases. While the traditional line of tying arrangements restricted the type of unpatented articles

31. *Id.* at 45 n.4.

32. 332 U.S. 392 (1947) (finding International Salt in violation of antitrust laws by requiring licensees of its patented salt processing machines to purchase all salt used in the machine from International Salt, even though International Salt agreed to meet any competitor’s lower price).

33. *Indep. Ink*, 126 S. Ct at 1289.

34. *Int’l Salt Co.*, 332 U.S. at 395-96.

35. *Id.* at 396.

36. *Id.*

37. *United States v. Columbia Steel Co.*, 334 U.S. 495 (1948).

38. *Id.* at 522-23.

used by a licensee in operating a patented machine,³⁹ in *Mercoïd Corp. v. Mid-Continent Investment Co.*,⁴⁰ the Court addressed a tying arrangement in the context of a combination patent.⁴¹ In *Mercoïd*, the unpatented component at issue was combined with several other unpatented components to form a unique and distinct product, patented as a combination.⁴² The Court felt that this form of tying was an unlawful expansion of the rights granted through a patent and held that it could not find a “difference in principle where the unpatented material or device is itself an integral part of the structure embodying the patent [or a supply consumed in the operation of a patented machine].”⁴³

Congress viewed *Mercoïd* as “a barrier to enforcement of patentee’s rights.”⁴⁴ And, when Congress enacted the Patent Act, it “significantly changed existing law, and the change moved in the direction of expanding the statutory protection enjoyed by patentees.”⁴⁵ By enacting Section 271(c) of the Patent Act,⁴⁶ Congress granted to patent holders a statutory right to “sell non-staple parts or materials and confer an express or implied license on the purchaser to use the patented combination or process,”⁴⁷ thus effectively overturning *Mercoïd*.

However, despite Congress’s actions, the Court continued to presume that a patent conferred market power over the tying product through the end of the 1960’s. The Court “consistently assumed that ‘[t]ying arrangements serve hardly any purpose beyond the suppression of competition.’”⁴⁸ In *Fortner Enterprises, Inc. v. United States Steel Corp. (Fortner I)*,⁴⁹ for example, the Court continued to apply the standards set by *International Salt* and *Loew’s*: reaffirming “the applicability

39. See, e.g., *Loew’s Inc.*, 371 U.S. at 51-52; *Morton Salt Co. v. G. S. Suppiger Co.*, 314 U.S. 488, 490 (1942); *A. B. Dick Co.*, 224 U.S. at 70 (White, J., dissenting); *Motion Picture Patents Co.*, 243 U.S. at 502.

40. 320 U.S. 661 (1944).

41. See *Mercoïd*, 320 U.S. at 664-65.

42. *Id.* at 667.

43. *Id.* at 665.

44. *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 213 (1980).

45. *Id.*

46. Section 271(c) of the Patent Act states:

Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

35 U.S.C.A. § 271(c) (West 2006).

47. DONALD S. CHISUM, CHISUM ON PATENTS § 17.05[1] (Mark H. Wasserman et al. eds., Matthew Bender Co. 2006) (1978).

48. *Indep. Ink*, 126 S. Ct. at 1286 (citing *Standard Oil Co. of Cal. v. United States*, 337 U.S. 293, 305-06 (1949)).

49. 394 U.S. 495 (1969) (*Fortner I*) (holding that respondent U.S. Steel Corp. violated anti-trust laws by tying low cost financing provided by a subsidiary (U.S. Steel Homes Credit) on the condition that petitioner Fortner Enterprises, Inc., a real estate developer, purchase artificially high-priced prefabricated homes made by U.S. Steel Homes).

of the *per se* standard for general tying agreements without the necessity for inquiry into . . . [the defendant's] market power."⁵⁰ Though not a patent-tying case, *Fortner I* involved tying inexpensive financing to the purchase of above-market priced pre-fabricated houses.⁵¹ The Court found the tying arrangement illegal.⁵² In his opinion for the majority, Justice Black wrote that "restraint [on competition] results whenever the seller can exert some power over some of the buyers in the market, *even if his power is not complete over them and over all other buyers in the market.*"⁵³ It is notable that four justices dissented from the majority in *Fortner I*.⁵⁴

In his dissent, Justice White reasoned that tying arrangements may not be *per se* illegal, as "[t]he principal evil...of tying aims is the use of power in one market to acquire power in, or otherwise distort, a second market. This evil simply does not exist if there is no power in the first market."⁵⁵ In a separate dissent, Justice Fortas disagreed with the majority, but for a different reason than Justice White, writing that *Fortner I* was not even a tying case, but one that "distort[s] the [tying] doctrine"⁵⁶ because it merely provides "advantageous financing"⁵⁷ to the customer.⁵⁸ The dissent's view that tying arrangements may be pro-competitive prevailed in *Fortner II*.⁵⁹

D. The 1988 Patent Act Amendment and the Changing Attitudes of the Court, the Department of Justice, and the Federal Trade Commission Toward Tying Arrangements

In 1977, the same parties in *Fortner I* appeared once again before the Court in *United States Steel Corp. v. Fortner Enterprises, Inc. (Fortner II)*.⁶⁰ In *Fortner II*, the Court unanimously held that "[w]ithout any evidence that the [U.S. Steel Homes] Credit Corp. had some cost advantage over its competitors . . . the [remaining evidence] does not support the conclusion that petitioners had the kind of economic power which Fortner had the burden of proving in order to prevail"⁶¹ The

50. Hayden, *supra* note 8, at 99 n.30.

51. See *Fortner I*, 394 U.S. at 497.

52. See *id.*

53. *Id.* at 503.

54. See *id.* at 510, 520.

55. *Id.* at 519.

56. *Id.* at 522.

57. *Id.* at 523.

58. See *id.* at 522-23 ("This is a sale of a single product with the incidental provision of financing. It is not a sale of one product on condition that the buyer will not deal with competitors for another product or will buy the other product exclusively from the seller.")

59. *Indep. Ink*, 126 S. Ct. at 1287. See generally *U.S. Steel Corp. v. Fortner Enters., Inc. (Fortner II)*, 429 U.S. 610 (1977) (finding that the advantageous financing terms given by petitioner did not automatically mean that petitioner's economic power was sufficient to make the tying arrangement unlawful).

60. 429 U.S. 610 (1977) (*Fortner II*).

61. *Id.* at 622.

Court's desire for evidence of market power in *Fortner II* constituted a direct rejection of its previous holdings in *International Salt* and *Loew's*, where the Court required little or no economic analysis to establish the market power of a tying product.

