

DIGITAL PIRACY AND THE COPYRIGHT RESPONSE

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INTRODUCTION

Piracy has existed as long as there have been copyrighted works and reproduction technologies. Since the invention of the printing press, copyright holders have been concerned about the extensive unauthorized copying of their works. Although the cost, quality, and speed of reproduction may vary significantly, copyists have always been able to free ride on others' creative efforts. Thus, policymakers often need to evaluate and calibrate their copyright policies to ensure that these policies provide authors with sufficient incentives to create.

Today, the Internet and new communications technologies have made digital piracy of copyrighted works a serious global problem. The U.S. copyright industry claimed that piracy had cost billions of dollars in revenue while threatening the loss of hundreds of thousands of jobs worldwide. In 2002 alone, the United States was estimated to have had lost more than US\$10 billion from copyright piracy abroad, not to mention the significant losses suffered domestically via the Internet.¹ It is therefore no surprise that the copyright industries have been aggressively pursuing legal actions and lobbying for stronger protection throughout the world.

This Chapter discusses the various legislative measures policymakers have taken to alleviate the digital piracy problem. Part I provides an overview of copyright protection. Part II discusses the 1996 WIPO Internet Treaties, which strengthened international copyright protection in the online environment. This Part also discusses the Digital Millennium Copyright Act of the United States and the EU Information Society Directive, both of which were enacted to implement the WIPO Internet Treaties. Part III examines the EU Database Directive and explains why the United States remains reluctant to offer *sui generis* protection to databases. Part IV explores the use of compulsory licensing to alleviate the digital piracy problem. To illustrate this licensing scheme, this Part focuses on the compulsory levy system countries have adopted to deal with the private copying of copyrighted music and the shortcomings of that system. Part V explains how digital piracy is likely to spread from the

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¹ See International Intellectual Property Alliance, "USTR 2003 'Special 301' Decisions on Intellectual Property," http://www.iipa.com/pdf/2003_June_USTR_LossUpd.pdf, 2003.

music industry to other industries and how it will grow into a major transnational problem. This chapter concludes by offering brief suggestions on how policymakers should craft their copyright responses.

I. AN OVERVIEW OF COPYRIGHT PROTECTION

There are at least four theories of justification for copyright protection. The first is the incentive theory,² which views economic incentives as the key ingredient to encourage authors to invest time, effort, skill, and resources in the creative process. By granting a limited monopoly to prevent others from free riding on creative efforts, copyright protection enables authors to recuperate their investment.

However, not everybody needs economic incentives to create. Parents do not need economic incentives to take snapshots of their children, although these snapshots are eligible for copyright protection. Likewise, we do not need economic incentives to write letters or send e-mails to friends. Indeed, many painters and sculptors created artworks without thinking about their potential rewards under the copyright system. Countless numbers of people also engaged in creative endeavours, which helped lay the foundation of our culture, even before copyright emerged.

The second theory, the prospect theory,³ provides justification for copyright protection in situations where the economic rewards are uncertain and unknowable and the creator's investment is costly and highly risky. Unlike the incentive theory, the prospect theory posits that intellectual creators might not be able to divine the future commercial benefits of their creations. Rather, these creators stake out the territory defined by their creations regardless of the immediately knowable commercial value, just as miners stake out their claims on land without knowing exactly how much gold or silver they may find.

Although the prospect theory was created to provide a justification for patent protection, the theory explains well the need for the derivative work right and the extension of copyright protection to new technologies. For example, a novelist writing in the 1950s might not be able to predict the commercial benefits derived from electronic books, which were nonexistent at that time. Similarly, a movie producer who created a motion picture in the 1970s might not be able to foresee the possibility of reissuing movies in digital versatile disc (DVD) format, which were also nonexistent at the time of creation. Yet, copyright law allows authors to capture financial benefits in all of these works regardless of whether the authors knew about the benefits before they created the works (and whether they had taken these benefits into consideration when they evaluated their decisions to create).

The third theory is the natural rights theory,⁴ which has two main strands. The first strand uses John Locke's *Second Treatise of Government* and treats intellectual property as

² See generally Earl R. Brubaker, "Free Ride, Free Revelation, or Golden Rule?," *Journal of Law & Economics* 18, no. 1 (April 1975): 147-161; William M. Landes & Richard A. Posner, "An Economic Analysis of Copyright Law," *Journal of Legal Studies* 18, no. 2 (June 1989): 325-363; Stewart E. Sterk, "Rhetoric and Reality in Copyright Law," *Michigan Law Review* 94, no. 5 (March 1996): 1197-1249.

³ See generally Edmund W. Kitch, "The Nature and Function of the Patent System," *Journal of Law and Economics* 20, no. 2 (October 1977): 265-290; John F. Duffy, "Rethinking the Prospect Theory of Patents," *University of Chicago Law Review* 71, no. 2 (Spring 2004): 439-510.

⁴ See generally Wendy J. Gordon, "An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent and Encouragement Theory," *Stanford Law Review* 41, no. 6 (July 1989): 1343-1469; Wendy J. Gordon, "A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property," *Yale Law Journal* 102, no. 7 (1993): 1533-1609.

the creators' "fruits of labour."⁵ Under Locke's labour theory, creators have an inherent right to reap the fruits of their creations and obtain rewards for their contributions to society. The second strand builds on G.W.F. Hegel's property theory, which considers intellectual creations an extension of the creators' personalities.⁶ Under Hegel's personhood theory, creators have an inherent right to protect the integrity of their creations just as they have the right to protect their own personalities. As the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights states in Article 27: everyone has the right to benefit from the protections of both "the *moral* and *material* interests" resulting from his or her scientific, literary, or artistic creations.⁷

The final theory is the development theory, to which most policymakers in the developed world subscribe. Under this theory, copyright is a catalyst for economic development and modernization, and protection is posited to increase artistic and literary production, generate tax revenues, attract domestic and foreign investment, create new jobs, and promote indigenous authors.⁸

