

CHAPTER 4

COPYRIGHT AND THE CHALLENGES OF THE DIGITAL-AGE — CAN ALL INTERESTS BE RECONCILED?

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4.01 Introduction

(a) In General

Digital technology and the Internet have profoundly changed the manner in which copyrighted content can be distributed. Copyright owners, who in the pre-digital-age controlled the market, were faced with the spectrum of uncontrolled dissemination of copyrighted content on the Internet.

This threat prompted them to introduce massive legal and technological protection measures to secure their position in the digital environment. These measures, in turn, disturbed the balance of interests built into copyright law and impacted other stakeholders, in particular, the computer technology industry and the public at large.

This chapter examines the main legal and technological measures devised to contain unauthorized dissemination of copyrighted content on the Internet, and the impact of these measures on each of the stakeholders in the digital copyright debate. It concludes by discussing possible future scenarios for distribution and consumption of digital content.

Part I of this chapter describes the legal and technological measures currently available for protection of digital content. These measures are conceptualized in the form of a three-tier structure, in which traditional copyright law

forms the first tier, technological protection measures the second, and digital-age legislation to reinforce the technological protections, the third.

The first tier grants creators limited exclusive rights to their works. Its broader objective is to ensure future contributions to the collective store of knowledge by virtue of such creations. Traditional copyright law works well in a controlled market and territorial setting. It is not equipped to protect content in a global digital environment.

Digital technology and the Internet brought with them the ability to make unlimited copies and, as a result, rightsholders were unable to control the unauthorized dissemination of content via the Internet.

In response to this new environment, rightsholders developed a second tier of protection — technological measures designed to control access to and use of copyrighted content (also referred to as digital rights management). It soon became apparent, however, that these new protection methods were easily circumventable.

A third protection tier followed, in the form of legal reinforcement of the technological protection layer. The international community agreed to address the problems of the digital-age, specifically circumvention of technological measures in the World Intellectual Property Organization (WIPO) Treaties. The expectation underlying these treaties was that unlawful distribution of digital works on the Internet would be contained once all member countries had enacted anti-circumvention laws into their national legislations.

Part II of this chapter examines the impact of the three-tier structure and its impact on each of the stakeholders in the digital content debate.

(b) The Rightsholders

The availability of digital rights management operates a fundamental change of paradigm for rightsholders, marked by new ways of presenting content, new tools for distribution and consumption, and new markets.

However, the new technology also makes unauthorized dissemination of content hard to contain. The content industry suffers huge losses as a result of piracy. Intensive enforcement actions under digital-age legislation and other laws have met with mixed results: although the rightsholders have in general prevailed, the unauthorized dissemination has migrated to forms less easy to enforce.

(c) The Public

The public is one of the prime beneficiaries of the vast amounts of information and cultural products digital technology and a networked society have made available.

However, the three-tier protection measures jeopardize the structure of limitations and exceptions built into traditional copyright law for the benefit of the public. The result is that consumption options such as browsing, re-using, quoting, sharing, time shifting, and space shifting are disappearing, and fundamental rights, such as the rights to information and expression, risk being invaded.

(d) The Technology Providers

The information technology industry provides both the channels for distribution of digital content and the means for controlling them. To maintain the market for copyrighted digital products, the content industry needs to acquire control over both.

The content industry has sought to gain control over newly developed technologies, by various legal means, including enactment of the Digital Millennium Copyright Act's anti-trafficking provisions, litigation against technology providers utilizing theories of secondary liability for infringement, and legislative proposals.

(e) Future Scenarios

This chapter concludes by discussing two categories of future scenarios of the digital content debate. The first category builds on existing building blocks and is based on the assumption that developments will occur naturally without passage of additional legislation.

These scenarios include digital rights management-based models, which favor rightsholders, and the collaborative model, which favors the public. Some of the scenarios which require the passage of legislation are the Levy Model, Increased Deterrent by Stronger Copyright Laws, and the Public Utility Model.

4.02 An Overview

In the pre-digital-age, creative works were protected by traditional copyright law. In response to the "digital threat" and virtually uncontrollable proliferation of copyrighted content on the Internet, the content industries¹ introduced technological protection measures (digital rights management). These measures were easy prey to the hacker community, and digital rights management technologies were being circumvented on a regular basis.

1 The industries affected by unlawful dissemination of copyrighted content on the Internet are mainly the music, video entertainment, movie, and publishing and software industries, collectively referred to as the content industries.

This prompted international action in the form of the WIPO Treaties in 1996. The 51 member states agreed to pass digital rights legislation and implement anti-circumvention provisions into their national laws. In the following years, legislation consistent with the WIPO Treaties was passed in the United States, Japan, and Australia. The European Union (EU) Copyright Directive incorporating the requirements of the WIPO Treaties was passed in 2002. EU member states are thereby obligated to enact laws implementing the Directive. Several EU member states have done so, and others are in the process of passing legislation.

In those countries which have adopted digital rights legislation consistent with the Copyright Treaty, the structure of legal and technological protection available for digital content can best be conceptualized in the form of three superimposed tiers:

Tier	Type of Protection	Nature of Protection	Implementation
First Tier	Pre-digital copy-right law	Legal	National pre-digital copyright laws
Second Tier	Technological protection measures	Technological	Digital Rights Management protection optionally applied by rightsholders
Third Tier	Laws reinforcing technological protection (“digital-age laws”)	Legal	National implementations, such as United States (Digital Millennium Copyright Act), Germany (<i>Urheberrechtsgesetz</i> , articles 95 and 96); Australia (Digital-Agenda Act of 2001)

Following this structure, this chapter proposes to outline the main legal developments and their interaction with technological developments, and to assess their impact on the stakeholders involved.

4.03 First Tier — Copyright in the Pre-Digital-Age

(a) Copyright and Authors’ Rights

The rights of creators are protected by “copyright” in the Anglo-American Common Law tradition and by “authors’ rights” in the continental European system. These two systems have evolved out of two fundamentally different philosophical underpinnings.

The Anglo-American Common Law doctrine of copyright evolved out of printing privileges and was first codified in England as the Statute of Anne in

1710.² The Statute was intended to serve “for the encouragement of learned men to compose and write useful books”.³ The rationale underlying this statute⁴ blended with 18th century utilitarianism⁵ and was adopted by the copyright clause of the United States Constitution.⁶

It remains the cornerstone of copyright law in the United States today. Copyright has been adopted in most of the English-speaking countries, including Canada, Australia, New Zealand, and the United States. While copyright law grants exclusive rights to creators as an incentive to further creation, many consider its broader goal to be to ensure contributions to the store of collective knowledge.⁷

Author’s rights, prevalent in Civil Law jurisdictions, are based on the confluence of two philosophical lines of thought, namely:

1. John Locke’s natural rights philosophy, which justifies the existence of a property right as the right to the fruit of one’s labor;⁸ and
2. The personalist view, which perceives an author’s work as an extension of his personality, and entitles the author to substantial control over his work.⁹

2 Cornish, *Intellectual Property, Patents, Copyrights, Trademarks, and Allied Rights* (4th ed., 2000), at p. 340.

3 The law was entitled “An Act for the Encouragement of Learning, by Vesting the Copies of Printed Books in the Authors or Purchasers of Such Copies”. Ginsburg, “A Tale of Two Copyrights: Literary Property in Revolutionary France and America”, 64 *Tul. L. Rev.* 991, at p. 998 (1990).

4 Ginsburg, “A Tale of Two Copyrights: Literary Property in Revolutionary France and America”, 64 *Tul. L. Rev.* 991, at p. 998 (1990). Professor Ginsburg points out that the framers of the United States Constitution adopted terms reminiscent of the Statute of Anne’s policy of incentivizing creation and expanding learning.

5 The philosophical justification of copyright law lies in the utilitarianism of Jeremy Bentham, which “commands a state to maximize the utility of the community”. The utility and benefit to society of intellectual products justify legal norms, which grant adequate incentives for creation of such property for the public good. The Copyright Clause of the United States Constitution reflects this thought in that it rewards authors by granting them exclusive rights to their writings. Chisum, *Principles of Patent Law*, at p. 54 (2001), citing Hampton, *Political Philosophy*, at p. 124 (1997).

6 United States Constitution, article I, section 8, clause 8, grants Congress the power “to promote the Progress of Science and useful Arts, by securing for limited Times to Authors . . . the exclusive Right to their respective Writings”.

7 *Harper & Row v. Nation Enterprises*, 471 U.S. 539, at p. 546 (1985). The two objectives of copyright law are to “secure a fair return for an ‘author’s’ creative labor” and to “stimulate artistic creativity for the general public good”.

8 Geiger, *Droit D’auteur et Droit du Public a L’information*, at pp. 23–25 (2004).

9 Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 25, n. 4, citing Cabrillac, “La Protection de la Personalite de L’ecrivain et De L’artiste”, *Essai Sur Le Droit Moral*, at p. 5 (1926).

The first efforts to legislate authors' rights in 19th century resulted in the French *droit d'auteur*,¹⁰ which holds a dualist view of rights, i.e., authors' rights, are viewed as consisting of two separable components, property rights and personal rights.¹¹

The other main trend in continental European authors' rights is the German monistic *Urheberrecht* (creators' rights), which views the property and personal interests as intertwined, forming an inseparable unit.¹² The Civil Law authors' rights doctrine was initially adopted in the jurisdictions of continental Europe and, from there, spread to other countries, such as Japan and China.¹³

Despite the fundamental differences between copyright and authors' rights,¹⁴ in modern times, there has been increasing convergence between the systems.¹⁵

The need for international exchange of cultural goods forced harmonization in the form of bilateral, and later, multilateral international agreements. The main such instrument, which even today is the primary governing copyright treaty, is the Berne Convention.¹⁶ The Berne Convention has, from the

10 Ginsburg, "A Tale of Two Copyrights: Literary Property in Revolutionary France and America", 64 *Tul. L. Rev.* 991, at p. 1006. Different countries adopted different legal philosophies, with the result that, e.g., United States and United Kingdom copyright is quite different from the French *droit d'auteur* (author's right) and German *Urheberrecht* (creator's right).

11 Rehbinder, *Urheberrecht*, at p. 19 (2004).

12 Rehbinder, *Urheberrecht*, at p. 20 (2004).

13 "Copyright law of Japan", at http://www.cric.or.jp/cric_e/csj/csj_main.html.

14 There is support for the view that, even at the outset, copyright and *droit d'auteur* were not fundamentally different. Historically, a certain amount of congruity can be found between the systems in that they both seek to advance the progress of knowledge and public learning while, at the same time, grapple with the amount of recognition and compensation to give the creator. Ginsburg, "A Tale of Two Copyrights: Literary Property in Revolutionary France and America", 64 *Tul. L. Rev.* 991 (1990).

15 Davies, "The Convergence of Copyright and Authors' Rights — Reality or Chimera?", 26 *IIC* 964 (1995). Examples of convergence: the United States having adopted the Visual Artists' Rights Act, 17 United States Code, section 106A, which provides limited moral rights to visual artists; authors' rights jurisdictions yielding to modern day economic realities, by limiting the moral rights for software, *Code de la Propriete Intellectuelle*, article L121-7.

16 The Berne Convention has been adhered to by 159 countries. The United States felt the need for greater international harmonization and protection as exports of intellectual property increased. Antezana, "The European Union Internet Copyright Directive as Even More Than It Envisions: Toward a Supra-EU Harmonization of Copyright Policy and Theory", 26 *B.C. Int'l & Comp. L. Rev.* 415, at p. 429 (2003), "The European Union Internet Copyright Directive as Even More Than It Envisions: toward a Supra-EU Harmonization of Copyright Policy and Theory", 26 *B.C. Int'l & Comp. L. Rev.* 415, at p. 429 (2003). Its adherence to Berne came into effect in 1989. See <http://www.wipo.int/treaties/en/>.

outset, been a bridge between the Common Law copyright systems and the Civil Law *droit d'auteur* systems.¹⁷

(b) Scope of Rights

(i) Economic Rights

The underlying concern of both copyright and *droit d'auteur* systems is to prohibit illegal use by third parties and to preserve the economic benefits of the creation to the author.

Copyright law recognizes mainly an author's economic rights, expressed in United States law as the rights to reproduce, prepare derivative works, distribute, perform, and display publicly.¹⁸ In United Kingdom law, rights are divided into rights of reproduction and adaptation, and performance-related rights, consisting of performance in public, broadcasting and cable casting.¹⁹

Droit d'auteur systems divide the exclusive rights granted to authors into economic rights and personal (moral) rights.²⁰ Economic rights generally include the rights of reproduction, exploitation through communication to the public, and adaptation.

The German Copyright Act, for instance, provides the exclusive right to exploit tangibles, including rights to copy/reproduce, distribute, and display.²¹ The exclusive right to exploit intangibles covers the rights to perform, broadcast, reproduce on visual or audio media, and reproduce via broadcasts.²² "Other" economic rights include the rights to modify/adapt, *droit de suite* (resale right), and compensation for rental and loans.²³

(ii) Moral Rights

Separate from the author's economic rights, Civil Law jurisdictions also recognize the personal rights of the creator, in the form of moral rights. Grounded in personal rights philosophy, moral rights are based on the concept that the work is an extension of the author.²⁴ By publishing a work the author projects his or her personality into the world, thus subjecting it and

17 Dinwoodie, "The Development and Incorporation of International Norms in the Formation of Copyright Law", 62 *Ohio L. J.* 733, at p. 765 (2001).

18 17 United States Code, section 106.