Though the Court in *Fortner II* eroded the presumption of market power in tying arrangements, generally, the Court continued to presume market power where the tying product was patented.⁶² In *Jefferson Parish Hospital District No. 2 v. Hyde*,⁶³ the penultimate case before the Court on tying arrangements, the Court reaffirmed its commitment to the presumption of market power where the tying product is patented.⁶⁴ While maintaining the presumption, *Jefferson Parish* is noted for Justice O'Connor's concurring opinion. In her concurrence, Justice O'Connor advocated "abandon[ing] the '*per se*' label and refocus[ing] the inquiry on the adverse economic effects, and the potential economic benefits, that the tie may have."⁶⁵

Just as Justice White's dissent in *A. B. Dick* spurred legislative action, four years after O'Connor's concurrence in *Jefferson Parish*, Congress amended the Patent Act to eliminate the presumption of market power in the patent misuse context.⁶⁶ Section 271(d) of the Patent Act expanded protections for patent holders in tying arrangements to require a court to conduct a market power analysis on the tying patent, instead of merely presuming a patent-tying arrangement *per se* illegal.⁶⁷ Despite the elimination of the presumption in the Patent Act, this did not necessarily eliminate the presumption in an antitrust context.

In line with the Court's erosion of the irrebuttable presumption of market power and Congress's expansion of patent holder protections, the Department of Justice and Federal Trade Commission (FTC) issued the Antitrust Guidelines for the Licensing of Intellectual Property in 1995.⁶⁸ Through these guidelines, the government's antitrust enforcement agen-

62. See *Jefferson Parish Hosp.*, 466 U.S. at 16.

63. 466 U.S. 2 (1984).

64. See *Jefferson Parish Hosp.*, 466 U.S. at 16.

65. *Id.* at 35.

66. *Indep. Ink*, 126 S. Ct. at 1290.

67. See 35 U.S.C.A. § 271(d)(5) (West 2006). Section 271(d) of the Patent Act states:

No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: . . . 5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, *unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.*

Id. (emphasis added).

68. See U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY § 5.3 (1995), available at <http://www.usdoj.gov/atr/public/guidelines/0558.pdf>.

cies adopted the view of Justice Fortas's dissent in *Fortner I*,⁶⁹ that "[a]lthough tying arrangements may result in anticompetitive effects, such arrangements can also result in significant efficiencies and procompetitive benefits."⁷⁰ Instead of prosecuting all patent tying arrangements under one standard, "[a]gencies will consider both the anticompetitive effects and the efficiencies attributable to a tie-in."⁷¹ After the issuance of the Antitrust Guidelines, all three branches of government were in agreement that a patent alone does not presumptively confer market power, and that each patent tying case should be analyzed on a case-by-case basis. It is in this context that the dispute between Illinois Tool Works and Independent Ink arose.

II. *ILLINOIS TOOL WORKS INC. V. INDEPENDENT INK, INC.*⁷²

A. *Facts*

"Trident, Inc., and its parent company, Illinois Tool Works Inc., (collectively "Illinois Tool Works") manufacture and market printing systems that include three relevant components: (1) a patented piezoelectric impulse ink jet printhead; (2) a patented ink container . . . ; and (3) specially designed, but unpatented, ink."⁷³

Illinois Tool Works sells its systems to "original equipment manufacturers (OEMs) who are licensed to incorporate the printheads and containers into printers that are in turn sold to companies for use in printing barcodes on cartons and packaging materials."⁷⁴ "The OEMs agree that they will purchase their ink exclusively from [Illinois Tool Works], and that neither they nor their customers will refill the patented containers with ink of any other kind."⁷⁵ This action commenced after Independent Ink, Inc. "developed an ink with the same chemical composition as the ink sold by petitioners."⁷⁶

B. *Procedural History*

Illinois Tool Works reacted to Independent Ink's ink sales by filing a patent infringement claim against Independent Ink, which was summarily dismissed for lack of personal jurisdiction.⁷⁷ Independent Ink subsequently filed suit against Illinois Tool Works, "seeking a judgment of non-infringement and invalidity of Illinois Tool Works's patents."⁷⁸

69. See *Fortner I*, 394 U.S. at 523.

70. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, *supra* note 68, § 5.3.

71. *Id.*

72. 126 S. Ct. 1281 (2006).

73. *Indep. Ink*, 126 S. Ct. at 1284.

74. *Id.* at 1284-85.

75. *Id.* at 1285.

76. *Id.*

77. *Id.* at 1284.

78. *Id.*

Independent Ink then amended its complaint, alleging that Illinois Tool Works's patent tying arrangement violated Sections 1 and 2 of the Sherman Act.⁷⁹ Both parties filed for summary judgment.⁸⁰ Independent Ink did not "discuss the products at issue, their substitutes, or the relevant markets," nor perform any "market power or at all."⁸¹ Because the only evidence of market power presented by Independent Ink was the patent on the printhead, and it failed to define the tying product's product and geographic markets, to show a dominant market share, or to identify barriers to entry, the court entered summary judgment for Illinois Tool Works.⁸²

Independent Ink appealed the district court's decision to grant the Illinois Tool Works motion of summary judgment on the respondent's Sherman Act Section 1 claim.⁸³ After a careful review of the long history of Supreme Court decisions on tying arrangements, the Federal Court of Appeals reversed the district court's decision.⁸⁴ The court held that "Supreme Court cases in this area squarely establish that patent . . . tying, unlike other tying cases, do not require an affirmative demonstration of market power. Rather, *International Salt* and *Loew's* make clear that the necessary market power to establish a [Sherman Act] section 1 violation is presumed."⁸⁵ The appellate court found that the Illinois Tool Works arguments erred by "ignor[ing] the fact that it is the duty of a court of appeals to follow the precedents of the Supreme Court until the Court itself chooses to expressly overrule them."⁸⁶

The Supreme Court "granted certiorari to undertake a fresh examination of the history of both the judicial and legislative appraisals of tying arrangements."⁸⁷

C. Justice Stevens's Opinion

The Court heard arguments to determine whether the presumption that a patent confers market power upon its holder "should survive as a matter of antitrust law despite its demise in patent law."⁸⁸ In delivering the Court's opinion, Justice Stevens stated that the Court's historically "strong disapproval of tying arrangements has substantially diminished" since the Court first encountered tying arrangements in the course of patent infringement litigation in *A. B. Dick Co.*⁸⁹ Then Justice Stevens embarked on a discussion of the rise of the presumption from the patent

79. See *Indep. Ink, Inc. v. Ill. Tool Works, Inc.*, 210 F. Supp. 2d 1155, 1159 (2002).

80. *Indep. Ink*, 210 F. Supp. 2d at 1159.

81. *Id.* at 1160.

82. See *id.* at 1167-73.

83. *Indep. Ink, Inc. v. Ill. Tool Works, Inc.*, 396 F.3d 1342, 1344 (Fed. Cir. 2005).

84. *Indep. Ink*, 126 S. Ct. at 1285 (internal quotations omitted).

85. *Indep. Ink*, 396 F.3d at 1348-49 (citations omitted).

86. *Id.* at 1351.

87. *Indep. Ink*, 126 S. Ct. at 1285.

88. *Id.* at 1284.