II. 1996 WIPO INTERNET TREATIES

In December 1996, the World Intellectual Property Organization (WIPO) hosted a diplomatic conference in Geneva to consider proposals to update international intellectual property norms in light of changes to the digital environment.⁹ The origin of this diplomatic conference can be traced back to 1989, when the governing body of the Berne Union, the international copyright treaty union, called upon WIPO to convene a Committee of Experts to explore the possibility of a supplementary agreement. This request was routine, as the Berne Convention had been revised about every 10 to 20 years in the past, and had not been updated since the Paris revision conference in 1971.¹⁰

Initially, the United States was only concerned about the use of copyright law to protect computer programs. However, as the Internet grew in size and scope, intellectual property problems in the digital environment became a major concern for many American businesses. In 1995, the Clinton administration released its Information Infrastructure Task Force White Paper.¹¹ The White Paper turned out to be fairly controversial in the United States, and many legislative proposals that sought to implement the document failed to report out of congressional committees.¹² Nevertheless, the Clinton administration persisted and

⁵ See John Locke, "Second Treatise of Government," *Two Treatises of Government*, ed. Peter Laslett (Cambridge: Cambridge Univ. Press, 1988) (3d. ed. 1698), 27 ("Whatsoever then he removes out of the state that Nature hath provided, and left it in, he hath mixed his Labour with, and joynd to it something that is his own, and thereby makes it his Property.").

⁶ See generally Justin Hughes, "The Philosophy of Intellectual Property," *Georgetown Law Journal* 77, no. 2 (December 1988): 287-366; Margaret Jane Radin, "Property and Personhood," *Stanford Law Review* 34, no. 5 (May 1982): 957-1015.

⁷ Universal Declaration of Human Rights, G.A. Res. 217, U.N. GAOR, 3d Sess., art. 27(2) (1948) (emphasis added); International Covenant on Economic, Social and Cultural Rights, Dec. 16, 1966, art. 15(1), 993 U.N.T.S. 3 (entered into force Jan. 3, 1976) (emphasis added).

⁸ See Commission on Intellectual Property Rights, *Integrating Intellectual Property Rights and Development Policy: Report of the Commission on Intellectual Property Rights* (London: Commission on Intellectual Property Rights, 2003), 1 [hereinafter *IPR Commission Report*]; Peter K. Yu, "From Pirates to Partners: Protecting Intellectual Property in China in the Twenty-first Century," *American University Law Review* 50, no. 1 (October 2000): 131-243, 192-193; Peter K. Yu, "Piracy, Prejudice, and Perspectives: An Attempt to Use Shakespeare to Reconfigure the U.S.-China Intellectual Property Debate," *Boston University International Law Journal* 19, no. 1 (Spring 2001): 1-87, 62-64.

⁹ For a comprehensive discussion of the U.S. digital agenda in the 1996 WIPO Diplomatic Conference, which led to the creation of the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty, see generally Pamela Samuelson, "The U.S. Digital Agenda at WIPO," *Virginia Journal of International Law* 37, no. 2 (Winter 1997): 369-439.

¹⁰ See Samuelson, "The U.S. Digital Agenda at WIPO," 376.

¹¹ Information Infrastructure Task Force, *Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights* (Washington, D.C.: Information Infrastructure Task Force, 1995).

¹² See Samuelson, "The U.S. Digital Agenda at WIPO," 373.

pressed aggressively for its digital agenda in the 1996 WIPO Diplomatic Conference in Geneva. As Professor Pamela Samuelson recounted:

Clinton administration officials sought approval in Geneva for international norms that would have (1) granted copyright owners an exclusive right to control virtually all temporary reproductions of protected works in the random access memory of computers; (2) treated digital transmissions of protected works as distributions of copies to the public; (3) curtailed the power of states to adopt exceptions and limitations on the exclusive rights of copyright owners, including fair use and first sale privileges; (4) enabled copyright owners to challenge the manufacture and sale of technologies or services capable of circumventing technological protection for copyrighted works; (5) protected the integrity of rights management information attached to protected works in digital form; and (6) created a *sui generis* form of legal protection for the contents of databases.¹³

Except for the final item concerning *sui generis* database protection, the Geneva agenda was identical to the one pushed in Washington by the Clinton administration based on its controversial White Paper. Nevertheless, disagreement among WIPO member states, particularly less developed countries, and the active participation of nongovernmental organizations had made it difficult for the U.S. administration to pursue all of its goals. As Professor Samuelson observed, “[i]n the end, none of the original U.S.-sponsored digital agenda proposals emerged unscathed from the negotiation process, and at least one—the proposed database treaty—did not emerge at all.”¹⁴

Notwithstanding this setback, the 1996 WIPO Internet Treaties successfully updated the international intellectual property regime in several areas. First, based on the agreed statement the United States pushed forward in the eleventh hour of the Diplomatic Conference, “[i]t is now clear that copyright law applies in the digital environment, and that storage of protected works is a reproduction that can be controlled by copyright owners.”¹⁵ Second, the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT) entered into force in 2002 to protect rightsholders from digital transmissions that constitute communications to the public.¹⁶ The treaties also reaffirmed the three-step test enunciated in the Agreement on Trade-Related Aspects of Intellectual Property Rights¹⁷ (“TRIPs Agreement”), which limits national authority to adopt exceptions or limitations in “certain special cases” that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the rightsholders. Finally, the treaties require member states to adopt adequate protection and effective remedies against circumvention technologies and services and to protect rights management information from alteration and removal in an effort to conceal or facilitate infringement.

Following the Diplomatic Conference, many countries enacted new legislation to implement the WIPO treaties. For example, the United States enacted the Digital Millennium Copyright Act (“DMCA”) in 1998.¹⁸ This statute is particularly important, because the United

¹³ See Samuelson, “The U.S. Digital Agenda at WIPO,” 372-373 (footnotes omitted).

¹⁴ Samuelson, “The U.S. Digital Agenda at WIPO,” 375.

¹⁵ Samuelson, “The U.S. Digital Agenda at WIPO,” 435.