19 Cornish, *Intellectual Property, Patents, Copyrights, Trademarks, and Allied Rights* (4th ed., 2000), at pp. 426–433.

20 German Copyright Act, sections 12–18; French Copyright Law (*Code de la propriété intellectuelle*), articles L121-1 *et seq.* and L122-1 *et seq.*

21 German Copyright Act, section 15–18.

22 German Copyright Act, sections 15–18.

23 German Copyright Act, sections 25–27.

24 Geiger, *Droit D'auteur et Droit du Public a L'information*, at p. 25.

the author to potential criticism and ridicule or loss of reputation.²⁵ This view justifies a significant degree of control in the author. France, the paradigmatic moral rights country, recognizes the moral rights to paternity (attribution),²⁶ publication (divulgence),²⁷ integrity,²⁸ and withdrawal.²⁹

Under French law, most moral rights are perpetual and inalienable, i.e., they cannot be transferred to third parties.³⁰ German law recognizes the moral rights of publication, attribution, and prevention of distortion.³¹

(c) Limitations and Exceptions

(i) *In General*

Copyright assures authors only a limited exclusivity in exploitation of their work.³² This fact is expressed in doctrines limiting the exclusive right (such as the idea/expression dichotomy, fair use, private use, and the quotation right), often viewed as safety valves to ensure that the benefit to individual authors does not outweigh the benefit to the public.³³

These limiting doctrines grant the author substantial but not complete rights over the work, and the public some, but not complete, use of the work.³⁴ Their role is to help build an intellectual and cultural commons.³⁵

Two systems of limitations and exceptions have evolved. The United States practices mostly the open system, such as the “fair use” doctrine, which leaves the determination of permissibility to the courts, based on a number of criteria, initially set forth by statute,³⁶ but evolving with case law.³⁷

25 Halpern, *Copyright Law Protection of Original Expression* (2002).

26 French Copyright Law, article L 121-1.

27 French Copyright Law, article L 121-2.

28 French Copyright Law, article L 121-1.

29 French Copyright Law, article L 121-4. This right is subject to indemnity rights by third parties.

30 French Copyright Law, article L 121-1-4.

31 German Copyright Act, section 12-14.

32 Ginsburg, “Copyright and Control of New Technologies of Dissemination”, 101 *Colum. L. Rev.* 1613, at p. 1616 (2001).

33 Frey, “Unfairly Applying the Fair Use Doctrine: Princeton University Press v. Michigan Document Services”, 99 F3d 1381 (6th Cir., 1996), 66 *U. Cin. L. Rev.* 959, at p. 1001 (1998). Examples of limiting doctrines are the idea/expression dichotomy and fair use.

34 Lessig, *Code and Other Laws of Cyberspace*, at p. 135 (1999).

35 Lessig, *Code and Other Laws of Cyberspace*, at p. 135 (1999). “The law strikes that balance. It is not a balance that would exist in nature. Without the law, and before cyberspace, authors would have very little protection; with the law, they have significant, but not perfect protection. The law gives authors something they otherwise would not have in exchange for limits on their rights, secured to benefit the intellectual commons as a whole.”

36 17 United States Code, section 107.

37 *Harper & Row Publishers Inc. v. Nation Enterprises*, 471 U.S. 539 (1985); *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569 (1994).

The other system is the “closed catalog” of exceptions, prevalent mostly in Civil Law countries, under which criteria for the applicability of each individual exception is set forth in detail by statute.

(ii) *The Idea/Expression Dichotomy*

It is commonly accepted that copyright protection extends only to the expression of ideas and not to ideas themselves³⁸ or, as formulated in Civil Law jurisdictions, the authors’ rights only cover the form and not the substance (or content).³⁹

The Berne Convention does not expressly contain this limitation. The closest is article 2(8), which denies copyright protection to “news of the day or to miscellaneous facts having the character of mere items of press information”.⁴⁰

In the United States, the idea/expression dichotomy is statutorily captured in the Copyright Act, and it precludes copyright protection for ideas, procedures, processes, systems, concepts, and principles.⁴¹ The policy goal underlying this rule is to encourage third parties to build freely on ideas and information conveyed by an author’s work.⁴²

However, when it comes to trying to separate protected “expression” from “unprotected” ideas, the difference between idea and expression is one of degree.⁴³

38 *International News Service v. Associated Press*, 248 U.S. 215, at p. 250 (1918).

39 Reh binder, *Urheberrecht*, at p. 18 (2004); Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 210.

40 Berne Convention, article 2(8).

41 17 United States Code, section 102 b. “In no case does copyright protection for a work of authorship extend to any idea, process, procedure, system, method of operation, principle, concept of discovery, regardless of how it is embodied in the work”. In addition, the Copyright Office Regulations, in 37 Code of Federal Regulations, section 202.1, also list a categorization of “material not subject to copyright”.

42 *Feist Publications, Inc. v. Rural Telephone Service Co., Inc.*, 499 U.S. 340, at pp. 349 and 350 (1991).

43 *Nichols v. Universal Pictures Corp.*, 45 F2d 119, at p. 121 (2d Cir., 1930). “The analysis involves examining a series of increasing abstractions of the fact pattern presented, with the goal of finding the point where they are no longer protected. This ‘point’, however, varies from one case to another. On any work, and especially on a play, a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. The last may perhaps be no more than the most general statement of what the play is about, and at times might consist only of its title; but there is a point in this series of abstractions where they are no longer protected, since otherwise the playwright could prevent the use of his ideas.”

A case-by-case analysis is required in each instance to separate idea from expression.⁴⁴ The determination is made entirely based on the subjective judgment of the examining party.⁴⁵

The analysis is quite difficult even in the traditional context of literary works, but it becomes virtually impossible in the context of multimedia. Some dismiss the idea/expression distinction as a “formalism from another era” because of the practical inability to apply it to music, video, pictures, cartoons, and movies.⁴⁶ It may be that this is simply a line that cannot be drawn.⁴⁷

In Civil Law jurisdictions, this rule is expressed as the dichotomy of form and content.⁴⁸ Under French law, the authors’ rights only extend to the form, and not to the content or substance, of the work because ideas, data, facts, and information, all categorized as “content” of a work, are part of common ownership, such as the air or the sea, properly described as *res communis*.⁴⁹

This norm expresses the cultural and scientific policy mandate of promoting popular education.⁵⁰ While this doctrine is not statutorily captured, it is regularly applied by the courts.

(iii) *Fair Use*

The main exception to the exclusive rights provided by the United States Copyright Act is the fair use doctrine, a test that examines permissibility of borrowing

44 Halpern, *Copyright Law, Protection of Original Expression*, at p. 51 (2002).

45 The absence of any clear rules prompted one aggravated court to note: “The first axiom of copyright is that copyright protection covers only the expression of ideas and not ideas themselves. The second axiom of copyright is that the first axiom is more of an amorphous characterization than it is a principled guidepost”. *Chuck Blore & Don Richman Inc. v. 20/20 Advertising Inc.*, 674 F. Supp 671, at p. 676 (D. Minn., 1987).

46 Lessig, Interview with *Intellectual Property LawCast* (3 March 2002) (on file with author).

47 Lessig, Interview with *Intellectual Property LawCast* (3 March 2002) (on file with author).

48 The German Copyright Act, sections 1 and 2, protects *persönliche geistige Schöpfung* (individual creation), which underlies the distinction between *Form* (form) and *Inhalt* (content). The former, akin to the concept of protected expression, is protected in all instances, while the latter is protected only as expression of individuality and is not part of common cultural property. Ideas are not protected. Ilzhoefer, *Patent-, Marken- und Urheberrecht*, at p. 165 (2002).

49 Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 211.

50 Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 210, quoting Strubel, *La protection des oeuvres scientifiques en droit d’auteur français* (1997) (“l’expression juridique d’impératifs de politiques culturelles ou scientifiques, qui s’imposent a tout état désireux de favoriser l’édification de sa population”).

of copyrighted material in light of four factors.⁵¹ Fair use is discussed in detail elsewhere in this book. For purposes of the present chapter, suffice it to point out that the four factors allow courts considerable latitude in interpretation. This has caused the fair use doctrine to be criticized for its high degree of subjectivity and vagueness⁵² and its resulting low-outcome predictability.⁵³

(iv) *Fair Dealing*

Unlike United States fair use, the United Kingdom fair dealing doctrine relies almost entirely on specified statutory limitations, including research or private study, reporting current events, criticism, or review.⁵⁴

The fair dealing doctrine is discussed elsewhere in this publication.

(v) *Limitations to Authors' Rights*

Germany Germany provides an example of a closed, fairly narrowly defined catalogue of limitations.⁵⁵ The stated policy objective is to promote culture and education by benefiting individual users, cultural life, and the public.⁵⁶ Excepted uses include:

1. Quotation;⁵⁷
2. Personal use for specified purposes;⁵⁸
3. Works in exhibition or auction catalogues;⁵⁹

51 17 United States Code, section 107; *Campbell v. Acuff Rose Music, Inc.*, 510 U.S. 569 (1994).

52 Statement of Marybeth Peters, Register of Copyrights, before the Subcommittee on Courts, the Internet, and Intellectual Property, Committee on Judiciary Piracy, Prevention and the Broadcast Flag, at <http://www.copyright.gov/docs/regstat030603.html>.

53 Nimmer, "The Public Domain, Fairest of Them All, and Other Fairy Tales of Fair Use", 66 *Law & Contemp. Prob.* 263, at p. 280 (2003). Professor Nimmer prepared a chart examining 60 cases dealing with the four fair use factors. The chart examines the frequency each of the four factors supported the basis of the court's holding. The conclusion was a range was between 42 per cent and 57 per cent, for an average of 51 per cent. This means that, in 51 per cent of the instances examined, an individual factor supported the holding of the court. Based on this fact, the article concludes that "the four factors fail to drive the analysis, but rather serve as convenient pegs on which to hang antecedent conclusions". Nimmer, "The Public Domain, Fairest of Them All, and Other Fairy Tales of Fair Use", 66 *Law & Contemp. Prob.* 263, at pp. 282 and 283 (2003).

54 Cornish, *Intellectual Property, Patents, Copyrights, Trademarks, and Allied Rights* (4th ed., 2000), at pp. 434–436; United Kingdom Copyright, Designs and Patents Act 1988, sections 30 *et seq.*

55 German Copyright Act, sections 45–61.

56 Rehinder, *Urheberrecht*, at pp. 213 *et seq.* (2004).

57 German Copyright Act, section 51.

58 German Copyright Act, section 53.

59 German Copyright Act, section 58.

4. Non-profit activities;
5. Use for public safety;⁶⁰
6. Use of public speeches;⁶¹ and
7. Use of press articles and broadcast reports.⁶²

Private use under section 53 of the German Copyright Act⁶³ is an exception in the nature of a compulsory license in that levies are imposed on the sale of audio and video recording equipment, copying equipment, and certain operators of such equipment, including universities, libraries, and copy shops.⁶⁴ Permitted uses are subdivided into the following sub-categories:

1. Private use;
2. Personal use; and
3. Educational use.

The first sub-category is limited to use in the private sphere, while the latter two sub-categories also allow copies for professional use. “Personal” use extends to scientific uses, personal archives, personal information on current events in case of a broadcast work, and even to personal use within a business setting, as long as the use does not become business use. “Educational” use is limited to printed matter, and it envisions use in teaching, classroom use, and examinations. University teaching does not benefit from this exception.⁶⁵ A separate exception provides for use of audiovisual works for educational purposes.⁶⁶

The right to quote from work protected by copyright under section 51 of the German Copyright law is one of the more significant exceptions to copyright under German law. It is grounded in the right to receive information guaranteed by the German Constitution.⁶⁷ It is viewed as one of the cornerstones of the fundamental right and freedom to exchange opinions and ideas, and is meant to encourage the development of cultural and scientific life in the interest of the public.⁶⁸

60 German Copyright Act, section 45.

61 German Copyright Act, section 48.

62 German Copyright Act, section 49.

63 This occurs in the form of a levy imposed on copying devices. The amounts thus collected are then distributed to the creators.

64 Netanel, “Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing”, 17 *Harv. J. Law & Tech.* 1, n. 107 (2003); German Copyright Act, section 54.

65 Rehinder, *Urheberrecht*, at p. 259 (2004), at 259; Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 244 (2004).

66 German Copyright Act, section 47.

67 German Constitution (*Grundgesetz*), article 1.

68 Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 237.

The extent of the quotation is limited to the amount “appropriate under the circumstances”,⁶⁹ but it does not exclude quotation of a work in its entirety, if in a new and independent creation. The source must be indicated in all instances,⁷⁰ as well as any changes made to the original work. The quotation right applies to many types of works, including literary, graphic, scientific, or musical.⁷¹

France French law provides a much shorter list of exceptions than German law. These exceptions reflect policies of freedom of expression and the public right to information. Thus, the author of a published work may not prohibit use of the work for analysis and brief quotations for purposes of criticism, education, science, or information.⁷²

The quotation right is, as in Germany, particularly strong, as it guarantees free circulation of ideas for the general societal benefit.⁷³ Nonetheless, quotations are subject to a number of conditions: that the work be previously published, the source be named, and the quotation be brief and incorporated into another work.⁷⁴ Press reviews and certain public speeches are similarly subject to exceptions meant to satisfy the right to information.⁷⁵

The private copy exception under the French Code of Intellectual Property allows copies strictly for personal, not including collective, use.⁷⁶ This very significant doctrine is one of the main instruments by which copyright law achieves its societal justification of disseminating knowledge.⁷⁷ It constitutes the primary manner in which an individual can obtain information on topics of interest, whether they relate to scientific endeavors, education, current events, or politics.⁷⁸ This exception is particularly important because French law does not contain specific exceptions for educational purposes.⁷⁹

At the same time, the limited conditions in which it is applicable avoid abuse of the doctrine, e.g., a teacher sharing material copied under this exception with her students would constitute prohibited “collective use”.⁸⁰

69 German Copyright Act, section 51.

70 German Copyright Act, section 63.

71 German Copyright Act, section 63.

72 French Copyright Law, article L 122-5-3. Other exceptions include reproduction of art works in catalogues, and representation or reproduction of works located in public places.

73 Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 225.

74 French Copyright Law, article L 122-5-3.

75 French Copyright Law, article L 122-5-3.

76 French Copyright Law, article L 122-5-2.

77 Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 233.

78 Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 233.

79 Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 233.

80 Geiger, *Droit D’auteur et Droit du Public a L’information*, at p. 234, n. 2.

4.04 Technological Developments and Their Impact on Copyright

Traditional copyright law served well for several hundred years in the pre-digital world. However, the advent of digital technology and the Internet changed the existing distribution model⁸¹ and disturbed the balance built into traditional copyright.