89. *Id.* at 1286.

misuse doctrine, the doctrine's intersection with antitrust law in *International Salt*, its reinforcement in *Loew's*, and finally, its untangling from antitrust law in *Fortner II* and *Jefferson Parish*.⁹⁰

Independent Ink conceded that the Court should not maintain a rule of *per se* illegality, but argued in the alternative that the Court should adopt either a narrower, limited irrebuttable presumption or establish a rebuttable presumption of market power.⁹¹ In reliance on Justice O'Connor's concurrence in *Jefferson Parish*, the consensus of the "vast majority of academic literature," and the belief that "[m]any tying arrangements, even those involving patents . . . are fully consistent with a free, competitive market," the Court rejected each of the Respondent's proposals.⁹² The Court unanimously concluded that the mere fact that a tying product is patented does not support such a presumption.⁹³ In abolishing the presumption, the Court aligned its patent tying jurisprudence with the sentiments of Congress, antitrust enforcement agencies, and most economists.⁹⁴

III. ANALYSIS

The Court's decision to abolish the presumption that a patent confers market power was not only the logical choice of the three alternatives presented by the parties, it was also the correct decision. While conceding that the Court should not maintain a rule of *per se* illegality, respondent Independent Ink argued that the court should (A) adopt a narrower, limited irrebuttable presumption, (B) establish a rebuttable presumption of market power.⁹⁵ Petitioner Illinois Tool Works, in reliance on recent Court decisions, the legislative actions of Congress, and the wide support of academic and government enforcement authorities, asked the Court to (C) eliminate the presumption altogether and adopt a rule of reason standard.

Under the rule of reason, all purposes and potential effects of the challenged restriction will be evaluated.⁹⁶ Courts that apply the rule of reason usually note briefly that the plaintiff has failed to define a relevant market or has otherwise failed to show any significant threat to the health of competition in the tied market.⁹⁷ One factor, likely the most difficult to define, is the identification of the relevant tying product and geographic markets in which it competes⁹⁸ Additionally a rule of reason standard will require the presence of power in that market, for where no

90. *Id.* at 1285-91.

91. *Id.* at 1291-92.

92. *Id.* at 1292.

93. *Id.* at 1284.

94. *Id.* at 1293.

95. *Ill. Tool Works, Inc. v. Indep. Ink, Inc.*, 126 S. Ct. 1281, 1291-92 (2006).

96. *See* Hayden, *supra* note 8, at 114.

97. *See* Fortner Enters. v. United States (*Fortner I*), 394 U.S. 495, 499-501 (1969).

98. *See* Hayden, *supra* note 8, at 112.

market power exists, antitrust law is generally unconcerned by the behavior of firms.⁹⁹ A third factor that courts may consider under the rule-of-reason standard is the nature of the challenged restraint and that restraint's likely effects on competition.¹⁰⁰

Further, the Court's adoption of a rule of reason standard to assess the market power of tying products in *Independent Ink* left two key questions unanswered. First, how does a party prove market power and how much market power is sufficient to deem a patent tying arrangement illegal? Second, how will the additional burden on parties to develop evidence of market power impact judicial resources? An analysis of Justice O'Connor's concurrence in *Jefferson Parish* as well as a brief analysis of the United States Satellite Television market from 1997 through 2006 will help answer the first question. The latter question will be answered by analyzing the market power evidence presented by *Independent Ink* and, additionally, *A.I. Root Co. v. Computer/Dynamics, Inc.*,¹⁰¹ a Sixth Circuit tying case decided after *Jefferson Parish*.

A. Create a Limited, Irrebuttable Presumption

In its brief, *Independent Ink* argued for a narrow ruling that would maintain an irrebuttable presumption in limited cases.¹⁰² *Independent Ink* asked the Court to presume market power when the "tying arrangement involve[s] the purchase of unpatented goods over a period of time, a so called 'requirements tie.'"¹⁰³ *Independent Ink's* proposal is antithetical to the 1988 amendment to § 271(d) of the Patent Code, which abolished the market power presumption in the patent misuse context.¹⁰⁴ While the legislative history of the 1988 Patent Code Amendment indicates that Congress intended to maintain the market power presumption for patents in an antitrust context,¹⁰⁵ the Court has since held that "it would be anomalous to equate patents with power for antitrust purposes but not for misuse purposes."¹⁰⁶ *Independent Ink's* limited irrebuttable presumption proposal also conflicts with the 1995 Department of Justice and the Federal Trade Commission antitrust guidelines that state that the government's two antitrust enforcement agencies "will not presume that a patent . . . necessarily confers market power upon its owner."¹⁰⁷ Finally, the Court's decisions in *Fortner II* and *Jefferson Parish* make clear

99. See Feldman, *supra* note 10, at 400.

100. See *id.* at 403-04.

101. 806 F.2d 673 (6th Cir. 1986) (upholding the district court's summary judgment order because defendant lacked sufficient market power in the tying product market to influence the market for the tied product).

102. *Indep. Ink*, 126 S. Ct. at 1291-92.

103. *Id.* at 1292.

104. See 35 U.S.C.A. § 271(d)(5) (West 2006).

105. McLaughlin, *supra* note 6, at 44 (citing 134 Cong. Rec. 32, 295 (1988)).

106. AREEDA, *supra* note 13, ¶ 1737c.

107. U.S. DEPT. OF JUSTICE & FED. TRADE COMM'N, *supra* note 68, § 2.2.

the Court's desire for market power evidence before condemning a tying arrangement.¹⁰⁸

B. Create a Rebuttable Presumption

Alternatively, Independent Ink proposed that the Court "should endorse a rebuttable presumption that patentees possess market power when they condition the purchase of the patented product on an agreement to buy unpatented goods exclusively from the patentee."¹⁰⁹ By ruling that there was a rebuttable presumption, the Court would essentially be following the court of appeals' decision.¹¹⁰ However, that would be a mistake. The court of appeals' finding of a rebuttable presumption was based on a misinterpretation of *Jefferson Parish*.¹¹¹ While the court of appeals concluded that "*Jefferson Parish* confirmed that *International Salt* created only a [rebuttable] presumption of market power,"¹¹² in the instant case, the Court stated that *Jefferson Parish* maintained the irrebuttable, "patent-equals-market-power presumption."¹¹³ The court of appeals' misinterpretation of Supreme Court dicta is especially ironic considering that the appellate court scolded International Tool Works for requesting a form of relief outside the bounds of precedent.¹¹⁴

C. Abolish the Presumption

While the question of the market power in the relevant market for the tying product is but one of four requirements in a claim arising under Section 1 of the Sherman Antitrust Act,¹¹⁵ it is the most difficult to prove. *Per se* rules permit the court to conserve judicial resources by avoiding a burdensome market power inquiry where anticompetitive conduct likely exists.¹¹⁶ The *per se* presumption of market power in patent tying cases was incorrect for three reasons. First, courts have

108. See *U.S. Steel Corp. v. Fortner Enters. (Fortner II), Inc.*, 429 U.S. 610, 620 (1977); see also *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 15-18 (1984).

109. *Indep. Ink*, 126 S. Ct. at 1291.

110. See *Indep. Ink, Inc. v. Ill. Tool Works, Inc.*, 396 F.3d 1342, 1352 (Fed. Cir. 2005) (stating that "[o]nce the plaintiff establishes a patent tying agreement, it is the defendant's burden to rebut the presumption of market power and consequent illegality that arises from patent tying").