¹⁶ WIPO Copyright Treaty, adopted December 20, 1996, WIPO Doc. CRNR/DC/94 (December 23, 1996); WIPO Performances and Phonograms Treaty, adopted December 20, 1996, WIPO Doc. CRNR/DC/95 (December 23, 1996).

¹⁷ Agreement on Trade-Related Aspects of Intellectual Property Rights, April 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, Legal Instruments—Results of the Uruguay Round, *International Legal Materials* 33, no. 5 (September 1994): 1197-1226.

¹⁸ Public Law No. 105-204, *Statutes at Large*, 112 (1998): 2860-2918.

States, as of this writing, is aggressively using bilateral and regional free trade agreements to push for the adoption of similar standards in other countries.¹⁹

The statute is problematic on at least two counts. First, the DMCA creates a “safe harbour” that protects Internet service providers from legal liability as long as they remove hosted content that allegedly infringes upon the work of a copyright holder.²⁰ By inducing providers to remove content even if the reproduction of such materials is permissible under existing copyright law—for example, under the fair use/fair dealing privilege—this safe harbour provision has created a substantial chilling effect.

Second, the DMCA prohibits the circumvention of encryption technologies that copyright holders use to protect creative works, as well as the dissemination of information concerning how to defeat those technologies.²¹ This provision was created out of necessity. As computer security experts have pointed out repeatedly, copy-protection technologies are imperfect and at best will only serve as “a speed bump” that frustrates people from making illegal copies.²² Once the copy-protection technology is decrypted, it will lose its protective function. Even worse, if the decryption key is disclosed, the copyrighted work will become available not only to those “techies” who successfully broke the code, but also to any unsophisticated users who obtain the decryption key.

To effectively protect their works, copyright holders therefore have to constantly upgrade their copy-protection technologies. Such upgrading will attract further attention from hackers, who are just too eager to tinker with the latest technology. Eventually, the repeated encryption and decryption will create a vicious cycle in which the copyright industries and the hacker community engage in an endless copy-protection arms race.²³ Copyright holders therefore need anti-circumvention legislation to avoid this race and effectively protect their copyrighted works.

Compared with the DMCA, the EU Information Society Directive,²⁴ which sought to harmonize European copyright laws in preparation for the European Union’s ratification of

¹⁹ See Peter K. Yu, “Currents and Crosscurrents in the International Intellectual Property Regime,” *Loyola Los Angeles Law Review* 38, no.1 (2004): 323-443, 392-400; see also Peter Drahos, “BITs and BIPs: Bilateralism in Intellectual Property,” *Journal of World Intellectual Property* 4, no. 6 (November 2001): 791-808; Ruth L. Okediji, “Back to Bilateralism? Pendulum Swings in International Intellectual Property Protection,” *University of Ottawa Law & Technology Journal*, 1, nos. 1-2 (2003-2004): 127-147.

²⁰ *Copyright Act of 1976, U.S. Code*, vol. 17, sec. 512 (2000).

²¹ *Copyright Act of 1976, U.S. Code*, vol. 17, sec. 1201 (2000).

²² “A ‘Speed Bump’ vs. Music Copying,” *Business Week*, http://www.businessweek.com/bwdaily/dnflash/jan2002/nf2002019_7170.htm, January 9, 2002 (interview with Professor Edward Felten of Princeton University), quoted in Paul Goldstein, *Copyright’s Highway: From Gutenberg to the Celestial Jukebox*, rev. ed. (Stanford, Calif.: Stanford University Press, 2003), 184. Although no encryption technology can protect perfectly, such technology does not necessarily need to be perfectly robust. As the recent 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.

Committee on Intellectual Property Rights and the Emerging Information Infrastructure, National Research Council, *The Digital Dilemma: Intellectual Property in the Information Age* (Washington, D.C.: National Academy Press, 2000), 218 [hereinafter *Digital Dilemma*].

²³ See Trotter Hardy, “Property (and Copyright) in Cyberspace,” *University of Chicago Legal Forum* (1996): 217-260, 251; Raymond Shih Ray Ku, “The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology,” *University of Chicago Law Review* 69, no. 1 (Winter 2002): 263-324, 319-320; 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, August 15, 2002.

²⁴ 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, 2001 O.J. (L 167) 10; see also Peter K. Yu, “An Introduction to the EU Information

the 1996 WIPO Internet Treaties, is less problematic and, in the author's view, struck a more appropriate balance between proprietary interests and public access needs. While the Directive requires all EU member states to implement legislation that protects against the circumvention of anti-copying technologies and the removal or alteration of digital rights management information, it includes much broader exceptions for publicly accessible libraries, educational establishments, museums, archives, broadcasting organizations, and non-commercial social organizations (such as hospitals and prisons). The Directive also makes exceptions for uses that benefit the disabled, for public security purposes, and for performance or reporting of administrative, parliamentary or judicial proceedings.

Despite these improvements, the Directive would not be an appropriate model for less developed countries. As the U.K.-based Commission on Intellectual Property Rights explained in its final report, "For developing countries, where Internet connectivity is limited and subscriptions to on-line resources unaffordable, [anti-circumvention legislation] 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."²⁵ Even worse, most of these countries, unlike their developed counterparts, lack the national economic strengths and established legal mechanisms to overcome problems created by an unbalanced system.²⁶ Even if the system is beneficial to them in the long run, these countries may not have the wealth, infrastructure, and technological base to take advantage of the opportunities created by the system in the short run.

III. DATABASE PROTECTION LEGISLATION

Shortly before the 1996 WIPO Diplomatic Conference, the European Union promulgated the EU Database Directive.²⁷ This Directive requires all EU member states to implement legislation that grants *sui generis* protection to databases created as a result of "substantial investment" by database producers. Under the Directive, databases are protected against unauthorized extraction and reutilization for a renewable term of 15 years regardless of their eligibility for copyright protection. To the detriment of foreign database producers, the Directive also includes a reciprocity provision that denies protection to databases produced in non-EU countries that do not offer comparable protection to databases. As a result, databases produced by foreign companies, including those in the United States, become vulnerable to foreign competition and piracy in Europe.