The pre-digital model of distribution and consumption of copyrighted material was based on scarcity of supply, a precondition for the existence of a market.⁸² Scarcity was the natural result of high costs of reproduction and distribution. High equipment costs, technological complexity requiring a high-level skill set, physical distribution costs, and intermediaries all operated to limit high-volume production and copying to relatively substantial businesses.⁸³

These physical limitations made pirating and counterfeiting economically relatively unattractive.⁸⁴ A counterfeiter had to print books, copy CD's, and then create channels for distribution. The difference in cost between pirating and legitimate distribution was simply not big enough to justify pirating on such a large-scale basis.⁸⁵

The cost of copying operated as an inherent barrier against widespread piracy and enabled rightsholders to maintain control of the market. The exclusive distribution rights granted to authors by copyright law reinforced the authors' control over the market. Given the limited and tightly controlled market, copyright violations could be dealt with at the source with relative ease.⁸⁶

81 *MGM v. Grokster*, 380 F3d 1154, at p. 1167 (9th Cir., 2004). The introduction of new technology is always disruptive to existing markets, and "particularly to those copyright owners whose works are sold through well-established distribution mechanisms".

82 Cohen, "Lochner in Cyberspace: The New Economic Orthodoxy of 'Rights Management'", 97 *Mich. L. Rev.* 462, at p. 511 (1998). "Property rights in patents and copyrights make possible the creation of a scarcity of the products appropriated which could not otherwise be maintained."

83 *Universal City Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294, at p. 318 (S.D.N.Y., 2000), *aff'd sub nom Universal City Studios, Inc. v. Corley*, 273 F3d 429, at p. 451 (2d Cir., 2001). "There was a time when copyright infringement could be dealt with quite adequately by focusing on the infringing act. If someone wished to make and sell high quality but unauthorized copies of a copyrighted book, for example, the infringer needed a printing press. The copyright holder, once aware of the appearance of infringing copies, usually was able to trace the copies up the chain of distribution, find and prosecute the infringer, and shut off the infringement at the source". Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 1.02[2] (2004).

84 Lemley and Reese, "Reducing Digital Copyright Infringement without Restricting Innovation", 56 *Stan. L. Rev.* 1345 (2004).

85 Lemley and Reese, "Reducing Digital Copyright Infringement without Restricting Innovation", 56 *Stan. L. Rev.* 1345, at p. 1373 (2004). Mark Lemley points out that the difference in the cost between pirating and legitimate distribution is that some are sold on the street and others in legitimate retail establishments.

86 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 1.02[2] (2004).

Over time, reproduction and storage technology improved in quality and capabilities.⁸⁷ Early analog devices, such as copiers and VCRs, foreshadowed the issues that would be raised by digital technology.⁸⁸

Then came devices⁸⁹ capable of producing identical digital copies, such as CDs, DVDs, and PCs (as both a productivity tool and an entertainment platform). The Internet, increased bandwidth, and file sharing P2P technology gave rise to new methods for distributing digital content. Collectively, these technologies enabled users to create unlimited numbers of copies which are identical and virtually perfect, at a negligible cost, and capable of instantaneous dissemination worldwide, beyond the capabilities of national enforcement.⁹⁰

These capabilities moved the locus of copying, and of potential piracy, away from substantial businesses, to the home of consumers, who now have direct access to virtually unlimited digital content.⁹¹ This put an end to scarcity and, with it, to the traditional distribution model for copyrighted content. Several additional factors play into this scenario.

First, end-user copying gains in significance. In an analog environment, piracy by end-users could be safely ignored, because an illegal copy made by an end-user deprived the rightsholder of a single sale.⁹² In an Internet environment, a single copy made by an end-user has the capacity of depriving the rightsholder of tens or hundreds of thousands of sales and replacing the product in the market.

Second, consumption patterns accelerate downloading and sharing of content. Tangible copies come at a cost and rapidly become obsolete. The convenient availability of digital content through downloading and sharing

87 *Universal City Studios, Inc. v. Corley*, 273 F3d 429, at p. 436 (2d Cir., 2001). “[D]igital format brings with it the risk that a virtually perfect copy, i.e., one that will not lose perceptible quality in the copying process, can be readily made at the click of a computer control and instantly distributed to countless recipients throughout the world over the Internet.”

88 *MGM v. Grokster*, 380 F3d 1154, at p. 1158 (9th Cir., 2004). “From the advent of the player piano, every new means of reproducing sound has struck a dissonant chord with musical copyright owners, often resulting in federal litigation.”

89 Many other devices have over the course of history having an impact on traditional distribution mechanisms of copyrighted material include the player piano, a copier, a tape recorder, a video recorder, a personal computer, a karaoke machine, or an MP3 player. *MGM v. Grokster*, at 1167.

90 GartnerG2 and the Berkman Center for Internet & Society at Harvard Law School, “Copyright and Digital Media in a Post-Napster World” (2003), at p. 11.

91 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 1.02[2] (2004).

92 Lemley and Reese, “Reducing Digital Copyright Infringement without Restricting Innovation”, 56 *Stan. L. Rev.* 1345, at pp. 1375 and 1376 (2004).

allows users to keep up with “the latest” product. A taste for the latest product is developed in this way which, in turn, spurs further downloading and sharing.⁹³

Finally, illegal copying is increasingly hard to enforce. Because large-scale copying is no longer limited to substantial businesses,⁹⁴ individual infringers operate out of homes and are geographically dispersed.⁹⁵ Even if identified, their conduct may not be prohibited under the legal regime of their place of residence. As a result, “most individual infringers remain anonymous and free from prosecution”.

The consequence of these developments is that digital content is virtually impossible to contain. Traditional copyright law mechanisms are not effective in the digital environment and are of little help to rightsholders in controlling illegal copying.⁹⁶

Faced with this reality, rightsholders began to seek solutions for regaining control over the circulation of copyrighted content and reinforcing their threatened market.

4.05 Second Tier — Technological Measures Used to Protect Content

(a) What Is Digital Rights Management?

In response to these technological developments, content owners devised technological measures to protect digital content from unauthorized distribution. They also are referred to as “DRM”.

Described in very simple terms, a rightsholder uses digital rights management to package the digital content into an “envelope”. The envelope additionally contains a unique identifier, a description of the content, and rules governing the use of the content. This envelope can then be distributed to the user in any form desired, including via the Internet.

93 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 1.02[2] (2004).

94 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 1.02[2] (2004).

95 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 1.02[2] (2004).

96 GartnerG2 and the Berkman Center for Internet & Society at Harvard Law School, “Copyright and Digital Media in a Post-Napster World” (2003), at p. 11. *In re Aimster Copyright Litigation*, 334 F3d 643, at p. 645 (7th Cir., 2003). “Recognizing the impracticability or futility of a copyright owner’s suing a multitude of individual infringers [. . .] the law allows a copyright holder to sue a contributor to the infringement instead, in effect as an aider and abettor”, citing Picker, “Copyright as Entry Policy: The Case of Digital Distribution”, 47 *Antitrust Bull.* 423, at p. 442 (2002). “[C]hasing individual consumers is time consuming and is a teaspoon solution to an ocean problem”.

At the user end, the envelope is identified as having reached the intended user and the user's permissions are verified. The user can then access the content in accordance with the rules, e.g., the rules could allow the user to copy the content, replay it a number of times, and transfer it a number of times. The rules also record the various uses and ensure that the rightsholder is compensated accordingly.⁹⁷

(b) Digital Rights Management Functionalities

(i) In General

The conceptual building blocks of technological protection consist of three functions, namely:

1. Identification of content;
2. Description of content; and
3. Establishment of the desired rules of distribution.⁹⁸

Each of these functions is implemented by means of an architecture of software components.

(ii) Identification of Content

Identification is effected essentially by a system of labels by which content is associated with certain information that facilitates its retrieval, such as the author's identity, rightsholder's identity, and user information.⁹⁹ In this manner, systems understand they are talking about the "same thing" and are able to unambiguously identify certain content.

Standard content identifiers have been developed under the oversight of the International Organization for Standardization (ISO),¹⁰⁰ such as International Standard Musical Work (ISWC),¹⁰¹ International Standard Recording (ISRC),¹⁰² International Standard Book Number (ISBN) in the analog library

97 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, "Current Developments in the Field of Digital Rights Management" (2003), at pp. 13 *et seq.*

98 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, "Current Developments in the Field of Digital Rights Management" (2003), at p. 20.

99 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, "Current Developments in the Field of Digital Rights Management" (2003), at p. 19.

100 See <http://www.iso.org>.

101 The International Standard Musical Work provides a unique, permanent, and internationally recognized reference number for the music industry. See <http://www.iswc.org>.

102 The International Standard Recording provides an international identification system for sound recordings and music video recordings via a permanent identifier encoded into a product as its digital fingerprint. See <http://www.ifpi.org>.

world, but now International Standard Text Work Code (ISTC),¹⁰³ and International Standard Audiovisual Number (ISAN) for audiovisual works.¹⁰⁴

Description is accomplished by metadata, i.e., information which describes the content and includes information about ownership, the rightsholder's identity, date of creation, and country of creation.¹⁰⁵ Its function is disambiguation, i.e., to determine the difference between two superficially similar items.

Finally, the rights expression function allows rights holders to set the parameters within which the content can be used, and thereby define the individual business model. Rights and interests in content, whether under copyright or contractual agreements, are expressed via a digital rights expression language (REL).

The rights express the conditions under which content, otherwise inaccessible to the user, can be consumed and appear in the form of a rights data dictionary, which contains instructions to a microprocessor-based device. Rights expression can range from the very simple "you can print but not copy" to very complex ones, such as XrML, specifically designed for expressing rights and conditions associated with digital content in a custom tailored manner.¹⁰⁶

Digital rights management is mostly used by rightsholders to prevent uncontrolled distribution of digital content. However, digital rights management also can be configured to ensure that the consumers' interests and expectations are met.

(c) Types of Technological Measures Used for Protecting Content

(i) *In General*

An effective digital rights management system consists of several interacting components, each designed to accomplish the functions described above.

The components can be software programs operating independently or embedded in a platform infrastructure, such as the Microsoft Palladium Initiative¹⁰⁷ or the Trusted Computing Platform Alliance (TCPA).¹⁰⁸

103 The International Standard Text Work Code provides an internationally recognized permanent reference numbering system that uniquely distinguishes one textual work from another. The International Standard Text Code is identified as ISO Project 21047. See <http://www.iso.org>.

104 See <http://www.isan.org>.

105 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, "Current Developments in the Field of Digital Rights Management" (2003), at p. 19.

106 See <http://www.contentguard.com> and <http://www.xml.org>.

107 See <http://www.microsoft.com>. Based on a combination of hardware and software components, Palladium is integrated as a set of features of Microsoft Windows.

108 See <http://www.trustedcomputinggroup.org>. The Trusted Computing Group was founded in 1999 by several major platform manufacturers, including Microsoft, Intel, HP, IBM, and Compaq.

(ii) Encryption

Encryption operates as a “content packaging” system, by means of which the package of content can be “locked” and “unlocked” by digital keys. The system is based on private public mathematical (digital) key technology that generates key-pairs, which work in a complementary manner: information encrypted by one key can be decrypted by using the other.

A merchant would thus encrypt (“lock”) the content package by using the public key and send it over the Internet to the user. When the user receives the encrypted content, he can use his private key to decrypt (“unlock”) the package and use the content. As long as the private key remains secure, the merchant can be sure that only the intended user has access to the content.¹⁰⁹

Encryption is one of the most well-developed technologies in the digital rights management arena.¹¹⁰

(iii) Persistent Association Technologies

In General Persistent association technologies are the digital equivalent of printing an identifier on a book. Their function is to ensure that the identifier and metadata are consistently associated with the proper content. These technologies include:

1. Fingerprinting;
2. Watermarking; and
3. Digital signatures.

Their individual characteristics make each of these technologies, particularly well suited for protection of certain types of content.¹¹¹

Fingerprinting Fingerprinting is a technology which identifies content by extracting characteristics of a content file and storing them on a database.

It is used widely in audio and video, such as monitoring of audio stations, compiling radio and video charts, and distribution of royalties to rights owners by collecting societies.¹¹²

109 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, “Current Developments in the Field of Digital Rights Management” (2003), at pp. 23–25.

110 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, “Current Developments in the Field of Digital Rights Management” (2003), at p. 24.

111 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, “Current Developments in the Field of Digital Rights Management” (2003), at p. 27.

112 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, “Current Developments in the Field of Digital Rights Management” (2003), at pp. 28 and 29.

Watermarking Watermarking consists of information (“IP identifier”) embedded into a digital file that is imperceptible to the normal consumer and can only be extracted by means of special software.

A “transaction watermark”, stores information about particular transactions (uses) of content and is used primarily with audio and video.¹¹³

Digital Signatures Digital signatures provide a certificate by a certification agency that uniquely identifies the signatory and ensure that identification and rights expression can be trusted. Based on encryption technology, a digital signature performs the same function as its physical counterpart — the sender “marks” a piece of information so that recipients can verify that the message really came from the sender and whether its content (metadata) has been altered.

Countries are increasingly affording digital signatures the same status as physical/manual signatures.¹¹⁴

(iv) Privacy Enhancing Technologies

Privacy enhancing technologies (PETs) protect the identity of a user, thereby ensuring anonymous consumption of content.

(v) Payment Mechanisms

Payment mechanisms currently rely mostly on credit cards, however, technologies, such as electronic wallets, are being developed.

(d) Digital Rights Management at Work

As these technologies mature, increasingly sophisticated uses become possible. Fine nuances in rights expression languages can satisfy the needs of both rightsholders and users with respect to controlling distribution and consumption of digital content.

For instance, assume “Teenage User” desires to identify music products to impress her group of friends. The following would be a likely scenario:

1. User samples songs on a retail website and selects five songs. Sampling is free with ultimate purchase.
2. User can purchase the following at different price levels (a) permission to listen for a specified period of time, e.g., four hours or two months,

113 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, “Current Developments in the Field of Digital Rights Management” (2003), at pp. 30–32.