111. See *Indep. Ink*, 396 F.3d at 1351 (citing *Jefferson Parish Hosp.*, 466 U.S. at 16) (stating that *Jefferson Parish* confirmed that *International Salt* created only a presumption of market power and that "it would stretch the language of 'fair to presume' beyond the breaking point to say that such a presumption is irrebuttable").

112. *Id.*

113. *Indep. Ink*, 126 S. Ct. at 1290.

114. See *Indep. Ink*, 396 F.3d at 1351.

115. See *Indep. Ink, Inc. v. Trident Ink*, 210 F. Supp. 2d 1155, 1162 (C.D. Cal. 2002).

In order to establish that a tying arrangement violates Section 1 of the Sherman Act, a plaintiff must establish: 1) two distinct products or services; 2) a sale or agreement to sell the tying product conditioned upon the purchase of the tied product; 3) market power in the relevant market for the tying product; and 4) the tied product involves a not insubstantial amount of interstate commerce.

Indep. Ink, 210 F. Supp. 2d at 1162 (internal quotations omitted).

116. See *Jefferson Parish Hosp.*, 466 U.S. at 16 n.25.

adopted an overly broad interpretation of the Court's holding in *Loew's*¹¹⁷ by blurring the distinctions between patent and copyright law. Second, the Court has traditionally disfavored presumptions in antitrust law, preferring instead to examine each claim on a case-by-case basis.¹¹⁸ Third, the presumption, especially an irrebuttable presumption, treated defendants in patent tying claims unfairly. For the foregoing reasons, the Court correctly rejected Independent Ink's arguments for a limited irrebuttable presumption or a broader, rebuttable presumption, and instead adopted a rule of reason standard to examine market power.

1. Overly Broad Interpretation of *Loew's*

Instead of relying on a fact-driven analysis of the tying product's market or the product's power in a market, the Court has previously used a uniqueness test.¹¹⁹ Uniqueness, in the context of copyright and patent tying cases, is a term of art, requiring that "the product is distinctive and unusual, leading some customers to prefer it over any others; and there exists a barrier preventing competitors from producing the product."¹²⁰ The uniqueness test was first stated in *Loew's*, in the context of a block-booking case.¹²¹ In *Loew's*, the Court stated that "the mere presence of competing substitutes for the tying product . . . is insufficient to destroy the legal, and indeed the economic, distinctiveness of the copyrighted product."¹²²

Proponents of the presumption argue that patented products, such as the printhead at issue in *Independent Ink*, satisfy this uniqueness test because they "are novel by statutory definition; they are legally unique, distinctive and enforceable through infringement actions."¹²³ However, such a broad interpretation of *Loew's* incorrectly blurs the distinctions between patent and copyright law. Where copyrights protect original works of authorship, patents cover novel and useful products and proc-

117. See *United States v. Loew's, Inc.*, 371 U.S. 38, 45 (1962) (stating that the economic power required for a claim arising under Section 1 of the Sherman Act may be presumed where "the tying product is patented or copyrighted").

118. See Hayden, *supra* note 8, at 115 n.145. Hayden stated, "Legal presumptions that rest on formalistic distinctions rather than actual market realities are generally disfavored in antitrust law. This Court has preferred to resolve antitrust claims on a case-by-case basis, focusing on the particular facts disclosed by the record. In determining the existence of market power, and specifically the responsiveness of the sales of one product to price changes of the other, this Court has examined closely the economic reality of the market at issue."

Id. (quoting *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 466-67 (1992)) (internal quotations omitted).

119. William Montgomery, Note, *The Presumption of Economic Power for Patented and Copyrighted Products in Tying Arrangements*, 85 COLUM. L. REV. 1140, 1146 (1985).

120. *Id.* at 1146-47.

121. *Id.* at 1142 ("Block-booking is an arrangement whereby a film distributor licenses one film or group of films only on the condition that the exhibitor lease another film or group of films.").

122. *Loew's*, 371 U.S. at 49.

123. McLaughlin, *supra* note 6, at 44.

ess.¹²⁴ While a copyrighted work may conceivably be so unique or distinctive it has no identifiable substitute, practical substitutes for a patented product are available so long as the patent's claims do not preclude any foreseeable alternative.¹²⁵ It is the presence of practical substitutes for patented tying products, so clearly absent in the context of a copyrighted tie that permits a factual inquiry into the tying product's market power, absolving the necessity for a presumption.

2. The Court's Traditional Disfavor of Presumptions

Traditionally, the Court has analyzed antitrust cases either through a *per se* standard or under the rule of reason.¹²⁶ However, as stated by Justice Blackmun in *Eastman Kodak Co. v. Image Technical Services, Inc.*,¹²⁷ the Court prefers to examine antitrust claims on a case-by-case basis, and not through presumptions.¹²⁸ In choosing to abolish the presumption, the Court followed Justice Blackmun's guidance, holding that "tying arrangements involving patented products should be evaluated under the [rule of reason] standards applied in cases like *Fortner II* and [O'Connor's concurrence in] *Jefferson Parish*, rather than under the *per se* rule applied in *Morton Salt* and *Loew's*."¹²⁹

A rule of reason analysis involves inquiry into an alleged restraint on trade by examining the effect of the practice on the marketplace.¹³⁰ Courts that have applied the rule of reason usually note that "the plaintiff has failed to define a relevant market or has otherwise failed to show any significant threat to the health of competition in the tied market."¹³¹ A determination that a patent tying arrangement is illegal "must be supported by proof of power in the relevant market rather than by a mere presumption thereof."¹³² The Court's decision provides for a more equitable treatment of defendants in patent tying cases at a cost of increasing the burden on parties to prove the existence, or non-existence, of market power.

124. See 17 U.S.C. § 102(a) (West 2006) (defining works of authorship as literary and musical works, sculpture, motion pictures, and others); see also CHISUM, *supra* note 47, § 1.01.

125. See Charles W. Adams, *The Doctrine of Equivalents: Becoming a Derelict on the Waters of Patent Law*, 84 NEB. L. REV. 1113, 1114 (2006); see also Edmund W. Kitch, *Elementary and Persistent Errors in the Economic Analysis of Intellectual Property*, 53 VAND. L. REV. 1727, 1730 (2000).

126. Hayden, *supra* note 8, at 98 n.26.

127. 504 U.S. 451 (1992).

128. See *Eastman Kodak*, 504 U.S. at 466-67; see also *Maple Flooring Mfrs. Ass'n v. United States*, 268 U.S. 563, 579 (1925); Hayden, *supra* note 8, at 115 n.145.

129. See *Indep. Ink*, 126 S. Ct. at 1291.

130. See AREEDA, *supra* note 13, ¶ 1511; see also Aliza Reicher, Comment, *Off With Their Printheads! An End to the Per Se Presumption of Illegality for Patent Ties in Illinois Tool Works v. Independent Ink*, 24 CARDOZO ARTS & ENT. L.J. 297, 300 n.20 (2006); see also 35 U.S.C.A. § 101 (West 2006).