Despite this adverse economic impact, the United States has been reluctant to introduce laws offering comparable protection to databases. In the 1991 copyright decision of *Feist Publications, Inc. v. Rural Telephone Service Co.*, the United States Supreme Court held that the white pages of a telephone directory did not constitute a sufficiently original

Society Directive," <http://www.gigalaw.com/articles/2001-all/2001-11-all.html>, November 2001 (discussing the EU Information Society Directive).

²⁵ *IPR Commission Report*, 106.

²⁶ As the Commission on Intellectual Property Rights stated in its final report:

[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. In the US and the EU, for example, these regimes are particularly strong and well-established. In most developing countries this is far from being case. This makes such countries particularly vulnerable to inappropriate intellectual property systems.

IPR Commission Report, 4; see Keith E. Maskus, *Intellectual Property Rights in the Global Economy* (Washington, D.C.: Institute of International Economics, 2000), 237 (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).

²⁷ Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases, 1996 O.J. (L 77) 20.

work of authorship to warrant copyright protection.²⁸ As the Court reasoned, a compilation does not warrant copyright protection unless information is selected, coordinated, or arranged in an original manner. Maintaining that “[o]riginality is a constitutional requirement,”²⁹ the Court firmly rejected the “sweat of the brow” theory of copyright protection—the notion that the industrious collection of facts is sufficient for copyright protection. Thus, non-original, non-creative databases do not qualify for copyright protection, regardless of the labour and capital the database producers expended to create them.

As of this writing, the U.S. Congress has not adopted any database protection legislation,³⁰ and the proposed WIPO database treaty has been left on the table since the 1996 Diplomatic Conference in Geneva. As commentators have pointed out, *sui generis* database protection would confer far broader and stronger exclusive rights on database contents than is necessary to provide the needed incentives for database producers. In addition, by granting database producers a monopoly over their collected data, the regime would allow private entities to lock up information that may be essential to basic scientific research and future creative endeavours.³¹ The regime would also create an anti-competitive environment that makes it difficult for value-added products and services to enter the market, thus making information products more expensive.³²

In the United States, *sui generis* database protection would raise serious constitutional questions under the Commerce Clause, the Copyright Clause, and the First Amendment.³³ Moreover, because most American database producers are also database users, database legislation proposals have failed to garner substantial political support. After all, many database producers are unlikely to support database protection legislation unless they are certain that the legislation will strike the appropriate balance between the production of databases and the use of collected information.³⁴ Indeed, many commentators have contended that *sui generis* protection is unnecessary in light of the significant protection database producers already enjoy under state contract and misappropriation laws and via technological protection measures.³⁵

²⁸ *Feist Publications, Inc. v. Rural Telephone Service Co.*, 499 U.S. 340 (1991).

²⁹ *Feist Publications, Inc. v. Rural Telephone Service Co.*, 346.

³⁰ These proposals include, to name a few, Collections of Information Antipiracy Act of 1999, H.R. 354, 106th Cong. (1999); Collections of Information Antipiracy Act, H.R. 2652, 105th Cong. (1998); Consumer and Investor Access to Information Act of 1999, H.R. 1858, 106th Cong. (1999); and Database Investment and Intellectual Property Antipiracy Act of 1996, H.R. 3531, 104th Cong. (1996).

³¹ See J.H. Reichman & Pamela Samuelson, “Intellectual Property Rights in Data?,” *Vanderbilt Law Review* 50, no. 1 (January 1997): 51-166, 113-124 (discussing the adverse impact of *sui generis* database protection on scientific research and education); J.H. Reichman & Paul F. Uhlir, “Database Protection at the Crossroads: Recent Developments and Their Impact on Science and Technology,” *Berkeley Technology Law Journal* 14, no. 2 (Spring 1999): 793-838, 796-821 (discussing the adverse impact of database protection laws on scientific, technical, and educational users of factual data and information).

³² See Yochai Benkler, “Constitutional Bounds of Database Protection: The Role of Judicial Review in the Creation and Definition of Private Rights in Information,” *Berkeley Technology Law Journal* 15, no. 2 (Spring 2000): 535-603, 562-565 (discussing the anti-competitive nature of database protection laws); Reichman & Samuelson, “Intellectual Property Rights in Data?,” 124-130 (discussing how *sui generis* database protection would frustrate competition in the market for value-added products and services).

³³ See Benkler, “Constitutional Bounds of Database Protection” (discussing the constitutional limits of Congress’s power to create exclusive private rights in information); Marci A. Hamilton, “A Response to Professor Benkler,” *Berkeley Technology Law Journal* 15, no. 2 (Spring 2000): 605-628, 619-628 (discussing the constitutional deficiencies of U.S. database legislation); Malla Pollack, “The Right to Know?: Delimiting Database Protection at the Juncture of the Commerce Clause, the Intellectual Property Clause, and the First Amendment,” *Cardozo Arts & Entertainment Law Journal* 17, no. 1 (1999): 47-145, 50-89 (discussing the constitutional constraints on database protection).

³⁴ Peter K. Yu, “Evolving Legal Protection for Databases,” <http://www.gigalaw.com/articles/2000-all/2000-12-all.html>, December 2000.

³⁵ See Jonathan Band & Makoto Kono, “The Database Protection Debate in the 106th Congress,” *Ohio State Law Journal* 62, no. 2 (2001): 869-878, 869-870; Jane C. Ginsburg, “Copyright, Common Law, and *Sui Generis* Protection of Databases in the United States and Abroad,” *University of Cincinnati Law Review* 66, no. 1 (Fall 1997): 151-176, 176.