114 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, “Current Developments in the Field of Digital Rights Management” (2003), at pp. 32 and 33.

- (b) permission to listen a specified number of times, (c) permission to transfer a copy to a specified number of third persons, e.g., three friends, and (d) permission to port the songs to other platforms.
3. User purchases a two-month license to the five songs, with permission to port the songs to her MP3 player, and she purchases a license to transfer the five songs to her three friends individually, each having permission to listen to the song once.
 4. If one of the three friends actually purchases the song, User receives an incentive: free-of-charge extension of her license for another month or permission to listen to a new song for, e.g., one month free of charge.

This scenario meets the user's needs in identifying and sharing products. The content provider's distribution and future marketing needs also are met: the product has been sold and the prospect of future sales has been created by incentivizing the user to disseminate the product. Virtually unlimited business models can be structured in this manner for all types of digital content.¹¹⁵

(e) Remaining Challenges

Advocates of the public interest are concerned that digital rights management imposes an additional layer of protection, inconsistent with traditional copyright law. Limitations and exceptions are built into copyright law to ensure the proper balance of interests between rightsholders and the public domain. These limiting doctrines confer a certain "permeability" to traditional copyright law.

Whether individual limitations and exceptions are applicable in any given case is determined by subjective judgment based on the individual circumstances of the case. Technological protection operates mechanically and is therefore incapable of making the subjective differentiation between protectable and unprotectable content.

At this time, digital rights management is therefore not equipped to honor the system of limitations and exceptions built into copyright law. Although, in theory, rights expression language could be developed to include semantics to express user rights,¹¹⁶ thus far, there has been little initiative in this direction. The concern is that, absent effective limiting doctrines, copyright law becomes an absolute monopoly, which it was never intended to be.

The content industry, on the other hand, has great hopes for the future of digital rights management. Digital rights management allows the content

115 See <http://www.ezdrm.com>.

116 Even if such capabilities were developed, it is unlikely that the rightsholder would elect to use them in this manner (absent being compelled by law).

industry to take full advantage of the opportunities distribution on the Internet must offer. Services, such as filtration of information, formatting, pay per view, online subscriptions, and paid downloads will become available. Distribution and payment mechanisms will be refined so as to offer appropriate levels of access at an appropriate price,¹¹⁷ i.e., that users can select the exact type and amount of product for the exact price they are willing to pay.

These plans are not without challenges. The digital rights management industry is still in its infancy. Apart from a few established technologies, applications are fragmented and interoperability among technologies and platforms limited. This prevents digital rights management applications from gaining broad-based acceptance in the industry. However, without adequate protection, distribution of typically valuable content over the Internet is very risky.

Furthermore, the introduction of digital rights management, even if fully functional, is not a complete solution for the content industry's problems. Protection of digital content based solely on technological measures is illusory, and considerable incentive to invent around these measures is inherent in the very value of the digital content.¹¹⁸

Newly launched protection technologies are being circumvented with predictable regularity, and the circumvention tools posted on the Internet.¹¹⁹ In an Internet environment, it is enough for a single hacker to obtain a single copy of a protected file, and for that file to be replicated in an uncontrolled manner on the "darknet", beyond the lawful owners' ability to contain it.¹²⁰

It became increasingly obvious that neither copyright law alone, nor copyright law combined with technological protection measures, was strong

117 Testimony by Shira Perlmutter to the Advisory Committee of the Congressional Internet Caucus 2003; H.R. 107, at <http://www.netcaucus.org/events/2003/drm/video.shtml>. Bullesbach and Dreier, *Wem Gehört zu Information im 21. Jahrhundert?*, at p. 62 (2004).

118 Hoeren, "Lex, Lügen, und Video", *KUR* 3/2003, p. 58, at <http://www.uni-muenster.de/Jura.itm/inhalte/publikationen/>. A study on digital rights management systems published by the European Commission in March 2002 concluded that no existing digital rights management system was secure.

119 "Five Scenarios for Digital Media in a Post-Napster World", the Berkman Center for the Internet & Society at Harvard Law School, at <http://cyber.law.harvard.edu/publications>.

120 Indeed, cracking digital rights management has become somewhat of a sport in the hacker community. The Norwegian hacker Jon Johansen, famous for cracking DVD encryption, announced in August 2004 that he revealed the public key used by Apple Airport Express, a wireless networking protocol, to encrypt music sent between iTunes and a wireless base station. See <http://www.nanocrew.net/blog/>.

enough to effectively control the distribution of digital content¹²¹ and to provide a secure environment for the rapidly growing field of electronic commerce.¹²²

Legislative options at this point included:

1. Following the traditional approach of focusing on the conduct of copying and directing enforcement to substantial businesses;
2. Tracing individual transactions in copyrighted content; and
3. Shifting focus from copying to copy-control technology.

The latter option was the only one deemed to be realistic and consistent with democratic values.¹²³ Possible alternatives to the legislative focus adopted were to:

1. Follow the traditional approach of directing enforcement to substantial businesses;
2. Tracing individual transactions in copyrighted matter; and
3. Shifting focus from copying to copy-control technology, only the last one being realistic and consistent with democratic values.

In this spirit, the international legal community¹²⁴ set out to consider new legislation, which shifts its focus away from the act of infringement, to protection of the technology surrounding distribution of copyrighted content.

Prohibitions under this approach are not the infringement itself, but the circumvention of technological protection measures. This new legislation operates as a third tier of protection of digital content, whose function it is to reinforce the underlying technological protection layer. Its first appearance came in the form of the WIPO Treaties discussed in detail below.

121 Bullesbach and Dreier, *Wem Gehört zu Information im 21. Jahrhundert?*, at pp. 29 and 30 (2004).

122 Antezana, “The European Union Internet Copyright Directive as Even More Than It Envisions: toward a Supra-EU Harmonization of Copyright Policy and Theory”, 26 *B.C. Int’l & Comp. L. Rev.* 415, at p. 429 (2003). “The European Union Internet Copyright Directive as Even More Than It Envisions: Toward a Supra-EU Harmonization of Copyright Policy and Theory”, 26 *B.C. Int’l & Comp. L. Rev.* 415, at p. 429 (2003), at p. 11.

123 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 1.02[2] (2004).

124 Antezana, “The European Union Internet Copyright Directive as Even More Than It Envisions: Toward a Supra-EU Harmonization of Copyright Policy and Theory”, 26 *B.C. Int’l & Comp. L. Rev.* 415 (2003). A further legislative goal was to harmonize the laws of different nations in light of the advances of digital technology.

4.06 Third Tier — Legal Responses to the Digital Environment

(a) World Intellectual Property Organization Copyright Treaty

(i) *In General*

In the early 1990s, it became evident in the course of WIPO negotiations that the development of information and communication technologies and their impact on copyrighted content mandated a specially tailored legal regime.¹²⁵ The WIPO Copyright Treaty¹²⁶ is the first multilateral treaty¹²⁷ to address the impact of digital technology on copyrights.¹²⁸

In addition to addressing the issues raised by technological development,¹²⁹ its stated purpose is to expand and harmonize the role of copyright and neighboring rights in the international arena and to maintain a balance between the rights of authors and the larger public interest, such as education, research, and access to information.¹³⁰

(ii) *Provisions of the WIPO Treaty*

In General The Treaty requires member states¹³¹ to provide two distinct layers of legal protection. The first layer consists of traditional copyright provisions extending the provisions of the Berne Convention to digital-age issues.

125 World Intellectual Property Organization Copyright Treaty, Preamble; Antezana, “The European Union Internet Copyright Directive as Even More Than It Envisions: Toward a Supra-EU Harmonization of Copyright Policy and Theory”, 26 *B.C. Int’l & Comp. L. Rev.* 415 (2003).

126 The World Intellectual Property Organization Copyright Treaty and its companion treaty, the Performances and Phonograms Treaty (which protects broadcasters, performers, and producers) (WPPT), both adopted in Geneva on 20 December 1996, adopted at the WIPO Diplomatic Conference in Geneva on 20 December 1996, came into force on 6 March 2002; see <http://www.wipo.int/treaties/en/general/>. Reinbothe and von Lewinski, *The WIPO Treaties* 1996, at p. 200 (2002).

127 Because the TRIPS Agreement was largely negotiated in 1991 and came into effect before WIPO treaties, it does not in depth take into account the intellectual property issues resulting from Internet and digital media distribution as well as digital rights management.

128 The World Intellectual Property Organization Copyright Treaty is a “special arrangement” within article 20 of the Berne Convention, which means that interpretation of any provision of the WIPO Treaty may not result in less protection than that granted under the Berne Convention. World Intellectual Property Organization Copyright Treaty, article 1. Reinbothe and von Lewinski, *The WIPO Treaties* 1996, at pp. 136, 137, 146, and 147 (2002).

129 Dinwoodie, “The Development and Incorporation of International Norms in the Formation of Copyright Law”, 62 *Ohio L. J.* 733, at p. 765 (2001). The treaties also clarify certain rights that had proved problematic prior to 1996. For example, article 4 of the WIPO Treaty now states that computer programs are to be protected as literary works within the meaning of standard copyright law. Article 5 acknowledges that databases require some form of protection independent of copyright.

130 World Intellectual Property Organization Copyright Treaty, Preamble. Ginsburg, “Achieving Balance in International Copyright Law: The WIPO Treaties 1996”, 26 *Colum. J.L. & Arts* 201 (2003).

131 Member states are described as “Contracting Parties” in the Treaty.

The second layer is based on the assumption that rightsholders utilize technological measures to protect digital content. It directs member states to enact legislation prohibiting circumvention of such technological protection, by an additional legal reinforcement layer.

Traditional Copyright Layer The first layer’s main substantive provisions address the rights of distribution and communication to the public.¹³² The right of distribution under article 6 vests in rightsholders the “exclusive right of authorizing the making available to the public” of their works.¹³³

The right of communication to the public under article 8 grants rightsholders the exclusive right of “authorizing any communication to the public of their works by wire or wireless means.”¹³⁴ This right also includes the “making available to the public of works in such a way that members of the public may access these works from a place and at a time individually chosen by them”.¹³⁵

Early drafts of the treaty included provisions relating to the exclusive right of reproduction of literary and artistic works. These provisions were dropped from the final version because of the Berne Convention’s broad formulation of the reproduction right.¹³⁶ Reproduction in “any manner or form”¹³⁷ was deemed to be broad enough to include reproduction in forms unknown at the time of drafting and, therefore, cover copies in RAM, electronic storage and communications.¹³⁸

For purposes of the present chapter, the traditional copyright rights of distribution and communication set forth in the WIPO Treaty, together with the rights under the Berne Convention,¹³⁹ are referred to as the first tier of protection.

Technological Protection Enforcement Layer In article 11, the WIPO Treaty requires member states to implement “adequate legal protection” and “effective legal remedies” against the circumvention of technological measures used

132 World Intellectual Property Organization Copyright Treaty, articles 6 and 8.

133 World Intellectual Property Organization Copyright Treaty, article 6.

134 World Intellectual Property Organization Copyright Treaty, article 8.

135 World Intellectual Property Organization Copyright Treaty, article 8.

136 Ginsburg, “Achieving Balance in International Copyright Law: The WIPO Treaties 1996”, 26 *Colum. J.L. & Arts* 201, at p. 206 (2003).

137 Berne Convention, article 9.

138 Ginsburg, “Achieving Balance in International Copyright Law: The WIPO Treaties 1996”, 26 *Colum. J.L. & Arts* 201, at p. 206 (2003).

139 World Intellectual Property Organization Copyright Treaty, article 1. “Nothing in this Treaty shall derogate from existing obligations that Contracting Parties must have toward each other under the Berne Convention for the Protection of Literary and Artistic Works.”

by authors in the exercise of their rights under copyright law.¹⁴⁰ The technological measures must restrict acts “which are not authorized by the authors concerned or permitted by law”.¹⁴¹ This wording indicates that rightsholders’ anti-circumvention measures are deemed to be coextensive with the rights available to rightsholders under traditional copyright law. Uses permitted by copyright law, such as fair use or private copies, would not be subject to the anti-circumvention provisions.

Finally, the WIPO Treaty establishes benchmarks for protection of rights management information (RMI) to identify the work, author, owner, terms of use, numbers, and codes that represent this information.¹⁴² The Treaty prohibits knowing removal or alteration of rights management information and distribution, import for distribution, broadcast, or communication to the public of works knowing that RMI has been removed or altered.¹⁴³

These mandates, which reinforce the technological protections utilized by rightsholders, constitute the third layer of digital content protection.

(iii) Limitations

Member states may, in their discretion, enact limitations and exceptions, appropriate for the digital environment, to the authors’ copyright rights.¹⁴⁴

All limitations, however, are required to conform to the three-step test, which restricts limitations and exceptions to “special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author”.¹⁴⁵

(iv) Interpretation and Implementation

The World Intellectual Property Organization Copyright Treaty’s very general provisions are intended to establish minimum standards, granting members considerable latitude in implementation. In fact, the WIPO Treaty does not specifically require passage of new anti circumvention legislation; member states may determine, in their discretion that existing measures are “adequate” and “effective”.

140 World Intellectual Property Organization Copyright Treaty, article 11. “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 in 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.”

141 World Intellectual Property Organization Copyright Treaty, article 12.

142 World Intellectual Property Organization Copyright Treaty, article 12.

143 World Intellectual Property Organization Copyright Treaty, article 12.

144 World Intellectual Property Organization Copyright Treaty, article 10.

145 World Intellectual Property Organization Copyright Treaty, article 10.

Some questions regarding the interpretation of the WIPO Treaty remain open. Technological measures can be of two kinds, i.e., use controls (which prevent a user from copying, distributing, performing, or displaying a work) and access controls (which prevent a user from accessing the copyrighted work at all).¹⁴⁶

On its face, the WIPO Treaty does not affect access to works, since it applies to technological measures “used by authors in connection with the exercise of their rights” under the WIPO Treaty and the Berne Convention.¹⁴⁷ If access is not a right granted by the Berne Convention, and the WIPO Treaty does not explicitly require access control, this leaves member states the freedom to protect access controls or not.