131. Hayden, *supra* note 8, at 104 n.67.

132. *Indep. Ink*, 126 S. Ct. at 1291.

While it may be argued that a rebuttable presumption would have “fairly allocate[d] the burdens [on plaintiffs and defendants] and dictate[d] an efficient ordering of proof at trial,”¹³³ it is unlikely. Even if there is a rebuttable presumption of market power, each party has an incentive to develop evidence of market power, or lack thereof. In other words, a rebuttable presumption is the worst of both worlds: it lacks the efficiencies inherent in an irrebuttable presumption and plaintiffs, fairly or unfairly, are burdened with developing evidence contradicting the patent-holder’s denial of market power.¹³⁴ In its own brief for this case, and as further developed below, respondent Independent Ink states that it developed evidence that the petitioner’s tying product had market power, undermining its arguments that developing evidence of market power is costly to plaintiffs, is difficult to obtain, and that such evidence is not necessary to succeed in a patent tying claim.

3. Presumption was Unfair to Defendants

Though the Court has evaluated tying arrangements under a more liberal standard than other antitrust behaviors deemed to be *per se* illegal, the standard applied to tying arrangements has been interpreted to prohibit tying that economic analysis has shown to be beneficial to consumers.¹³⁵ “Application of the *per se* standard and presumption of market power for patented products eliminates the need to define a relevant market,” ignoring any pro-competitive benefits created by the tie.¹³⁶

“The Supreme Court has consistently grounded its *per se* rule . . . on the special statutory grant of monopolistic rights afforded patentees.”¹³⁷ Ironically, while patent tying rules were shaped to fit antitrust law, the patent policy of encouraging innovation via a grant of a limited monopoly is at odds with the antitrust policy of prevention of restraints on competition and trade.¹³⁸ However, a legal monopoly protected by a patent “is not necessarily or even typically a market monopoly.”¹³⁹ “The fact that a tying agreement involves a patented product should not matter for

133. McLaughlin, *supra* note 6, at 46.

134. *Contra* McLaughlin, *supra* note 6, at 46.

135. *See Jefferson Parish Hosp.*, 466 U.S. at 34 (O’Connor, J., concurring).

136. *See* Hayden, *supra* note 8, at 116.

137. McLaughlin, *supra* note 6, at 42.

138. *See* *Axis S.P.A. v. Micafil, Inc.*, 870 F.2d 1105, 1111 (6th Cir. 1989).

Our patent and antitrust laws seek to further different and opposing policies. Patent laws grant a monopoly for a limited time in order ‘to promote the progress of . . . useful arts . . .’ Antitrust laws, on the other hand, are designed to promote and protect competition in the marketplace. Thus, a lawfully acquired patent creates a monopoly that does not violate the antitrust laws.

Axis S.P.A., 870 F.2d at 1111 (citing *United States v. Westinghouse Elec. Corp.*, 648 F.2d 642, 647 (9th Cir. 1981)).

139. AREEDA, *supra* note 13, at ¶ 1737a.

purposes of an antitrust inquiry.”¹⁴⁰ While market forces may not impact or impede patented products in the same manner as unpatented products, market power for the patented product does not automatically follow from the fact that the product is patented.¹⁴¹ Despite such evidence indicating differences between the legal monopoly granted by a patent and the anticompetitive aspects of an economic monopoly, the irrebuttable presumption unfairly prevented defendants from presenting evidence distinguishing legal monopoly from economic monopoly.

Those in favor of the presumption have argued that the elimination of the presumption will only shift a heavy burden from defendants onto plaintiffs and consumers.¹⁴² First, proponents argue that defendants should prove the absence of market power in the tying product because the “defendant . . . is best positioned to have [market power information.]”¹⁴³ This argument is undermined by the market power evidence presented by Independent Ink in its brief.¹⁴⁴ Further, a plaintiff would also be strategically disadvantaged by not developing contradictory evidence to refute a defendant’s definition of the relevant market.

Second, proponents also claim that big business will force consumers to purchase “replacement tires, batteries, motor oil, or even gasoline from only your automobile’s manufacturer” in the absence of the presumption.¹⁴⁵ This proposition exaggerates the potential impact of the abolition of the presumption. Such forced arrangements would still be subject to review of the economic benefits offered by the tie.¹⁴⁶

Finally, Independent Ink, relying on the amicus brief of Professor F. M. Scherer, argues that a rebuttable presumption of market power is correct because patents involved in litigation are much more valuable than simi-

140. Hayden, *supra* note 8, at 114 n.139 (citing Hovenkamp et al., *The Interface Between Intellectual Property Law and Antitrust Law: Anticompetitive Settlement of Intellectual Property Disputes*, 87 MINN. L. REV. 1719, 1725 (2003)).

141. See Hayden, *supra* note 8, at 114-15 n.141; see also *Int’l Salt Co. v. United States*, 332 U.S. 392, 395-96, 401-02 (1947) (holding that the challenged tying agreements were unlawful despite the fact that the tying item was patented, not because of it); John Hornick, *The Per Se Rule in Tying Contexts: A Critical View*, 10 DEL. J. CORP. L. 703, 714 (1985) (“In arriving at its decision . . . the Court placed no reliance on the fact that a patent was involved nor did it give the slightest intimation that the outcome would have been any different if that had not been the case.”).

142. See McLaughlin, *supra* note 6, at 38-39 (“Defendants seek to have the Court require plaintiff to prove by way of survey evidence, expert market analysis including complicated and expensive proofs of cross-elasticity of demand, and likely more, that defendants actually possess true market power in the printhead, monopoly power of its patent notwithstanding.”).

143. *Id.* at 45-46.

144. See Brief for Respondent at 45-48, *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 126 S. Ct. 1281 (2006) (No. 04-1329) (conducting a market power analysis entitled “The Judgment Below Should Be Affirmed Because, Even Without a Presumption, Market Power Was Demonstrated on the Record Below”).

145. McLaughlin, *supra* note 6, at 39 (“This case should be important to everyone who does not wish to be forced to purchase, for example, replacement tires, batteries, motor oil, or even gasoline from only your automobile’s manufacturer, or replacement film from only the maker of your camera, or generic or off-patent drugs in combination with desirable patented drugs.”).

146. *Jefferson Parish Hosp.*, 466 U.S. at 35 (O’Connor, J., concurring).

lar patents that were not involved in litigation.¹⁴⁷ However, the value of one patent isolated from all other substitutes is irrelevant in an antitrust context, and thus Professor Scherer's basis for maintaining a presumption fails on two grounds. First, Justice O'Connor's market power analysis guidelines require a comparison of the tying product to others in the marketplace.¹⁴⁸ Professor Scherer's method, in contrast, analyzes the tying product in isolation, failing to consider possible substitute products.¹⁴⁹ Second, by determining market power on the grounds that a party filed a lawsuit effectively substitutes the courtroom for the marketplace, failing to consider the possible beneficial effects of the tie on the marketplace.¹⁵⁰ Adopting the litigation equals market power standard advanced by Professor Scherer would place an even more egregious burden on defendants than already exists.