As a result, the database industry has had great difficulty in showing how the lack of *sui generis* protection has harmed them. Instead, they have only been able to make generalized claims of potential foreign competition and piracy in European markets. These claims ring hollow when only one out of the three major database industry stakeholders, McGraw-Hill, is an American company; Reed Elsevier is a European Company, while Thomson is a Canadian company.³⁶

However, if the database industry can provide substantial factual information about the harm caused by the lack of *sui generis* protection, the U.S. Congress might be more receptive to database protection legislation proposals. In that scenario, policymakers need to balance the social costs incurred by such protection against the benefits to database producers. For example, *sui generis* database protection is likely to stifle freedom of expression, freedom of the press, and free access to information and knowledge. If adopted as an international norm, such protection also will create a significant adverse impact on less developed countries, which often lack the financial resources to pay for the needed subscriptions.³⁷

Indeed, the lack of access to information and knowledge by less developed countries has received significant attention in the 2003 World Summit on the Information Society (WSIS) in Geneva. Although the Declaration of Principles, one of the two key documents emanating from the Summit, affirmed the importance of having “the wide dissemination, diffusion, and sharing of knowledge . . . to encourage innovation and creativity” and the need for “meaningful participation by all in intellectual property issues and knowledge sharing,”³⁸ it failed to provide concrete actions the international community can take to improve the international intellectual property system. For example, the document and its companion Plan of Action did not recognize any affirmative rights in obtaining public access to copyrighted materials,³⁹ such as the fair use/fair dealing privilege. The Declaration of Principles also failed to include any specific provision facilitating the transfer of technology and technical knowledge from developed to less developed countries, or from the “information haves” to the “information have-nots.”

These public interest safeguards are particularly important in light of the rapid privatisation of information and the increasing unaffordability and inaccessibility of knowledge and scientific data. One could, indeed, make a strong claim for the access of information and knowledge based on the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights. Article 27 of the Universal Declaration of Human Rights provides:

- (1) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.

³⁶ See Benkler, “Constitutional Bounds of Database Protection,” 591-592; Reichman & Samuelson, “Intellectual Property Rights in Data?,” 70.

³⁷ *IPR Commission Report*, 107.

³⁸ WSIS Declaration of Principles ¶ 42, http://www.itu.int/dms_pub/itu-s/md/03/wsis/doc/S03-WSIS-DOC-0004!!PDF-E.pdf, December 12, 2003.

³⁹ See generally Rochelle Cooper Dreyfuss, “TRIPS-Round II: Should Users Strike Back?,” *University of Chicago Law Review* 71, no. 1 (Winter 2004): 22-35 (arguing for the need to use the next Round of GATT negotiations to add explicit user rights to the TRIPs Agreement); see also Ruth Okediji, “Toward an International Fair Use Doctrine,” *Columbia Journal of Transnational Law* 39, no. 1 (2000): 75-175, 87 (arguing that “an international fair use doctrine does not currently exist in the international law of copyright and that such a doctrine is vital for effectuating traditional copyright policy in a global market for copyrighted works as well as for capitalizing on the benefits of protecting intellectual property under the free trade system”).

- (2) Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

Article 15 of the International Covenant on Economic, Social and Cultural Rights contains similar stipulations. As these documents recognize, every individual has *both* the right to enjoy the arts and share in scientific advancement and its benefits *and* the right to the protection of their intellectual creations. As these rights impinge on each other, articles 27(1) and 27(2) must be read to fulfil two non-competing objectives. Taken together, these provisions therefore provide an individual with the right to “enjoy the arts and to share in scientific advancement and its benefits” so that he or she can attain “protection of the moral and material interests resulting from any scientific, literary or artistic production of which he [or she] is the author.”⁴⁰

IV. COMPULSORY LICENSING

Although the early digital piracy debate focused primarily on computer software, the recent copyright debate—especially the one in developed countries—has largely focused on the unauthorized downloading of copyrighted music. To combat digital piracy, many countries have introduced compulsory licensing into their copyright systems. For example, the United States enacted the Audio Home Recordings Act of 1992 to provide compensatory royalties to copyright holders injured by the manufacture, importation, or distribution of digital audio equipment or media.⁴¹ The statute also set restrictions on what materials the digital equipment could copy while immunizing consumers for the use of digital recording technology for non-commercial home audiotaping.

Like the United States, Canada, Germany, and many other European Countries have imposed taxes on blank recording media and equipment to compensate artists and songwriters injured by the unauthorized reproduction of their works.⁴² Many of these countries also have imposed levies on portable MP3 players and peer-to-peer goods and services. For example, Germany imposed a tax of 7.50 Euros on PC-integrated CD burners,⁴³ while the Copyright Board of Canada imposed a levy of \$15 on portable MP3 players with up to 10GB of non-removable memory and \$25 on devices with more memory.⁴⁴ (The Canadian levy was subsequently struck down by a Canadian federal court.)

Although compulsory licensing benefits copyright holders without restricting the public from accessing copyrighted works for private, non-commercial use, this statutory technique presents several challenges. First, it is not easy to determine how to divide the royalty pool. Commentators have suggested solving this problem by using such technologies as digital watermarking, digital sampling, metering software, and monitoring tools. However, these technologies—at least at their current state—are far from reliable and accurate. Fans are able to abuse the system by repeatedly downloading songs of their favourite artists or by

⁴⁰ Universal Declaration of Human Rights, G.A. Res. 217, U.N. GAOR, 3d Sess., art. 27(1)-(2) (1948). For further discussion of the need for this type of rights, which I called elsewhere “intellectual human rights,” see generally Peter K. Yu, “The Trust and Distrust of Intellectual Property Rights,” *Revue Quebecoise de Droit International* 18, no. 1 (forthcoming 2005).

⁴¹ Public Law 102-563, *Statutes at Large*, 106 (1992): 4237-4248.

⁴² See P. Bernt Hugenholtz et al., *The Future of Levies in a Digital Environment* (Amsterdam, The Netherlands: Institute for Information Law, 2003), 10-31, <http://www.ivir.nl/publications/other/DRM&levies-report.pdf> (discussing the private copying levy provisions of the European Union); Ysolde Gendreau, “Canada,” in Paul E. Geller & Melville B. Nimmer, eds., *International Copyright Law and Practice*, permanent ed. (New York: Matthew Bender, 2004), vol. 1, sec. 8[2][f][ii] (discussing the private copying levy provisions of Canada).