On the other hand, it must be considered that, in the digital age, access is a prerequisite to making reproductions of or communicating the work. A user cannot experience the work without making at least one temporary copy in a computer’s RAM. If this copy is a reproduction within the meaning of the Berne Convention, it could be inferred that access is protected under the WIPO Treaty as directed by Berne.¹⁴⁸

The term “effective” technological measures further raises the question what level of effectiveness is required. Obviously, if the measures are fully effective, no further legal protection is required to reinforce the technological layer.¹⁴⁹

Finally, the WIPO Treaty only requires protection against the act of circumvention, not against preparatory or related activities, such as manufacturing and import of circumventing devices. This raises the question of whether preparatory acts, i.e., distribution (or trafficking) of circumventing technology should be read into the text, to satisfy the requirement of “effective” measures.¹⁵⁰

146 Literature distinguishes between technological measures that control access to a work, such as encryption, and those which control use, i.e., copying, distribution, performance, and display, such as SCMS or Macrovision. Marks and Turnbull, “Technical Protection Measures: The Intersection of Technology, Law and Commercial Licenses”, 22 *Eur. Intell. Prop. Rev.* 198, at p. 201 (2000).

147 World Intellectual Property Organization Copyright Treaty, article 11. Reinbothe and von Lewinski, *The WIPO Treaties* 1996, at pp. 143 and 144 (2002).

148 Ginsburg, “Achieving Balance in International Copyright Law: The WIPO Treaties 1996”, 26 *Colum. J.L. & Arts* 201, at p. 213 (2003).

149 World Intellectual Property Organization, Standing Committee on Copyright and Related Rights, “Current Developments in the Field of Digital Rights Management” (2003), at p. 42. *Quaere*, if a protection measure that has been circumvented and the circumventing tool is freely available, such as DeCSS, is still “effective” for purposes of the WIPO Treaty and its progeny?.

150 *Quaere*, whether this affords “adequate” and “effective” protection if the act of circumvention takes place in homes and is therefore beyond enforcement.

Overall, perhaps because of this inherent ambiguity, the WIPO Treaty is perceived as creating a fair balance between enhanced protection in the digital environment and promotion of lawful unauthorized uses.¹⁵¹

The World Intellectual Property Organization Copyright Treaty has been ratified by 51 countries, including the United States and the European Community.¹⁵² Its terms have been implemented in legislation in the United States and Japan and have been incorporated into the EU Copyright Directive.

(b) United States Digital Millennium Copyright Act

(i) *In General*

The United States took the lead in enacting the anti-circumvention provisions of the WIPO Treaties into national legislation.¹⁵³

Congress was interested in fostering the rightsholders' participation in digital distribution via the Internet, and concluded that reinforcement of copyright would increase their confidence in distributing copyrighted assets of value via the Internet.¹⁵⁴ Congress deemed that the benefit of such participation would outweigh any potential detriment to the public that could result from the prohibition of circumvention devices.¹⁵⁵ Thus, in 1998, the United States passed the Digital Millennium Copyright Act, enacted as an amendment to the United States Copyright Act.¹⁵⁶

(ii) *Provisions of the Digital Millennium Copyright Act*

In General The Digital Millennium Copyright Act's two distinct prohibitions are:

1. A ban on acts of circumvention of technological measures; and
2. A ban on trafficking tools to circumvent technological measures.

Anti-Circumvention Section 1201(a)(1) of the Digital Millennium Copyright Act prohibits the act of circumvention of technological measures that

151 Ginsburg, "Achieving Balance in International Copyright Law: The WIPO Treaties 1996", 26 *Colum. J.L. & Arts* 201, at p. 215 (2003).

152 See <http://www.wipo.int/treaties/en/general/>.

153 H.R. Rep. Number 551 (Part 2), 105th Cong., 2d Sess. 20 (22 July 1998). "The purpose of . . . the Digital Millennium Copyright Act . . . is to implement two international treaties (i.e., the 'Copyright Treaty', and the 'Performances and Phonograms Treaty') signed by the United States and more than 125 other countries before the World Intellectual Property Organization (WIPO)".

154 Ginsburg, "Copyright and Control of New Technologies of Dissemination", 101 *Colum. L. Rev.* 1613, at p. 1618 (2001).

155 Ginsburg, "Copyright and Control of New Technologies of Dissemination", 101 *Colum. L. Rev.* 1613, at p. 1618 (2001).

156 17 United States Code, sections 1201 *et seq.*

effectively control access to a copyrighted work (access controls).¹⁵⁷ By way of analogy, the act of circumvention can be likened to “breaking into a locked room to obtain a copy of a book”.¹⁵⁸

Circumventing the encryption of a digital work would, for instance, be a prohibited act. This type of violation is separate and distinct from copyright infringement. If a user were to circumvent encryption of a non-copyrighted work (or portion of a work, which the user would otherwise be authorized to access under the United Copyright Act), she would still incur liability under section 1201(a)(1).

Anti-Trafficking Two provisions of the Digital Millennium Copyright Act prohibit trafficking of tools which can be used to circumvent protective technology, to wit:

1. Section 1201(a)(2) applies to technology which relates to access controls; and
2. Section 1201(b)(2) applies to technology which relates to use controls.¹⁵⁹

“Trafficking” means for purposes of both sections the act of “manufacture, import, offer to the public, provide, or otherwise traffic”.¹⁶⁰ The tools prohibited are defined broadly as “any technology, product, service, device, component, or part thereof”¹⁶¹ which:

1. Are “primarily designed or produced” for the respective purposes of (a) circumventing access control measures or (b) circumventing copyright control measures;

157 17 United States Code, section 1201(a)(1)(A), provides that “No person shall circumvent a technological measure that effectively controls access to a work protected under this title”.

158 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 2.04[1] (2004). “The act of circumventing a technological protection measure put in place by a copyright owner to control access to a copyrighted work is the electronic equivalent of breaking into a locked room to obtain a copy of a book.”

159 17 United States Code, section 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 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”.

160 17 United States Code, section 1201(a)(2) and (b)(1).

161 17 United States Code, section 1201(a)(2) (preamble), (b)(1) (preamble).

2. Have only limited commercially significant purpose other than engaging in the prohibited conduct; or
3. Are marketed with knowledge of use in circumventing.¹⁶²

Summarized in simple terms, a person is subject to liability under the Digital Millennium Copyright Act's trafficking section if that person trafficks in a tool for circumventing a technological measure for access control or copyright control, respectively, that is effective in the case of access controls, in controlling access to, or in the case of copyright controls, in protecting a right of a copyright holder, in a work protected under Title 17 (in the case of access controls) or more narrowly, by copyright (in the case of copyright controls).¹⁶³

For offenses related to access controls under subsection (a)(2), there are two additional elements, namely:

1. The access control must have been imposed with the copyright holder's authority; and
2. The circumvention must be accomplished without the copyright holder's express or implied consent.¹⁶⁴

As with liability for the act of circumvention, liability for trafficking is separate and distinct from possible liability for copyright infringement. The Digital Millennium Copyright Act does not prohibit the act of circumventing technological measures that protect an owner's exclusive right to authorize use of work, i.e., the act of circumvention of use controls. According to Congress' reasoning, in most instances the ultimate act — unauthorized copying — would infringe copyright.

Limitations and Exceptions The provisions of the Digital Millennium Copyright Act are subject to seven explicit exceptions.¹⁶⁵ The exceptions foster both socially useful activities, in general, and socially valuable activities related to copyright, in particular.¹⁶⁶ The exceptions cover:

1. Non-profit libraries, archives, and educational institutions, if for good faith determination whether to purchase;¹⁶⁷
2. Law enforcement, intelligence, or other governmental agencies;¹⁶⁸

162 17 United States Code, section 1201(a)(2)(A)–(C) and section 1201(b)(1)(A)–(C).

163 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 2.05[1] (2004).

164 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 2.05[1] (2004).

165 17 United States Code, section 1201(d)–(j).

166 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 3.01 (2004).

167 17 United States Code, section 1201(d).

168 17 United States Code, section 1201(e).

3. Reverse engineering of computer programs, if using a lawfully obtained copy and, if to achieve interoperability with independently created program elements that are otherwise not readily available, for activities are not infringing;¹⁶⁹
4. Encryption research, subject to several conditions;¹⁷⁰
5. Protection of minors;¹⁷¹
6. Protection of personally identifying information;¹⁷² and
7. Security testing.¹⁷³

Impact on Fair Use By its express terms, the Digital Millennium Copyright Act purports not to affect the pre-existing structure of limitations and defenses available under traditional copyright law, including fair use.¹⁷⁴ The reality is, however, that access control rules preclude access to works for purposes which would otherwise be lawful and authorized under the Copyright Act. This risks disturbing the balance built into the Copyright Act in favor of rightsholders.

Recognizing this danger, Congress authorized the Library of Congress to determine the potential adverse impact of these provisions on users, in particular classes of works¹⁷⁵ and to grant certain limitations through informal rulemaking.¹⁷⁶ The Library of Congress has issued two rulemakings, both of which have been moderate in scope.¹⁷⁷

169 17 United States Code, section 1201(f).

170 17 United States Code, section 1201(g). Activities necessary to identify and analyze flaws and vulnerabilities of encryption technologies, to advance the state of knowledge, or to assist in the development of encryption products are permitted subject to four conditions: (a) the copy has been lawfully obtained, (b) the act is necessary for research, (c) good faith effort to obtain authorization, and (d) the act does not infringe other laws.

171 17 United States Code, section 1201(h).

172 17 United States Code, section 1201(i), permits circumvention where technological measures collect or disseminate personally identifying information and where collection or dissemination is done without conspicuous notice and the sole effect is to disable the collection and dissemination capability.

173 17 United States Code, section 1201(j).

174 17 United States Code, section 1201(c)(1).

175 17 United States Code, section 1201(a)(1)(B)–(D), sets forth the scope Library of Congress rulemaking proceedings in detail.

176 17 United States Code, section 1201(a)(1)(B), (C), and (D) — the limitations are (1) that the exemption apply only to anti-circumvention under section 1201(a)(1); (2) that exemptions must cover a particular class of works; (3) a need for the exemption exists because of substantial adverse effect; and (4) the exemption is limited to a three-year period.

177 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 2:03 (2004). “The action taken by the Library of Congress under these powers has been criticized as not being sufficiently ‘daring and aggressive’ [. . .] in its rulemaking and not giving sufficient consideration to the fact that the almost 300-year-old doctrine of ‘fair use’ had all been obliterated from the Digital Millennium Copyright Act”. Consequently, the proposals for change made by the Library of Congress were minimal and failed to restore the underlying balance of the Copyright Act.

The first, in October 2000, authorizes circumvention of technological measures in two types of works, these being:

1. Compilations of websites blocked by filtering software; and
2. Literary works that deny access due to malfunction, damage, or obsolescence.¹⁷⁸

The second rulemaking, in October 2003, announced the exemption from anti-circumvention prohibitions of certain compilations, computer programs in obsolete formats, and ebooks.¹⁷⁹

Copyright Management Information The Digital Millennium Copyright Act also contains provisions prohibiting interference with copyright management information (CMI). The offenses are:

1. Providing, distributing, or importing for distribution copyright management information that is false, knowingly and with the intent to induce, enable, facilitate, or conceal infringement;¹⁸⁰ and
2. Intentionally removing or altering copyright management information, distributing or importing for distribution copyright management information removed or altered, and distributing or importing for distribution or performing works where copyright management information has been removed or altered without authorization.¹⁸¹

The latter two prohibitions are in the nature of “trafficking” offenses under section 1201. These acts listed in this section are subject to a knowledge requirement.¹⁸²

As used in the Digital Millennium Copyright Act, copyright management information is information that describes the work including title, names of author, copyright owner, performer (if the performances are fixed in the work) writers, performers, and directors (for an audiovisual work), terms and conditions of use, identifying numbers or symbols, and additional information specified by the Register of Copyright.¹⁸³

178 37 Code of Federal Regulations, section 201, 65 Fed. Reg. 64556 (27 October 2000). Exemptions to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies.

179 See <http://www.copyright.gov/1201/>.

180 17 United States Code, section 1202(a). No person shall knowingly and with the intent to induce, enable, facilitate, or conceal infringement: (1) provide copyright management information that is false, or (2) distribute or import for distribution copyright management information that is false.

181 17 United States Code, section 1202(b).

182 17 United States Code, section 1202(b).

183 17 United States Code, section 1202(c).

Online Providers' Safe Harbor The United States Online Copyright Infringement Liability Limitation Act¹⁸⁴ provides for safe harbors from copyright liability for activities such as transmission, systems caching, storage of material owned by third parties, and providing information location tools.

The Act sets forth a set of procedures which, if followed by the online provider, can insulate the online provider from liability.¹⁸⁵

Criticism of the Digital Millennium Copyright Act Unlike the WIPO Treaty, the Digital Millennium Copyright Act does not contain provisions relating to traditional copyright law because of already existing legislation in this regard in the United States.¹⁸⁶ By its express terms, nothing in the Digital Millennium Copyright Act affects existing copyright law.¹⁸⁷

However, the Digital Millennium Copyright Act goes much farther in its anti-circumvention rules than the mandates of the WIPO Treaty require. The WIPO Copyright Treaty requires protection against acts of circumvention of use control measures. It could arguably be read to extend to preparatory acts, i.e., trafficking of technologies that circumvent use controls, to satisfy the “effective” measures requirement.¹⁸⁸

By prohibiting access control, both the act of circumvention itself¹⁸⁹ and trafficking of tools that circumvent access controls,¹⁹⁰ the Digital Millennium Copyright Act exceeds the mandates of the WIPO Treaty.

Concerns have been raised that, by doing so, the Digital Millennium Copyright Act has given rightsholders a new right — the right to grant access — separate and independent from the rights of traditional copyright law.¹⁹¹

184 17 United States Code, section 512. The Act was enacted as part of the Digital Millennium Copyright Act.

185 17 United States Code, section 512.