D. Under the Rule of Reason, How Do Parties Prove Market Power and How Much Market Power is Sufficient to Deem a Patent Tying Arrangement Illegal?

By abolishing the market power presumption, the Court now requires both parties in a patent tying suit to present evidence of the tying product's market power, or lack thereof, sufficient to meet a rule of reason standard. This new standard requires parties to "prove by way of survey evidence, expert market analysis including complicated and expensive proofs of cross-elasticity of demand . . . that defendant's actually possess true market power."¹⁵¹ While the United States Department of Justice defines market power as "the ability profitably to maintain prices above, or output below, competitive levels for a significant period of time,"¹⁵² in her concurrence in *Jefferson Parish*, Justice O'Connor offered a more open-ended explanation of market power. An examination of how regulators and competitors in the satellite-broadcast market have defined the market provides a view of how difficult it can be to define a product's market. It will also provide guidance on how future litigants in

147. See Brief for Professor F. M. Scherer, as Amici Curiae Supporting Respondents, *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 126 S. Ct. 1281 (2006) (No. 04-01329). Professor Scherer's brief states,

Research into the subject of why particular patents are valuable has shown that patents involved in litigation are much more valuable than similar patents that were not involved in litigation. Results from a study of German patents show that patents in litigation are between 11.2 and 42.6 times more valuable than other patents, all else equal. In other words, the fact of litigation itself is a strong signal of a patent's "appreciable economic power."

Id. (citing *Eastman Kodak*, 504 U.S. at 464); see also *Indep. Ink*, 126 S. Ct. at 1291.

148. See *Jefferson Parish Hosp.*, 466 U.S. at 37-38 nn.6-7 (arguing that market power, measured by a high market share, is a factor in determining illegality, but only when it includes "all reasonable substitutes for the product").

149. See Brief for Respondent, *supra* note 147.

150. See *id.* at 34 (noting that courts have not found tying agreements illegal *per se* without further proof of an anticompetitive effect on the market place).

151. McLaughlin, *supra* note 6, at 39.

152. U.S. DEPT. OF JUSTICE & FED. TRADE COMM'N, *supra* note 68, § 2.2.

patent tying cases will strategically define the market to suit each party's desired outcome.

1. Justice O'Connor's Concurrence in *Jefferson Parish*

In her concurrence in *Jefferson Parish*, Justice O'Connor touched on, but left unresolved, the question of how much market power is necessary to adversely impact the tied-product market.¹⁵³ While Justice O'Connor identified several Court opinions that considered market power in tying arrangements, previous attempts at market power analysis by the Court were tepid at best.¹⁵⁴ These cases demonstrate that the Court, even when applying the patent-equals-market-power presumption, has never been willing to condemn all tying arrangements as illegal without proof of market power.¹⁵⁵ Because a patent was automatically presumed to confer market power, the courts were not required to conduct a substantial market power analysis, instead relying on a "uniqueness test."¹⁵⁶ The Court in *Independent Ink* likewise neglected to state how much market power is required to affect the marketplace.¹⁵⁷ The Court's reticence to define such a key, qualitative component of the anti-trust analysis in either case runs counter to Congress's intention that the courts would do so.¹⁵⁸

Though Justice O'Connor did not provide future courts with clear directions of how to assess market power, she stated several general elements that should be considered. In *Jefferson Parish*, a market share of thirty per cent was not considered to be an indication of significant market power.¹⁵⁹ From *Fortner II*, Justice O'Connor cited the Court's consideration of "the size and profitability of the firm seeking to impose the tie, the character of the tying product, and the effects of the tie."¹⁶⁰ In both *Fortner I* and *II* the Court defined market power as the ability to raise prices "above the levels that would be charged in a competitive market."¹⁶¹

A second analysis proposed by Justice O'Connor attempts to determine whether there is "a substantial threat that the tying seller will ac-

153. *Jefferson Parish Hosp.*, 466 U.S. at 37-38 n.6.

154. *Id.*

155. *Id.* at 34 (stating that tying arrangements are unlike other antitrust behaviors such as price fixing and division of markets are subject to *per se* illegality).

156. Montgomery, *supra* note 119, at 1146.

157. See *Indep. Ink*, 126 S. Ct. at 1291-92 (arguing against a *per se* rule as patents can convey varying degrees of market power resulting in different abilities to affect the market place).

158. See Kenneth J. Burchfiel, *Patent Misuse and Antitrust Reform: "Blessed Be the Tie?"*, 4 HARV. J.L. & TECH. 1, 90 n.556 (1991) (noting that Congress intentionally provided a vague and open-ended definition, with the direction that the Courts should tailor the remedy to fit the particular market context of patent rights).

159. *Jefferson Parish Hosp.*, 466 U.S. at 26-27.

160. *Id.* at 38 (citing *Fortner II*, 429 U.S. at 620) ("[T]he effects of the tie [are] the price charged for the products, the number of customers affected, [and] the functional relation between the tied and tying product.").

161. See *id.* at 27 n.46 (citing *Fortner II*, 429 U.S. at 620 and *Fortner I*, 394 U.S. at 503-04).

quire market power in the tied-product market."¹⁶² This analysis is concerned with the tendency of the tying agreement to preclude a buyer from purchasing the unpatented tied product elsewhere¹⁶³ and addresses the Court's historical concern that tying arrangements "attempt to increase the scope of the monopoly granted by a patent"¹⁶⁴ to impact the market for the tied product. In markets with many stable sellers or with low barriers to entry, the risk of the seller acquiring market power in the tied-product market is likely low.¹⁶⁵ For example, "if one of a dozen food stores in a community were to refuse to sell flour unless the buyer also took sugar it would hardly tend to restrain competition in sugar if its competitors were ready and able to sell flour by itself."¹⁶⁶ Applying this example to *Independent Ink*, the tied unpatented ink, like example's sugar, is a commodity available and used for a plethora of purposes.

Through analyzing the availability of substitutes, the final indicia of market power identified by Justice O'Connor, courts are better able to evaluate market share evidence.¹⁶⁷ Evidence of a product's high market share indicates market power only if the market is properly defined to include all reasonable substitutes. Since *Jefferson Parish* did not involve a patent tying arrangement, it is likely that "Justice O'Connor's reference to 'close substitutes' presumably does not include close substitutes that are infringing"¹⁶⁸ on a patent. In defining the boundaries of a patent, courts include close substitutes of the patented product under the doctrine of equivalents.¹⁶⁹ In applying the doctrine of equivalents, the court determines whether the disputed product falls within the claims of the patented product.¹⁷⁰ Because a patent grants the holder the exclusive right to manufacture and sell the patented invention and its substantial equivalents, substitutes may either infringe upon the patented product or are too distinct to actually be considered a substitute.¹⁷¹

Independent Ink provides an example of how substitutes do not violate the doctrine of equivalents. Illinois Tool Works's patented printhead was developed as an alternative to print-and-apply labels.¹⁷² The printhead performs the same basic functions as the labels, but it does it at a lower cost and more efficiently.¹⁷³ When the case returns to the district

162. *Id.* at 38.