⁴³ See William W. Fisher, III, *Promises to Keep: Technology, Law, and the Future of Entertainment* (Stanford, Calif.: Stanford University Press, 2004), 199-258; Glynn S. Lunney, Jr., “The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act,” *Virginia Law Review* 87, no. 5 (September 2001), 813-920, 854.

⁴⁴ See Copyright Board of Canada, *Private Copying 2003-2004* (Ottawa, Canada: Copyright Board of Canada 2003), 56.

inflating download counts using “ballot stuffing” programs or mistaken identities.⁴⁵ In fact, some artists may feel cheated, as the system may not accurately reflect the market value of many downloaded songs.⁴⁶ After all, subsequent uses are sometimes more important than initial downloads, many of which are more correctly considered as music sampling. A mechanical system that counts all downloads equally therefore may skew the results, leading to improper and disproportionate compensation to some artists and songwriters. Although a more sophisticated digital monitoring system may alleviate this weakness, the system may raise some privacy concerns if it fails to provide sufficient safeguards to protect individual end-users from privacy intrusions.⁴⁷

Second, the compulsory levies may not generate sufficient funds to compensate artists, songwriters, and copyright holders, especially when playback devices become cheaper and memory capacity larger.⁴⁸ Consider, for example, a 1TB (or 1000 GB) MP3 player, which enables most consumers to store their entire CD collections. How much levy can the law impose on the manufacturer of this device? If the levy is higher than what consumers can afford, say \$10,000, very few people will buy the device, and the development of this technology will be stifled. However, if the levy is set at an affordable price, say \$500, it is unlikely to sufficiently compensate artists, songwriters, and copyright holders. At most, these rightsholders will collectively receive \$500, assuming manufacturers will give away devices free-of-charge (which is very unlikely to happen unless the manufacturers are also the copyright holders).

Third, a compulsory levy system may create cross-subsidization problems by requiring low-volume users, such as those who rarely use peer-to-peer networks, to subsidize copyright holders and high-volume users.⁴⁹ As Professor Jane Ginsburg wrote when she discussed the Bertlesmann-Napster’s proposal of a \$4.95 monthly surcharge, “From the user’s point of view, ‘all you can eat’ is not necessarily the best formula, at least not for those whose diet of copyrighted works is modest.”⁵⁰ By increasing monthly subscription fees, the

⁴⁵ See Peter Eckersley, *Virtual Markets for Virtual Goods: An Alternative Cooperation of Digital Copyright* (Melbourne, Australia: Intellectual Property Research Institute of Australia, The University of Melbourne, 2003), 13-14, <http://www.cs.mu.oz.au/~pde/writing/virtualmarkets.pdf> (discussing precautionary measures against “identity rental”); Neil Weinstock Netanel, “Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing,” *Harvard Journal of Law & Technology* 17, no. 1 (Fall 2003): 1-84, 55-57 (discussing why efforts to game the system are unlikely to undermine the integrity of his proposal).

⁴⁶ See Netanel, “Impose a Noncommercial Use Levy,” 53 (discussing how his proposal could distinguish subsequent uses from initial downloads).

⁴⁷ See Fisher, *Promises to Keep*, 228; Eckersley, *Virtual Markets for Virtual Goods*, 54-55; Netanel, “Impose a Noncommercial Use Levy,” 55.

⁴⁸ See Lunney, “The Death of Copyright,” 855 (noting that private copying levies received by the Society for Musical Performing Rights and Mechanical Reproduction Rights (GEMA), one of Germany’s collective rights organizations, “amounted to roughly 2.6% of its total revenues both in 1998 and 1999” even though Germany has one of the most extensive private levy systems). But see Ku, “The Creative Destruction of Copyright,” 313 (contending that “[a] 2 percent levy on these sales would yield approximately \$1.3 billion for distribution to artists per year . . . [which] represents the projected revenues for the entire digital downloading market under copyright in 2002, or roughly \$48,000 per new release”); Netanel, “Impose a Noncommercial Use Levy,” 60-67 (explaining why private copying levies would generate sufficient funds to satisfy copyright holders without imposing price increases that consumers deem unacceptable).

⁴⁹ Professor Netanel challenged the cross-subsidization argument:

The low-volume user subsidy problem is somewhat overstated, however. For one, many low-volume users will happily pay a surcharge for the possibility of unlimited file sharing even if they don’t actually engage in much file sharing. After all, consumers regularly buy computers with far more memory and processing capacity than they actually use. . . . Further, imposing the levy will encourage some low-volume users to become high-volume users. If paying an extra \$35 for a personal computer enables me legally to use it to trade music and video files, I will be more likely to use the computer for that purpose and I might find that I enjoy doing so.

Netanel, “Impose a Noncommercial Use Levy,” 70; see also Eckersley, *Virtual Markets for Virtual Goods*, 15 (noting that “it is easy to overestimate the problematic nature of . . . cross-subsidies, since incentives to produce digital writing and music will (almost always) lead to the same works being available in physical form”).

⁵⁰ Jane C. Ginsburg, “Copyright and Control Over New Technologies of Dissemination,” *Columbia Law Review* 101, no. 7 (November 2001): 1613-1647, 1644.

private copying levies also will make Internet service less affordable, thus threatening to slow down broadband deployment while widening the digital divide—the proverbial gap between those who have access to information technology and digital content and those who do not.⁵¹

Fourth, the levies may drive consumers to switch to other cheaper products that do not bear the levy.⁵² From an economic standpoint, the levy system creates an artificial price increase that discourages the creation and dissemination of new distribution technologies.⁵³ The system therefore results in a sub-optimal use of scarce resources. In addition, the artificial price increase may facilitate the creation of gray markets in countries that do not impose similar levies and the parallel importation of these cheaper gray market goods to compete with the indigenous originals.⁵⁴ Ultimately, the compulsory levies will hurt local retailers without providing benefits to artists, songwriters, and copyright holders.