186 Samuelson, “Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to Be Revised”, 14 *Berkeley Tech. L. J.* 519, at p. 530 (1999).

187 17 United States Code, section 1201(c)(1).

188 Quaere, whether this affords “adequate” and “effective” protection if the act of circumvention takes place in homes and is, therefore, beyond enforcement.

189 17 United States Code, section 1201.

190 17 United States Code, section 1201(a)(2).

191 Basler, “Technological Protection Measures in the United States, the European Union and Germany: How Much Fair Use Do We Need in the ‘Digital World?’”, 8 *Va. J.L. & Tech.* 3 (2003). The article raises the question whether the new right to access could replace the pre-digital physical limitations to copying. If there is a new right to access, it is in effect a right to control access granted to distributors.

Such a new right could exclude users from access to a copyrighted work for uses which are otherwise permitted by copyright law.¹⁹²

Regarding copyright limitations, the express terms of the Digital Millennium Copyright Act purport not to impact limitations or defenses of copyright law. However, access controls are not subject to the limitations and exceptions of traditional copyright law. Thus, if for instance a work were protected by an access-control technology, such as encryption, and a use-control measure, a user would escape liability for circumventing use-control technology if for purposes authorized by copyright law.

As a result of access control, uses such as quoting, re-reading, time shifting, and porting to different platforms, which were possible in analog format, are precluded. Every time a user would want to obtain access to the work for such purposes, a fee would be charged.¹⁹³

The impact of these provisions has given rise to substantial criticism of the Digital Millennium Copyright Act among consumers, in academic circles,¹⁹⁴ educational institutions, and librarian associations. This criticism has resulted in several unsuccessful efforts to amend the Digital Millennium Copyright Act.¹⁹⁵

(c) European Union Copyright Directive

(i) *In General*

The Directive on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society¹⁹⁶ was passed by the European Union and became effective in 2001, implementing the provisions of the WIPO treaties. The text of the Directive constitutes a compromise of positions, after years of lengthy negotiations and debate.¹⁹⁷

192 The Digital Millennium Copyright Act has been criticized for not limiting circumvention of tech measures to a particular purpose or effect of infringing copyright; instead, it prohibits circumvention *per se*. Lipton, "Copyright in the Digital Age: A Comparative Survey", 27 *Rutgers Computer & Tech. L.J.* 333, at p. 358 (2001).

193 Samuelson, "Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to be Revised", 14 *Berkeley Tech. L. J.* 519 (1999).

194 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 1.02[3] (2004). "In a 16 September 1997 letter to Congress, 62 copyright law professors expressed their concern about the implications of regulating devices in the name of copyright law."

195 Digital Choice and Freedom Act, H.R. 5522, 107th Cong. 2d Sess. (2002); Digital Media Consumers' Rights Act, H.R. 5544 107th Cong. 2d Sess. (2002) reintroduced as H.R. 107, 108th Cong. 2d. Sess. (2003).

196 European Union Copyright Directive 2001/29/CE. The Directive also is referred to as the "Copyright Directive" or "InfoSoc Directive".

197 Hugenholtz, "Why the Copyright Directive Is Unimportant and Possibly Invalid", 2000 *E.I.P.R.* 11, at pp. 501 and 502, at <http://www.ivir.nl/publications/hugenholtz/opinion-EIPR.html>.

The two-fold objective of the Directive was to bring EU member state legislation in line with the needs of the information society and to achieve harmonization among member states to ensure a smooth functioning of the internal market.¹⁹⁸

(ii) Provisions of the European Union Copyright Directive

In General The first part of the Directive covers three main substantive rights pertaining to traditional copyright, namely:

1. The reproduction right;¹⁹⁹
2. The right of communication to the public, including the right to make available to the public;²⁰⁰ and
3. The distribution right.²⁰¹

Reproduction Rights The reproduction right grants authors, performers, phonogram and film producers, and broadcasting organizations the “exclusive right to authorize or prohibit direct or indirect, temporary or permanent reproduction by any means in any form, in whole or in part”.²⁰² This right also covers temporary reproduction, such as copies into RAM.

Communication Rights The rights of communication to the public of works and of making these available to the public grant performers, phonogram and film producers, and broadcasting organizations the exclusive right to authorize or prohibit communications to the public by wire or wireless means.

This right includes the making available to the public in a way that the public may access the works from a place and at a time of their choice.²⁰³

Authorization Rights Finally, authors are granted the exclusive right to authorize or prohibit distribution to the public.²⁰⁴ The distribution right covers works incorporated in tangible goods.

Because distribution is contemplated to occur across EU borders, the Directive contains a provision on exhaustion. Rights to tangible goods are exhausted by the first sale of the original by the right holder or with his consent within the European Community.²⁰⁵

198 European Union Copyright Directive 2001/29/CE, Preamble.

199 European Union Copyright Directive 2001/29/CE, article 2.

200 European Union Copyright Directive 2001/29/CE, article 3.

201 European Union Copyright Directive 2001/29/CE, article 4.

202 European Union Copyright Directive 2001/29/CE, article 2.

203 European Union Copyright Directive 2001/29/CE, article 3.

204 European Union Copyright Directive 2001/29/CE, article 4.

205 European Union Copyright Directive 2001/29/CE, article 4.2.

Anti-Circumvention Article 6 contains the EU Copyright Directive’s digital- age anti-circumvention provisions.

Protection of technological measures provides for “adequate legal protection against the circumvention of effective technological measures”, if carried out with knowledge or reason to know that the objective of circumvention is prohibited.²⁰⁶ Because the article applies to “any type of technological measures”, no distinction is made between access control and copy control measures.

The EU Copyright Directive’s anti-trafficking provisions are very similar to those of the Digital Millennium Copyright Act in that they prohibit trafficking and possession of tools that:

1. Are promoted, advertised, or marketed for the purpose of circumvention;
2. Have only limited commercially significant purpose other than circumstances; or
3. Are primarily designed for enabling or facilitating circumvention.²⁰⁷

Technological measures include any technology that:

. . . in the normal course of its operation, is designed to prevent or restrict acts, in respect of works or other subject matter, which are not authorized by law [. . .] .

An “effective” technological measure is an “access control or protection process which achieves the protection objective”.²⁰⁸ Such a measure could be a transformation of the work via encryption or scrambling or a copy control mechanism.²⁰⁹

(iii) Limitations and Exceptions

The EU Copyright Directive’s regime of exceptions and limitations, set forth in article 5, displays a strong preference for private sector arrangements in lieu of statutorily mandated provisions.

At a first level, article 6(4) contemplates that rightsholders make available to users, by voluntary arrangement with a third party,²¹⁰ the benefits of the

206 European Union Copyright Directive 2001/29/CE, article 6.1.

207 European Union Copyright Directive 2001/29/CE, article 6.2.

208 European Union Copyright Directive 2001/29/CE, article 6.3.

209 European Union Copyright Directive 2001/29/CE, article 6.3.

210 The identity of the third party is not specified by the European Union Copyright Directive. It could apply to users, as well as to technology providers.

exceptions and limitations set forth in article 5.²¹¹ Only if rightsholders fail to do so may member states take appropriate measures to make available these same the benefits to users.²¹²

Article 5.1, the only mandatory exception, provides an exemption for transient and incidental copies, essential to a technological process, and which have no economic significance of their own.²¹³ The remaining exceptions and limitations may be implemented in the discretion of member states.²¹⁴

The more significant limitations include paper copies (provided the rightsholder receives compensation), reproduction, communication, and distribution for private use, libraries, educational establishments' or museums' archival copies, quotation, press use, non-commercial teaching, and scientific research.²¹⁵

Finally, the application of all limitations listed above is tempered by the requirement that limitations be applied only in certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder,²¹⁶ commonly called the “three-step test”.

(iv) Rights Management Provisions

The rights management section of the EU Copyright Directive prohibits knowing unauthorized removal or alteration of electronic rights management information and “trafficking”²¹⁷ in works whose rights management information has been removed or altered, with knowledge of a rights violation.²¹⁸

211 European Union Copyright Directive, article 6.4: “. . . in the absence of voluntary measures taken by rightsholders, including by agreement” rightsholders must make available to the beneficiaries “the means of benefiting from that exception or limitation to the extent necessary and where the beneficiary has legal access to the protected work or subject matter concerned”.

212 European Union Copyright Directive, article 6.4.

213 European Union Copyright Directive, article 5.1.

214 European Union Copyright Directive, article 5(2) and (3).

215 European Union Copyright Directive, article 5(2) and (3). The discretionary exceptions and limitations further include photocopying, non-commercial reproduction by libraries, educational establishments, museums or archives, ephemeral recordings by broadcasting organizations, non-commercial reproductions by social institutions, illustration of teaching or scientific research, uses for the benefit of people with a disability, and use for the purposes of public security or performance of administration, parliamentary, or judicial proceedings.

216 European Union Copyright Directive, article 5.5.

217 European Union Copyright Directive, article 7.1 (“distribution, importation for distribution, broadcasting, communication, or making available to the public”).

218 European Union Copyright Directive, article 7.1.

(v) *Criticism of the European Union Copyright Directive*

Comparing the scope of its anti-circumvention provisions to those of the WIPO Treaty and the Digital Millennium Copyright Act, the EU Copyright Directive clearly covers the broadest ground. By its express terms, the WIPO Treaty prohibits acts circumventing only use controls, and not access controls. The Digital Millennium Copyright Act prohibits the act of circumventing only access controls, but not use controls (as well as trafficking in both access and use control circumvention tools).

The European Union Copyright Directive goes beyond all of these prohibitions in that it covers the acts of circumventing both access and use controls (in addition to the prohibition of trafficking both access-control and use-control circumvention tools).

Following in the footsteps of the WIPO Treaty and the Digital Millennium Copyright Act, the EU Copyright Directive has arguably created a new “right to grant access” in the rightsholder.²¹⁹

If a user received permission from a rightsholder to access a work but subsequently circumvented a use-control measure that act would be a violation of the European Union Copyright Directive. Because the Digital Millennium Copyright Act does not prohibit circumvention of use-control measures, the same conduct could be legal under the Digital Millennium Copyright Act, if in pursuit of a purpose permissible under copyright law.

Critics view the Directive as having failed its main objective, i.e., harmonization of copyright law among EU member states.²²⁰ Because the EU Copyright Directive itself is the product of heavily negotiated compromise, its language serves a diversity of different interests.

As a result, it has become “an ambiguous piece of legislation”,²²¹ an instrument that does not increase the “legal certainty” of the EU’s copyright law, but instead raises additional questions as to how it should be interpreted.²²²

219 Basler, “Technological Protection Measures in the United States, the European Union and Germany: How Much Fair Use Do We Need in the ‘Digital World?’”, 8 *Va. J.L. & Tech.* 3 (2003).

220 Hugenholtz, “Why the Copyright Directive Is Unimportant and Possibly Invalid”, 2000 *E.I.P.R.* 11, at pp. 501 and 502, at <http://www.ivir.nl/publications/hugenholtz/opinion-EIPRhtml>; Antezana, “The European Union Internet Copyright Directive as Even More Than It Envisions: Toward a Supra-EU Harmonization of Copyright Policy and Theory”, 26 *B.C. Int’l & Comp. L. Rev.* 415 (2003).

221 Hugenholtz, “Why the Copyright Directive Is Unimportant and Possibly Invalid”, 2000 *E.I.P.R.* 11, at pp. 501 and 502, at <http://www.ivir.nl/publications/hugenholtz/opinion-EIPRhtml>. In addition, given the ambiguities and discretion granted to national legislators in several regards, most notably implementation of article 6(4) of the EU Copyright Directive, there is concern about potential discrepancies in the respective national implementations.

222 Hugenholtz, “Why the Copyright Directive Is Unimportant and Possibly Invalid”, 2000 *E.I.P.R.* 11, at pp. 501 and 502, at <http://www.ivir.nl/publications/hugenholtz/opinion-EIPRhtml>.

Within the EU's regulatory scheme with relevance to copyright law, the EU Copyright Directive is but the most recent instrument.²²³

It is viewed as being part of the "second generation" of Directives, and the intent is to harmonize inconsistent terms of the "first generation" Directives with the EU Copyright Directive.²²⁴

(d) National Implementation of Digital-Age Legislation

(i) In General

The deadline for implementation of the EU Copyright Directive in member states was the end of 2002. Yet, implementation has been slow.²²⁵ Only a few countries have implemented the Copyright Directive into their national legislation.²²⁶

Outside the implementations in the United States and EU member states, national digital-age legislation consistent with the terms of the WIPO Treaty has been enacted in Japan²²⁷ and Australia.²²⁸

(ii) Germany

In Germany, the EU Copyright Directive has been implemented in articles 95a and 95b of the German Copyright Act. The anti-circumvention portion

223 The European Union has passed several Directives touching on copyright over 10 years. These include the Software Directive (91/250/EC); the Rental Right Directive (92/100/EEC); the Term of Protection Directive (93/98/EEC); the Database Directive (96/9/EC); the Directive on Electronic Commerce (2000/31/EC); and the Directive on Access Control Services (98/84/EC).

224 Commission Staff Working Paper on the Review of the EC Legal Framework in the Field of Copyright and Related Rights, Brussels, 19 July 2004, at http://www.europa.eu.int/comm/internal_market/copyright/docs/review/sec-2004-995_en.pdf. Walter, "The Future of European Copyright", Speech at the Copyright Conference, Santiago de Compostela, June 2002, at http://www.europa.eu.int/comm/internal_market/copyright/docs/conference/2002-06-santiago-speech-walter_en.pdf.

225 The Finnish parliament rejected the proposed law implementing the European Union Copyright Directive. Press Release, Electronic Frontier Finland, "EFFI: Finland kills European Union Copyright Directive — for Now" (31 January 2003).

226 European Union Copyright Directive, article 13.1. As of the date of this writing, only Germany, Austria, Greece, Denmark, Italy, and Luxemburg have implemented the Copyright Directive. In the other member states, the Directive is in various states of legislative proposals.