163. Hayden, *supra* note 8, at 108.

164. *Henry v. A. B. Dick Co.*, 224 U.S. 1, 70 (1912) (White, J., dissenting).

165. *See Jefferson Parish Hosp.*, 466 U.S. at 38.

166. *Id.* at 12 (internal quotations omitted).

167. *See* Hayden, *supra* note 8, at 109 n.99.

168. McLaughlin, *supra* note 6, at 44.

169. *Id.*; *see also* CHISUM, *supra* note 47, § 16.02[1][a][ii].

170. *See* CHISUM, *supra* note 47, § 16.02[1][a][ii] (stating that when an accused product or process falls within a patent's claims, there is literal [patent] infringement and that using the claims of a patent to develop a new product or process meets the definition of equivalency).

171. *See* McLaughlin, *supra* note 6, at 44.

172. *Id.* at 39.

173. *Id.*

court, Illinois Tool should be able to argue that while its printhead is both unique and distinct enough to deserve a patent, it does not have market power because there are substitutes available that perform the same functions.

2. Example: United States Satellite Television Broadcasting Market 1997-2006

In defining a product's market, "there are a range of markets varying in scope that may be chosen for use in an antitrust case."¹⁷⁴ For an example of how both time and expectation shape market identification, consider the satellite television industry from 1997 and 2006. In this ten year period, the Department of Justice, EchoStar, and DirecTV in a less than public fashion, reversed their market definitions of satellite-broadcast companies.¹⁷⁵ While this example discusses market definition in the context of mergers, it is analogous to the sort of scenario a court might face in a patent tying case. As such, it reveals the complexity of identifying a product's relevant market. As demonstrated in the example, EchoStar reversed the definition of its own product's relevant market in a twenty-month period.¹⁷⁶ The process of identifying the product's relevant market will likely be a protracted endeavor, possibly foreclosing business opportunities to litigants, as the speed of change in the business world outpaces the drawn-out judicial review process.¹⁷⁷

DirecTV and EchoStar are satellite television providers that offer consumers hundreds of channels of programming with the purchase of a satellite receiver and a monthly subscription.¹⁷⁸ In 2002, EchoStar failed in its bid to acquire DirecTV from Hughes Electronics Corporation on antitrust grounds. DirecTV was later sold to News Corp. in 2003. DirecTV and EchoStar provide satellite service to 27 million of the 110 million homes in the United States,¹⁷⁹ or roughly ninety percent of all satellite-connected homes in the U.S.¹⁸⁰ Cable television companies provide service to 66.5 million of the 110 million households.¹⁸¹

174. Hayden, *supra* note 8, at 116 n.150.

175. See Andy Pasztor & Yochi J. Dreazen, *EchoStar's Past Arguments May Foil Its Bid for Hughes*, WALL ST. J., Nov. 12, 2001, at B8 [hereinafter Pasztor & Dreazen, *EchoStar's Past Arguments*]; Andy Pasztor & Peter Grant, *Leading the News: Regulators Sue to Block EchoStar Deal*, WALL ST. J., Nov. 1, 2002, at A3 [hereinafter Pasztor & Grant, *Regulators Sue to Block*].

176. See Pasztor & Dreazen, *EchoStar's Past Arguments*, *supra* note 175, at B8.

177. See Editorial, *Who Defines a Market?*, WALL ST. J., Feb. 23, 2004, at A16.

178. See <http://www.directv.com/DTVAPP/global/contentPage.jsp?assetId=1400010> (last visited Sept. 26, 2006); http://www.dishnetwork.com/content/aboutus/company_profile/index.shtml (last visited Sept. 26, 2006).

179. Julia Angwin & Andy Pasztor, *Weaker Reception: Satellite TV Growth is Losing Altitude as Cable Takes Off*, WALL ST. J., Aug. 5, 2006, at A1 [hereinafter Angwin & Pasztor, *Weaker Reception*].

180. Pasztor & Dreazen, *EchoStar's Past Arguments*, *supra* note 175, at B8.

181. Angwin & Pasztor, *Weaker Reception*, *supra* note 179, at A1.

Since 1997, the Department of Justice, EchoStar, and DirecTV have publicly and frequently offered seemingly contradictory definitions of market for satellite-broadcasting companies.¹⁸² In 1997, in reviewing a proposed acquisition of a satellite-broadcast firm by News Corp., the “Justice Department ruled that [the satellite-broadcast company] competed in a broad market comprising both cable and the satellite company.”¹⁸³ In a lawsuit filed in February 2000 by EchoStar against DirecTV’s former parent company, “EchoStar’s lawyers specifically argued that satellite-to-home broadcast services constituted a stand-alone market, distinctly separate from the cable business;”¹⁸⁴ a narrow market definition. In 2001, when EchoStar attempted to purchase DirecTV from Hughes Electronics, it changed its argument to combat antitrust concerns.¹⁸⁵ EchoStar now argued for a broader market definition, insisting that satellite and cable providers “should be considered a single market, providing . . . entertainment options and Internet connections that are indistinguishable from each other regardless of how consumers get the signal.”¹⁸⁶ EchoStar’s bid to purchase DirecTV was blocked by regulators and lawmakers, with News Corp. initiating a behind-the-scenes lobbying campaign that emphasized the antitrust issues of the acquisition, as seen through a narrow market definition.¹⁸⁷ Today, now that cable providers bundle television programming, broadband internet, and telephone service at a price comparable to an EchoStar or DirecTV television programming price, some analysts predict EchoStar and DirecTV will be forced to merge.¹⁸⁸ For these companies to merge, DirecTV would be compelled to adopt a broad market definition that recognizes cable operators as competitors.

E. How Will the Burden to Develop Evidence of Market Power Impact Judicial Resources?

The two subsections below provide a context for understanding the type of information that future patent tying litigants will present and how courts will analyze this information. While arguing that a market power analysis is burdensome, unjustifiably costly,¹⁸⁹ and irrelevant where the

182. See Pasztor & Dreazen, *EchoStar’s Past Arguments*, *supra* note 174, at B8; Pasztor & Grant, *Regulators Sue to Block*, *supra* note 175, at A3.

183. Pasztor & Dreazen, *EchoStar’s Past Arguments*, *supra* note 175, at B8.

184. *Id.*

185. *See id.*

186. *Id.*

187. See Andy Pasztor & John Lippman, *EchoStar Talks with Murdoch*, *Liberty Media About Possible Deal*, WALL ST. J., Jan 21, 2003, at A1.

188. See Angwin & Pasztor, *Weaker Reception*, *supra* note 179, at A1.

189. See McLaughlin, *supra* note 6, at 42 (“The rationale for per se rules in part is to avoid a burdensome inquiry into actual market conditions in situations where the likelihood of anticompetitive conduct is so great as to render unjustified the costs of determining whether the particular case at bar involves anticompetitive conduct.” (quoting *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 16 n.25 (1984))).