Finally, as many copyright holders and commentators have noted (and feared), compulsory licensing may create a culture that assumes everything should be licensed.⁵⁵ Even worse for the copyright holders, a levy system—by expressly authorizing private copying—may “move private copying from the margins into the mainstream, converting private copying from a minor annoyance into a major threat to copyright revenues.”⁵⁶ Such a system also “would . . . limit the ability of copyright owners to price discriminate and otherwise price their works as they see fit.”⁵⁷

Under existing copyright law, copyright holders have the exclusive right to decide whether, when, how, and to whom they want to license their creative works.⁵⁸ Except for a few minor statutory exceptions, there is no requirement that copyright holders release their works against their wishes. If a copyright holder believes that it would be less profitable to release a DVD version of her work along with a VHS version, she can always choose to release only one of the two formats. With the levy system, however, the copyright holders will have no choice but to release the product in exchange for a statutorily set compulsory licensing fee. From the industry’s perspective, such a system would set a bad precedent by requiring copyright holders to conform their business plans to behaviour that they believe is illegal and illegitimate.

⁵¹ For discussions of the digital divide, see generally Benjamin M. Compaine, ed., *The Digital Divide: Facing a Crisis or Creating a Myth?* (Cambridge, Mass.: MIT Press, 2001); Raneta Lawson Mack, *The Digital Divide: Standing at the Intersection of Race & Technology* (Durham, N.C.: Carolina Academic Press, 2001); Pippa Norris, *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide* (Cambridge: Cambridge University Press, 2001); Mark Warschauer, *Technology and Social Inclusion: Rethinking the Digital Divide* (Cambridge, Mass.: MIT Press, 2003); Peter K. Yu, “Bridging the Digital Divide: Equality in the Information Age,” *Cardozo Arts & Entertainment Law Journal*, 20, no. 1 (2002): 1-52.

⁵² See Netanel, “Impose a Noncommercial Use Levy,” 68.

⁵³ See Lunney, “The Death of Copyright,” 856-857.

⁵⁴ Nevertheless, unless the compulsory levies are prohibitively high, it is unlikely that many consumers will travel abroad primarily to avoid the levies. Moreover, most consumers will be concerned about the inconvenience and complication created by foreign Internet service providers, even though it is technically possible to subscribe to these services. See Declan McCullagh, “Cyberpiracy North of the Border,” CNET News.com, <http://news.com.com/2008-1028-5097180.html>, October 27, 2003 (interviewing Professor Michael Geist about the gray market issue).

⁵⁵ See Evan P. Schultz, “Jane Says,” *IP Law & Business*, June 2003: 24-26 (interview with Prof. Jane Ginsburg, Columbia Law School) (expressing her concern that “a generalization of the levy technique could lead to an even greater feeling on consumers’ parts that they’re entitled to copy and ‘share’ anything they want”).

⁵⁶ Lunney, “The Death of Copyright,” 857.

⁵⁷ Lunney, “The Death of Copyright,” 857-858. As Professor Lunney explained:

With a levy-based approach, responsibility for setting prices would no longer reside with copyright owners alone, subject only to the market; the government and equipment manufacturers would also play a central role. Whether set by statute or by negotiation with the manufacturers, copyright owners worry that the resulting levies will prove inadequate to compensate them for lost sales should private copying become widespread.

Lunney, “The Death of Copyright,” 858.

⁵⁸ See *Copyright Act of 1976*, U.S. Code, vol. 17, sec. 106 (2000).

V. FUTURE CHALLENGES

Today, digital piracy is primarily concerned with music. While I have criticized elsewhere the recording industry's abusive enforcement tactics and explained why coercive actions against individual end-users are undesirable,⁵⁹ this Part explains why digital piracy hits the music industry first and how the problem will spread to other industries and grow into a major transnational problem. The National Research Council study stated that a number of factors account for the significant impact digital piracy has on the music industry:

First, files containing high-fidelity music can be made small enough that both storage and downloading are reasonable tasks. . . . Second, access to digitized music is abundant, and demand for it is growing rapidly. . . . [Third,] music is popular with a demographic group (students in particular, young people generally), many of whom have easy access to the required technology, the sophistication to use it, and an apparently less than rigorous respect for the protections of copyright law. . . . Fourth, music can be enjoyed with the existing technology: Good speakers are easily attached to a computer, producing near-CD quality sound, and a variety of portable players (e.g., the Rio from Diamond Multimedia) are available that hold 30 minutes to an hour of music.⁶⁰

In recent years, however, digital piracy has begun to affect many other industries. Pirated books have already appeared on the Internet and are now widely traded there. Shortly after the release of *Harry Potter and the Order of the Phoenix*, the fifth instalment of the *Harry Potter* series, pirated versions of the book were distributed through the Internet.⁶¹ Although people generally consider electronic books difficult to read, e-books are attractive to experienced file-sharers because book files are smaller in size and therefore faster to download than most music or movie files. E-books also allow users to conduct searches, highlight issues, annotate texts, and undertake further research. Thus, some commentators have claimed that the publishing industry may ultimately be the most vulnerable to digital piracy and that digital piracy would hurt writers the most, as writers "rely far more completely on copyright royalties than do musicians or . . . film producers."⁶² As Professor Peter Menell noted:

[U]ltimately the publishing industry may be the most vulnerable content industry to unauthorized reproduction and distribution because the content (text) will always be directly perceptible (and hence subject to copying, even if through scanning or re-typing). Furthermore, libraries have become interested in distributing eBooks through their websites. . . . Whereas music and audiovisual content can be encrypted in such a way that the user cannot see the content without authorization, the essence of books (the text) will always be available to the extent that the books are sold in hard copy form. Therefore, would-be copyists will be in a position to scan such content into digital form within hours of a book's release.⁶³

Like books, movies and television programs will not be immune to widespread digital piracy. Copies of feature films—though of a lower quality—have already appeared in peer-to-peer networks. Many of these films appeared soon after their box office releases, and in

⁵⁹ See generally Peter K. Yu, "The Copyright Divide," *Cardozo Law Review* 25, no. 1 (November 2003): 331-445, 442-443; Yu, "The Escalating Copyright Wars," 941-944.