227 In 1999, Japan amended its Copyright Act to comply with the WIPO Treaties and established new provisions on "Technological Measures" and "Rights Management Information". Japan Copyright Office, Agency for Cultural Affairs, Government of Japan, December 2004, Copyright Research and Information Center (CRIC), at http://www.cric.or.jp/cric_e/csj/csj_main.html.

228 Digital-Agenda Act of 2001, an amendment of the Australian Copyright Act of 1968.

of article 95 a(1) prohibit acts circumventing “effective²²⁹ technological”²³⁰ measures which protect exclusive rights under German copyright law if done without consent of the rightsholder, and the actor knows or has reason to know that the goal of circumvention is to access a protected work.²³¹

The anti-trafficking portion under article 95 b(3) prohibits manufacture, importation, distribution, sale, rental, advertisement for purposes of sale or rental, and possession for commercial purposes of devices, products, or components, as well as the rendering of services which meet three conditions which generally correspond to the ones set forth by article 6.2 of the EU Copyright Directive and sections 1202(a)(2) and (b)(1) of the United States Digital Millennium Copyright Act.²³²

The structure of exceptions and limitations differs markedly from that of the Digital Millennium Copyright Act. Article 95b obligates right holders to make available to users the means necessary to take advantage of certain exceptions and limitations of the copyright law. Several provisions are listed, notably the right to reproduce for “private or other personal use”.²³³

Reproduction for private use is limited to paper copies or reproduction by photomechanical or equivalent means (i.e., the right does not extend to digital copies). Significantly, agreements to waive the obligations under article 95b are void.²³⁴ Thus, a rightsholder would not be able to take advantage of enhanced bargaining power over a user to contract out from these obligations.

However, these obligations are not effective in case a work is made available based on a contractual arrangement in a manner that would allow access at a time and place of the user’s choice.²³⁵

229 “Effective” means essentially controlled by access control, measures such as encryption, distortion or other transformation, or copy control. German Copyright Act, section 95a(2). Effective controls include both access and use control.

230 German Copyright Act, section 95a(2). The term “technological measures” refers to technologies, devices, and components meant to prevent acts not authorized by the rightsholder. “Effective” means essentially controlled by access control, measures such as encryption, distortion or other transformation, or copy control.

231 German Copyright Act, section 95 a(1).

232 German Copyright Act, section 95b(3). The conditions are that the tools (1) are marketed for purposes of circumvention, (2) have limited commercial use other than circumvention, and (3) are primarily designed to allow circumvention.

233 German Copyright Act, section 95b 2–6. The exceptions and limitations include provisions for the benefit of disabled persons, collection for church, school and educational use, school radio broadcasts, and private copying.

234 German Copyright Act, section 95b(7). Agreements to exclude the obligations under paragraph 1 of section 95b(7) are void.

235 German Copyright Act, section 95b(3).

4.07 Impact on Rightsholders

(a) Who Are the Rightsholders?

The original copyright incentive scheme grants “authors” exclusive rights to their works in exchange for further creation.²³⁶ The economics of production and distribution of copyrighted works require substantial resources.

Because such resources are usually unavailable to the individual creator, copyright rights are generally transferred to and held by intermediaries, producers, and distributors, such as publishing houses, record labels, and movie studios. These entities, collectively referred to as the content industry, are organized in effective industry organizations,²³⁷ which represent the industry in litigation, lobbying, and other public *fora*. Because the content industry, rather than the creator, is at the forefront of developments relating to digital rights, the following will primarily discuss the impact on rightsholders as represented by the content industry.

(b) Opportunities for Digital Technology

For rightsholders, the availability of digital rights management has operated a fundamental change of paradigm in various ways. First, digital technology is capable of producing more sophisticated tools for distribution and consumption of digital content. Second, with the advent of the Internet, distribution alternatives have been vastly expanded. This in turn gives access to new market opportunities and a worldwide audience.²³⁸ Rights holders have taken full advantage of these opportunities. Whole new industries have arisen around creation of content, creation of distribution technology, and technology protecting digital content.

Digital technology has enabled rightsholders to develop new product features and business models. The area of video products allows instant access to movies via digital cable, digital video on demand, movie services, and online video offerings. These services have all the conveniences of analog

236 This theory is put forward as justification for copyright exclusivity in the Common Law utilitarian system. It is recognized that the term “authors” in the Berne Convention derives from a Civil Law natural rights legal philosophy. However, the relevance for present purposes is that both systems recognized the author as creator as the beneficiary of the exclusive rights to a work.

237 Recording Industry Association of America (RIAA, at <http://www.riaa.com>); Motion Picture Association of America (MPAA, at <http://www.mpa.org>); IFPI, worldwide representative of the recording industry (at <http://www.ifpi.com>); International Intellectual Property Alliance (IIPA, at <http://www.iipa.com>); and *Gesellschaft für Verfolgung von Urheberrechtverletzungen* (GUV, at <http://www.guv.de>).

238 Policy Statement of the MPAA to Internet Caucus Advisory Committee, at <http://www.netcaucus.org/events/2003/drm/video.shtml>.

technology such as pausing, rewind, fast forward, and replay, with the added benefit of portability and rapidly decreasing prices.²³⁹ In the music area, paid MP3 file-downloading services offer features such as sharing, platform portability, e-mailing, wireless streaming to home speakers, and CD burning while, at the same time, allowing rightsholders to build marketing incentives into their products.²⁴⁰

The book-publishing field makes available sophisticated navigation capabilities for highlighting, searching, copying, excerpting, and annotating text with automated speed and precision.²⁴¹ As a result of all of these new developments, copyright-based industries provide significant numbers of jobs and play an increasingly important role in the economy.²⁴²

The content industry anticipates that, as digital rights management technologies²⁴³ mature and gain in sophistication, they will give rise to even more diversified business models, closely tailored to consumers' needs and expectations. Services, such as filtration of information, formatting, and multimedia applications, will render traditional analog uses uninteresting and obsolete.

Distribution, protection, and pricing mechanisms will be refined to a point that they can provide the consumer with the exact amount of content for the exact price the consumer is willing to pay.²⁴⁴

239 Such services include Cinemanow (at <http://www.cinemanow.com>), Soap City Downloads (at <http://www.soapcity.com>), Netflix (at <http://www.netflix.com>), Yahoo (at <http://www.yahoo.com>), and Realnetworks (at <http://www.realnetworks.com>), which provide online video services.

240 As an example, see Apple's iTunes service using the iPod MP3 player, at <http://www.apple.com/itunes/store/>. Apple reports that more than 200-million songs have been sold online through the iTunes music store.

241 See, for example, eBook by Adobe, at <http://www.swlearning.com/ebooks/walkthru/walkthru.html>. Policy Statement of the Association of American Publishers to Internet Caucus Advisory Committee, at <http://www.netcaucus.org/events/2003/drm/video.shtml>.

242 In 2002, the United States "total" copyright industries accounted for an estimated 12 per cent of the United States gross domestic product (US \$1.25-trillion). The "total" copyright industries employed 8.41 per cent of United States workers in 2002 (11.47-million workers). Siwek, "Copyright Industries in the United States Economy", 2004 Report, Prepared for the International Intellectual Property Alliance, at <http://www.iipa.com>.

243 Ginsburg, "Achieving Balance in International Copyright Law: The WIPO Treaties 1996", 26 *Colum. J.L. & Arts* 201, at p. 215 (2003), citing Perlmutter, "Convergence and the Future of Copyright", 24 *Colum. J.L. & Arts* 163, at p. 171 (2001).

244 Sobel, "DRM as an Enabler of Business Models: ISPs as Digital Retailers", 18 *Berkeley Tech. L.J.* 667 (2003). Sobel proceeds based on two premises: (1) digital rights management, although technologically in its infancy, is legally mature and here to stay, having been validated in the form of "technological measures" and copyright management information by the WIPO Treaty and its progeny, i.e., the United States Digital Millennium Copyright Act and the European Union Copyright Directive and national implementations thereof; and (2) digital-rights management in one form or another will be at the foundation of whatever business model will ultimately evolve relating to digital content.

(c) Challenges of Digital Technology

The very technology that makes possible these increasingly sophisticated digital rights management applications also presents a threat. Despite the combined use of legal and technological protection measures, the rate of piracy remains high.

The software industry, the first industry to suffer from piracy, estimates its losses in the United States at approximately US \$6.5-billion in revenues per year.²⁴⁵ The recording industry reports losses due to piracy of several million dollars a day, or approximately US \$4.2-billion a year.²⁴⁶

The Motion Picture Association of America and its international counterpart estimate that the United States motion picture industry loses in excess of US \$3-billion annually in potential worldwide revenue.²⁴⁷ Not surprisingly, the content industry has approached the “copyright wars” as a war for survival. Extraordinary resources in terms of personnel, finances, lawyers, lobbyists, and campaign contributions are being committed to enforcement.²⁴⁸

(d) Enforcement under the United States Digital Millennium Copyright Act

Early enforcement began in the United States,²⁴⁹ and it was directed against circumvention or “cracking” of technological protection measures. Once cracked, these technologies were published on the Internet and, as a result, virtually impossible to contain.

Among the most prominent enforcement actions is the one relating to the DVD protection code. In 1999, Jon Johansen, a Norwegian teenager, reverse engineered the encryption of the CSS (Content Scramble System), the main encryption technology used to protect the content of DVDs. Johansen’s stated purpose for decoding the encryption was to create a mechanism for playing DVDs on Linux operating systems, which lacked that capability.

Johansen created the DeCSS, a tool allowing decryption of DVDs and copying them to disc drives.²⁵⁰ The DeCSS tool was widely circulated on the

245 Weiss, “One Third of Software Pirated — Industry Group Estimates 2003 losses at US \$29-billion Worldwide”, *PC World* (7 July 2004).

246 See <http://www.riaa.com>.

247 See <http://www.mpa.org>.

248 Litman, “Copyright Law as Communications Policy: Convergence of Paradigms and Cultures: War Stories”, 20 *Cardozo Arts & Ent. L.J.* 337, at p. 365 (2002).

249 However, digital-age enforcement actions also have been undertaken in the United Kingdom (*Sony Computer Entertainment v. Owen*, E.W.H.C. 45 (C.H.) (2002)) and in Australia (*Kabushiki Kaisha Sony Computer Entertainment v. Stevens* [2003] F.C.A.F.C. 157. In both cases, liability was found against the circumventing party.

250 See <http://www.dvdc.org>.

Internet. The owners of CSS²⁵¹ and several major film studios responded by having criminal charges filed against Johansen in Norway under Norwegian criminal law.

However, in early 2003, the Norwegian court dismissed the action, holding that Johansen's actions in bypassing CSS to play DVDs on his Linux PC were not illegal under Norwegian criminal law.²⁵²

In the meantime, the DeCSS code, and the story behind it, had been published by a number of mainstream publications, including the *New York Times*, the *San Jose Mercury News*, and the *Village Voice*.²⁵³ Numerous websites posted the code on their sites and provided links to it.

The owners of CSS and the motion picture industry responded aggressively and filed several lawsuits against publishers of the code.²⁵⁴

One of the cases, *Corley/Reimerdes*,²⁵⁵ arose out of the posting of the DeCSS decryption program on the website of 2600 Enterprises Inc. The site also provided links to other sources of the code. Corley was charged with violating section 1201(a)(2) of the Digital Millennium Copyright Act, which prohibits trafficking of tools that are primarily designed to circumvent access control or which have only limited commercially significant purpose other than circumvention of access control.²⁵⁶

The court held that the material posted infringed section 1201(a)(2). The defendants' challenge of the Digital Millennium Copyright Act's constitutionality on freedom of expression grounds was unsuccessful. The court held that the program had both a non-speech and a speech component, and the posting prohibition targeted only the non-speech component. The site was enjoined from posting DeCSS and from linking to any website on which DeCSS was posted.²⁵⁷

251 The DVD Copy Control Association licenses CSS to DVD manufacturers and others. See <http://www.dvcca.org>.

252 *The Register*, "DVD Jon is free — Official (7 January 2003), at http://www.theregister.co.uk/2003/01/07/dvd_jon_is_free_official.

253 Eaton-Salners, "DVD Copy Control Association v. Bunner: Freedom of Speech and Trade Secrets", 19 *Berkeley Tech. L.J.* 269 (2004).

254 *DVD Copy Control Ass'n v. Bunner*, 75 P3d 1, at p. 20 (Cal., 2003); *Universal City Studios v. Reimerdes*, 111 F. Supp. 2d 294 (S.D.N.Y., 2000) *aff'd sub nom Universal City Studios, Inc. v. Corley*, 273 F3d 429 (2d Cir., 2001); *321 Studios v. MGM Studios, Inc.*, 307 F. Supp. 2d 1085, (N.D. Cal., 2004); *Paramount Pictures Corp. v. 321 Studios*, 2004 U.S. Dist. LEXIS 3306 (S.D.N.Y., 3 March 2004). EFF, Press Release, "2600 Magazine Won't Seek Supreme Court Review in DVD Case" (3 July 2002), at <http://www.eff.org>.

255 *Universal City Studios v. Reimerdes*, 111 F. Supp. 2d 294 (S.D.N.Y., 2000) *aff'd sub nom Universal City Studios, Inc. v. Corley*, 273 F3d 429 (2d Cir., 2001).

256 17 United States Code, section 1201(a)(2).

257 *Universal City Studios v. Reimerdes*, 111 F. Supp. 2d 294 (S.D.N.Y., 2000) *aff'd sub nom Universal City Studios, Inc. v. Corley*, 273 F3d 429, at pp. 434 and 435 (2d Cir., 2001).

In a different incident, Dmitry Sklyarov, a Russian programmer employed by Elcomsoft in Moscow, Russia, developed a program that allows users to convert the Adobe eBook format into PDF files, thus circumventing the eBook's access and copy controls. The software was made available on the company's website, hosted in Chicago, Illinois.

Both Sklyarov and Elcomsoft were charged with criminal violation of the Digital Millennium Copyright Act.²⁵⁸ Sklyarov was arrested while attending a conference in Las Vegas, at which he presented details about the program. In a jury trial, both Sklyarov and Elcomsoft were acquitted.²⁵⁹

The *Felten* matter²⁶⁰ involved a watermarking technology called Secure Digital Music Initiative (SDMI), designed to prevent copying of music files. SDMI issued a public challenge inviting individuals to attempt to break the software code. Several academic encryption researchers from prominent universities, including Professor Felten of Princeton University, cracked the technology.