[I]t should seldom be necessary in a tie-in sale case to embark upon a full-scale factual inquiry into the scope of the relevant market for the tying product and into the corollary

tying product is patented or copyrighted, Independent Ink actually submitted a market power analysis of International Tool Works's patented printhead in its brief to the Court.¹⁹⁰ The sole purpose of a presumption is to fill an otherwise unavailable, evidential void.¹⁹¹ Independent Ink's argument that maintaining the presumption is undermined by presenting evidence that previously unavailable evidence of market power of the tying product is, in fact, available.

While the brief did not mention Independent Ink's source or process for obtaining such information, it is of a type that might logically be prepared by an expert. In future cases, it is likely that courts will define the tying product's relevant market, only after hearing competing testimony from party experts.

Also, in *A.I. Root v. Computer/Dynamics, Inc.*,¹⁹² a case heard twenty years before *Independent Ink*, the Sixth Circuit Court of Appeals' very broad interpretation of *Loew's* compelled it to examine market power evidence of a copyrighted tying product. While the court may have decided issues of fact in an appeal from summary judgment, neither party appealed. Though *A.I. Root* was summarily adjudicated, it is likely that future parties would prefer to more fully litigate patent tying claims than settle. As explained through the satellite-broadcast market example above, the process of defining the relevant market of a tying product can be a complicated and confusing proposition. A party whose expert can bring clarity to the court will be greatly advantaged.

1. Independent Ink's Evidence of Market Power for Illinois Tool Works's Patented Printhead

The market power evidence presented by Independent Ink is substantial.¹⁹³ In the final section of its brief, Independent Ink defines the relevant market for Illinois Tool Works's printhead,¹⁹⁴ presents printhead market share information currently and historically,¹⁹⁵ and compares Illinois Tool Works's tied-ink pricing to competitors.¹⁹⁶ While Independent Ink provides a good roadmap for conducting market analysis in

problem of the seller's percentage share in that market. This is even more obviously true when the tying product is patented or copyrighted, in which case . . . sufficiency of economic power is presumed.

See id. (quoting *United States v. Loew's, Inc.*, 371 U.S. 38, 45 n.4 (1962)).

190. *See* Brief for Respondent, *supra* note 147, at 45-48 (conducting a market power analysis).

191. *See* Hayden, *supra* note 8, at 115 nn.142-43.

192. 806 F.2d 673 (6th Cir. 1986).

193. *See* Brief for Respondent, *supra* note 147, at 45-48 (presenting market power evidence).

194. *Id.* at 45 (stating inkjet printers used for carton coding applications are the relevant market).

195. *Id.* (stating that Illinois Tool Works accounts for ninety five percent of the inkjet printers for carton coding applications market currently, and approximately 100% of the marketplace from 1994 to 1998).

196. *Id.* at 46 ("[Illinois Tool Works] charged nearly three times more than Independent Ink and other competitors for replacement ink . . .").

future patent tying cases, the analysis' quality and location as Independent Ink's final argument to the Court undermines Independent Ink's central goal of maintaining some form of presumption.

2. *A.I. Root Co. v. Computer/Dynamics, Inc.*

In *A.I. Root Co. v. Computer/Dynamics Inc.*, the Court of Appeals for the Sixth Circuit found the tying arrangement involving a copyrighted product to be legal after examining the market power of the tying product.¹⁹⁷ By analyzing the tying product's market power, the court veered from the *per se* rule, rejected *Loew's* and instead relied on Justice O'Connor's concurrence in *Jefferson Parish* and a Columbia University Law Review note.¹⁹⁸ This case and the emphasis it places on identifying a product's relevant market, provides a roadmap to understanding the structure of future patent tying cases.

The court conducted a two-part analysis that first determined the relevant market of the tying product and second analyzed the defendant's position within the relevant market. To identify the tying product's relevant market, the court used a reasonable interchangeability standard that examined identical or available substitutes to the tying product.¹⁹⁹ The plaintiff, A.I. Root Co., sought to define the relevant market narrowly to only equipment that used the copyrighted software.²⁰⁰ The court, however, identified the relevant product market as the small business computer market, a much larger market that includes IBM, NCR, and Seiko as competitors to the defendant.²⁰¹ By comparing the defendant in the larger, small business computer market, the defendant's market share was determined to be two to four per cent of the market.²⁰² Since the tying product was copyrighted, application of the narrower standard advanced by the plaintiff would likely find the defendant possessed the requisite market power.

IV. CONCLUSION

The Court's decision to abolish the presumption that a patent confers market power was not only the logical choice of the three alternatives presented by the parties, it was also the correct decision. The *per se* presumption of market power in patent tying cases was incorrect for three reasons. First, courts have adopted an overly broad interpretation

197. *A.I. Root*, 806 F.2d at 675.

198. See McLaughlin, *supra* note 6, at 43-44; see also *A.I. Root*, 806 F.2d at 675-76.

199. *A.I. Root*, 806 F.2d at 675 ("The essential test for ascertaining the relevant product market involves the identification of those products or services that are either (1) identical to or (2) available substitutes for the defendants' product or service." (quoting *White & White, Inc. v. Am. Hosp. Supply*, 723 F.2d 495, 500 (6th Cir. 1983))).

200. *Id.*

201. See *id.* at 675-76.

202. See *id.* at 675.

of the Court's holding in *Loew's*²⁰³ by blurring the distinctions between patent and copyright law. Second, the Court has traditionally disfavored presumptions in antitrust law, preferring instead to examine each claim on a case-by-case basis.²⁰⁴ Third, the presumption, especially when it is irrebuttable, treats defendants in patent tying claims unfairly. For the foregoing reasons, the Court correctly rejected Independent Ink's arguments for a limited irrebuttable presumption or a broader, rebuttable presumption, and instead adopted a rule of reason standard to examine market power.

While the Court in *Independent Ink* did not define the factors of an illegal tie, other sources provide guidance. Future courts faced with patent tying cases should refer to the elements cited by Justice O'Connor in *Jefferson Parish*, the Sixth Circuit's market power analysis in *A.I. Root*, and the market analysis submitted by Independent Ink in the final section of its brief. The most difficult element for courts in future patent tying cases will be to define the relevant market of a tying product, because parties have a strategic interest in having the Court adopt their own definition of the tying product's relevant market.

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203. See *United States v. Loew's, Inc.*, 371 U.S. 38, 45, 46 (1962) (stating that the economic power required for a claim arising under Section 1 of the Sherman Act may be presumed where the tying product is patented or copyrighted).

204. See Hayden, *supra* note 8, at 115 n.145 ("Legal presumptions that rest on formalistic distinctions rather than actual market realities are generally disfavored in antitrust law. This Court has preferred to resolve antitrust claims on a case-by-case basis, focusing on the particular facts disclosed by the record. In determining the existence of market power, and specifically the responsiveness of the sales of one product to price changes of the other, this Court has examined closely the economic reality of the market at issue." (quoting *Eastman Kodak Co. v. Image Technical Servs.*, 504 U.S. 451, 466-67 (1992)) (internal quotations omitted)).

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