⁶⁰ *Digital Dilemma*, 77-78.

⁶¹ See Amy Harmon, "Harry Potter and the Internet Pirates," *New York Times*, July 14, 2003, C1; Michael Pollitt, "Like Music, Books Have Now Fallen Prey to Internet Pirates Who Go to," *Independent* (London), July 30, 2003, 11.

⁶² Eckersley, *Virtual Markets for Virtual Goods*, 17.

⁶³ Peter S. Menell, "Envisioning Copyright Law's Digital Future," *New York Law School Law Review* 46, nos. 1-2 (2002-2003): 63-199, 129-130.

some cases even before.⁶⁴ Likewise, episodes of prime time television series, like *The Sopranos*, *The West Wing*, and *Sex and the City*, have appeared online before they were exported abroad or put on DVDs and videos.⁶⁵

So far, the low bandwidths and the long downloading time have prevented widespread digital piracy in the movie and television industries (at least in the first few years of rampant online file trading). The protected formats used in videos and DVDs also have made it difficult for individuals to convert the copyrighted works to digital files that they can upload to and trade freely via the Internet. The movie and television industries also benefit from their unique industry structures. For example, the movie industry is protected by its tight control over theatrical release, pay-per-view, and premium channel distribution; the encrypted format used in videos and DVDs; competitive pricing of DVDs; and the potential for inclusion in DVDs of previously unreleased scenes, behind-the-scenes footage, game and merchandising tie-ins, and other added features.⁶⁶

Notwithstanding these (temporary) safeguards, compression and reproduction technologies are advancing quickly. With increased broadband deployment and higher bandwidths, the digital piracy problem is likely to spread from the music industry to the publishing, movie, and television industries. Indeed, the movie industry, mindful of the threat, is already experimenting with legitimate online movie downloads via Movielink and CinemaNow.⁶⁷ Only heavy restrictions and unsatisfactory user experience have kept these services from taking off.

In the years to come, the Internet will become even more globalized, and digital piracy will grow into a major transnational problem. To some extent, digital piracy will become similar to other major transnational problems, like terrorism, drug trafficking, refugees, illegal immigration, environmental degradation, illegal arms sales, nuclear proliferation, bribery, and corruption. To tackle this problem, governments, the private sector, and other non-state actors need to work very closely together.

CONCLUSION

Since the emergence of the Internet and new communications technologies, policymakers have recalibrated copyright policies to combat the digital piracy problem. Despite their efforts, digital piracy remains rampant, and the problem continues to grow. There is no panacea for this problem. If policymakers are to reduce the threat created by new reproduction technologies, they have to be patient and take into account the decentralized nature of the Internet and peer-to-peer networks, the evolving digital reproduction technology, and the ever-changing market structure and conditions.

As more individuals join the online community and new reproduction technologies emerge, social norms and market conditions are likely to change. A case in point is the old Napster, which was created to satisfy a particular market demand—the difficulty for end-

⁶⁴ See, e.g., Jon Healey & Richard Verrier, "Latest Plot Twist for 'Star Wars': Attack of the Cloners," *Los Angeles Times*, May 10, 2002, pt. 1, 1 (reporting that the new "Star Wars" episode appeared on the Internet a week before the movie's release); Laura M. Holson, "Studios Moving to Block Piracy of Films Online," *New York Times*, September 25, 2003, A1 (reporting suggestion by industry analysts that "there could be as many as 500,000 copies of movies swapped daily").

⁶⁵ Brian Buchanan, "Move with the TV Times," *Guardian* (London), May 1, 2003, 19.

⁶⁶ Menell, "Envisioning Copyright Law's Digital Future," 124-125; see also Susan P. Crawford, "The Biology of the Broadcast Flag," *Hastings Communications and Entertainment Law Journal* 25, no. 3 (2003): 603-652, 607 (listing domestic and international box office, airline performances, pay-per-view, rental, home sale, satellite, premium and basic cable, over-the-air broadcast among the distribution windows for the movie industry).

⁶⁷ Jon Healey, "Piracy Fears Limit Film Downloads," *Los Angeles Times*, March 7, 2004, C1.

users, including Shawn Fanning's roommate, in finding MP3 files on traditional Internet servers. As it is impossible to predict how social norms and market conditions will evolve (and whether these new developments will benefit copyright holders), it is important for policymakers not to focus so much on today's technologies that they lose sight of the potential future development of new technologies and markets. As Professor Lawrence Lessig wrote eloquently in his book, *Free Culture*:

Policy makers should not make policy on the basis of technology in transition. They should make policy on the basis of where the technology is going. . . . The "problem" with file sharing—to the extent there is a real problem—is a problem that will increasingly disappear as it becomes easier to connect to the Internet. And thus it is an extraordinary mistake for policy makers today to be "solving" this problem in light of a technology that will be gone tomorrow. The question should not be how to regulate the Internet to eliminate file sharing (the Net will evolve that problem away). The question instead should be how to assure that artists get paid, during this transition between twentieth-century models for doing business and twenty-first-century technologies.⁶⁸

From lending libraries to photocopying machines to digital reproduction technologies, copyright holders have complained for more than three centuries that new technologies will destroy their markets. Indeed, in a widely-cited and very memorable quote, the long-time movie industry lobbyist Jack Valenti declared that the videocassette recorder was "to the American film producer and the American public as the Boston Strangler is to the woman alone."⁶⁹ Yet, this Boston strangler never arrived. In fact, each and every time, this Boston strangler turns out not to be a strangler, but a friend who transforms the woman by bringing her new revenue and opportunities. Perhaps, the Internet may just be the latest incarnation of this Boston strangler who will transform the woman once again!

⁶⁸ Lawrence Lessig, *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity* (New York: Penguin Press 2004), 297-299.

⁶⁹ Adam Liptak, "Is Litigation the Best Way to Tame New Technology?," *New York Times*, September 2, 2000, B9.