Their attempts to publish these findings were met by a letter from the RIAA, threatening liability under the Digital Millennium Copyright Act. The researchers withdrew their paper and sued for declaratory relief that their activities are not in violation of the Digital Millennium Copyright Act. The action was eventually dismissed.

The Digital Millennium Copyright Act also served as the basis for lawsuits by industries other than the entertainment industry. One action involved the alleged circumvention of a printer engine program that limited the printer to the original manufacturer's cartridge.²⁶¹

Another suit involved reverse engineering of software controlling a garage door system.²⁶² Because the Digital Millennium Copyright Act prohibits only "forms of access that bear a reasonable relationship to the protections that the Copyright Act . . . affords copyright owners",²⁶³ these actions were found to be beyond the scope of the Digital Millennium Copyright Act.

(e) Effectiveness of Digital Millennium Copyright Act Enforcement

As the above cases indicate, efforts to contain digital content and circumvention tools by means of the Digital Millennium Copyright Act have had mixed

258 17 United States Code, section 1204; *United States v. Elcom Ltd.*, Number CR-01-20138 (N.D. Cal., 17 January 2002).

259 Carby, "Russian company acquitted in Adobe eBook copyright case", *San Francisco Chronicle* (18 December 2002).

260 Compl. Declaratory J. and Injunctive Relief, *Felten* (Number CV-01-2669), available at http://www.eff.org/Legal/Cases/Felten_v_RIAA/20010606_eff_felten_complaint.html.

261 *Lexmark Int'l, Inc. v. Static Control Components, Inc.*, 387 F3d 522 (6th Cir., 2004).

262 *Chamberlain Group, Inc. v. Skylink Technologies Inc.*, 381 F3d 1178 (Fed. Cir., 2004).

263 *Chamberlain Group, Inc. v. Skylink Technologies Inc.*, 381 F3d 1178 (Fed. Cir., 2004).

results. The effectiveness of digital-age legislation is limited in part due to the lack of international harmonization. Because content circulates on the Internet globally, circumventors can easily place themselves beyond the reach of national enforcement.

While some countries have strong anti-circumvention laws, such as the United States, others have no digital-age legislation at all²⁶⁴ or, if they do, the terms of their national implementations may be less stringent.²⁶⁵ The Sklyarov incident points out the serendipitous nature of international enforcement. Had Elcomsoft made its software available from a server located in Moscow, rather than in Chicago, and had Sklyarov not participated in the Las Vegas conference, the owners of eBook would have had no recourse against the creator of the circumventing code.

Even where stringent digital-age laws exist, national legal systems may offer different remedies and sanctions. Jon Johansen was acquitted by the Norwegian court for an act for which he would have likely been convicted under the provisions of the United States Digital Millennium Copyright Act. Following his acquittal, Jon Johansen continues to reverse engineer digital rights management tools while communicating the results via a blog entitled “So sue me” from Norway.²⁶⁶

As a result, DeCSS and similar programs proliferate, not only on hackers’ websites, but in mainstream publications and their archives.²⁶⁷ A brief search of the Internet reveals countless sites which offer the DeCSS code as well as advice on its use.²⁶⁸

While the various lawsuits under the Digital Millennium Copyright Act were in progress, a new challenge arose. The mainstay of illegal copying activity

264 Fifty-one countries have ratified the WIPO Treaty. See <http://www.wipo.int/treaties/en>. Relatively few of these have actually enacted national laws under the WIPO Treaty. At the time of this writing, only Austria, Denmark, Germany, Greece, Italy, and Luxemburg had implemented the European Union Copyright Directive. In the remainder of the European Union, the Copyright Directive still is in various stages of legislative proposals. Countries such as Australia and Japan also have digital-age laws.

265 Australian Copyright Act, section 116A(1). Australian law is more favorable to users than the European Union Copyright Directive and the United States Digital Millennium Copyright Act in that it does not prohibit the act of circumvention of access or use controls.

266 For example, the Johansen of DVD fame decoded a portion of the iTunes software and announced this fact on his blog, at <http://www.nanocrew.net/blog/>.

267 Eaton-Salners, “DVD Copy Control Association v. Bunner: Freedom of Speech and Trade Secrets”, 19 *Berkeley Tech. L.J.* 269 (2004).

268 See <http://www.pzcommunications.com/decss/main.htm>, which provides the “Ultimate DeCSS Resources”; “DeCSS Central” at <http://www.lemuria.org/DeCSS/main.html>, which advertises that “This site contains links and local copies of all relevant information about DVD, CSS, DeCSS, LiVid, the DVD CCA and MPAA, and the various lawsuits surrounding DeCSS”.

migrated to peer-to-peer (P2P) file sharing, a technology which allows large numbers of individuals to download copyrighted content from their homes. The three-tier protection structure offered no adequate remedy against such massive copying in dispersed locations. At the time the WIPO Treaty and the Digital Millennium Copyright Act were negotiated, peer-to-peer file sharing was not within the contemplated realm.²⁶⁹

Rightsholders were forced into a new approach: rather than proceed against the infringers themselves, they sued the provider of the technology which made the infringement possible (see text, below).

(f) Rightsholders' Legislative Efforts

In parallel to the legal enforcement actions, rightsholders are continually seeking to amend the legislative and regulatory framework governing unauthorized dissemination of copyrighted content. One such effort is the INDUCE Act, which proposes criminal sanctions against a party who induces, i.e., “intentionally aids, abets, induces, or procures” copyright infringement.²⁷⁰ The Act, in effect, bans technology that can be used for infringing purposes.²⁷¹

A further legislative proposal is the Consumer and Computer Owner Protection and Security (ACCOPS) Act of 2003, introduced at the behest of the content industry. The Act makes the release of a copyrighted work on Internet subject to felony prosecution.²⁷² Neither of these bills was adopted.

An endeavor that proved more successful for the content industry was the United States Federal Communication Commission's adoption of the “broadcast flag”, a technology to control distribution of video content. The broadcast flag technology embeds into television programs a digital file that signals that the program must be protected from unauthorized redistribution. The broadcast flag will be implemented on all digital television broadcasts in the United States.²⁷³

In conclusion, rightsholders have gained from digital technology and stand to lose from it, as well. As the race with technology continues, the introduction of

269 In the early 1990s, when the WIPO Treaty discussions began, the impact of the Internet as a distribution mechanism was not appreciated; similarly, in 1998, when the Digital Millennium Copyright Act was passed, file-sharing technology in its present form was not anticipated. In 2004, the content industry sought to pass the INDUCE Act, designed specifically to address the P2P file sharing issue that had begun plaguing the industry in 2001.

270 See <http://thomas.loc.gov/home/thomas.html>.

271 Intent is determined based on the particular circumstances of the case. See <http://thomas.loc.gov/home/thomas.html>. Therefore, there is low predictability of outcome for a technology provider.

272 See <http://thomas.loc.gov/home/thomas.html>, Bill H.R. 2752, Release of a copyrighted work in the Internet shall be deemed distribution of at least 10 copies of that work, with a retail value of more than US \$2,500, which places it above the threshold for felony prosecution.

273 See <http://www.mpa.org>; adopted by the Federal Communications Commission in late 2004.

new distribution technologies is followed by new legal remedies, which in turn are followed by new distribution technologies. As the tension among stakeholders mounts, an imminent satisfactory solution seems unlikely.

4.08 Impact on the Public

(a) In General

The other main interest protected by copyright law is the interest of society at large and its increasing need for new cultural and knowledge-related values. The direct beneficiaries of this policy are users (consumers)²⁷⁴ of information, whether individual or institutionalized, such as libraries, educational institutions, and research institutions.

(b) Benefits of the Digital-Age

The public is the beneficiary of the vast amount of free content that becomes available as the Internet grows into a truly global communications and distribution mechanism. Massive projects for digitizing content and placing it on publicly accessible servers are under way. Major libraries, such as Harvard University, Stanford University, the University of Michigan, Oxford University, and the New York Public Library, have made arrangements to digitally scan books from their collections and include them in databases publicly searchable by users worldwide.²⁷⁵ The Open Course Ware initiative of the Massachusetts Institute of Technology (MIT) is designed to place the entirety of MIT courses on the Internet.²⁷⁶

Governments routinely place large amounts of information on publicly accessible servers.²⁷⁷ Numerous international organizations²⁷⁸ and non-profit groups make works widely available on the Internet.

Copyright-protected paid content also is available in abundance. Digital rights management technologies provide the individual user with an ever-increasing

274 For purposes of the present discussion, consumer and user, used interchangeably, denote the category of people intended to benefit from the limitations and exceptions of copyright laws. The use follows the traditional rightsholder-user dichotomy, regardless whether the use is primarily for personal use, for research, for commercial use. It is recognized that, in the digital-age, with increased productive use of content, the roles of user and rightsholder may become interchangeable.

275 “Google Checks Out Library Books”, Google Press Release (14 December 2004), at http://www.google.com/press/pressrel/print_library.html.

276 Under this initiative, the Massachusetts Institute of Technology is placing all educational materials online free of charge and available to the public. MIT retains the copyright to the materials. See <http://ocw.mit.edu/index.html>.

277 For example, European Union sites are publicly available at <http://www.europa.eu.int>. The United States government sites include <http://www.doc.gov>, <http://www.fcc.gov>, and many others.

278 See <http://www.wipo.int>.

variety of features and services, designed to facilitate and enhance consumption of digital content products. As the content industry seeks to increase the public acceptance of its digital rights management controlled products, decisions on how digital content is offered are made increasingly with the consumer in mind. Thus, because the “consumer is king”, users are likely to have some say in shaping future offers of digital content.²⁷⁹

(c) Expansion of Rights

Despite these developments, scholars and public interest advocacy groups express concern about the fact that digital technology and the ensuing legislation work to the benefit of rightsholders and to the detriment of the public. The three-tier protection structure has caused exclusive rights to expand, while limitations and exceptions have shrunk. The result is an ongoing “doctrinal creep”.²⁸⁰ Although used in the context of trade mark law, this term is equally applicable to copyright that disturbs the balance inherent in traditional copyright law and has potentially detrimental effects on the overall society.²⁸¹

The expansion of the scope of copyright rights has accelerated with technological development as legislators and rightsholders responded to the new reality of digital technology. Thus, protection for “literary and artistic works” has expanded to cover computer programs,²⁸² computer chips,²⁸³ and useful articles.²⁸⁴

Copyright laws went from prohibiting literal copying to covering work with the same “concept and feel”.²⁸⁵ Under the guise of copyright protection, laws were passed which control content distribution technologies, such as the Audio Home Recording Act of 1992²⁸⁶ and the Digital Millennium Copyright Act.²⁸⁷

279 Some commentators believe that sheer market power and consumer demand will determine less draconian measure. Ginsburg, “Achieving Balance in International Copyright Law: The WIPO Treaties 1996”, 26 *Colum. J.L. & Arts* 201, at p. 215 (2003), citing Perlmutter, “Convergence and the Future of Copyright”, 24 *Colum. J.L. & Arts* 163, at p. 171 (2001).

280 Lemley, “The Modern Lanham Act and the Death of Common Sense”, 108 *Yale L. J.* 1687, at p. 1698 (1999).

281 Lessig, *Code and Other Laws of Cyberspace* (1999); Lessig, *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity* (2004); Litman, *Digital Copyright* (2001).

282 17 United States Code Annotated, section 117.

283 17 United States Code Annotated, section 902.

284 17 United States Code Annotated, section 101.

285 *Cavalier v. Random House*, 297 F2d 815 (9th Cir., 2002).

286 17 United States Code Annotated, sections 1001 *et seq.* The Audio Home Recording Act prohibits the importation, manufacture, and distribution of digital audio recording devices unless the devices are equipped to prevent “serial copying”.

287 17 United States Code Annotated, sections 1201 *et seq.* The law makes actionable circumvention of technological measures that effectively control access to copyright protected work and trafficking in such technology, as well as interfering with copyright management information.

The term of copyright law has been extended, in Europe from 50 to 70 years *post mortem auctoris*;²⁸⁸ in the United States, from an original 14-year renewable term to its current duration of 70 years *post mortem auctoris*.²⁸⁹ The national implementations of the WIPO Treaties raised further questions regarding the appropriate scope of copyright law.²⁹⁰

Scholars are critical of digital-age legislation, because it has created a new right “to grant access” to a protected work, a right which previously did not exist under traditional copyright law.²⁹¹

(d) Erosion of Limitations and Exceptions

Limitations and exceptions are equally impacted by the three-tier protection structure. Public interest advocates and scholars are concerned that these doctrines are being eroded to a point where basic freedoms are at stake.²⁹² These freedoms include the freedom of expression, the freedom to exchange ideas and information, and rights to privacy and are well anchored in the legislation of democratic society.²⁹³

Limiting doctrines have been built into traditional copyright law to preserve the proper balance of interest among stakeholders by acting as prevention against copyright law interfering with these fundamental freedoms.²⁹⁴

288 Council Directive 93/98/EEC of 29 October 1993, harmonizing the term of protection of copyright and certain related rights.

289 In the United States, in the course of implementation of the Berne Convention, a number of Civil Law concepts were imported into the United States legislative scheme, including a copyright term measured by the life of the author. In an effort toward international harmonization, the copyright term was successively increased.

290 Ginsburg, “Achieving Balance in International Copyright Law: The WIPO Treaties 1996”, 26 *Colum. J.L. & Arts* 201, at p. 214 (2003).

291 Ginsburg, “Achieving Balance in International Copyright Law: The WIPO Treaties 1996”, 26 *Colum. J.L. & Arts* 201, at p. 214 (2003).

292 Litman, *Digital Copyright*, at p. 289 (2001).

293 For example, the rights under the United States Constitution, including the First Amendment and the right to information and free expression in the legislation of Civil Law countries.

294 Frey, “Unfairly Applying the Fair Use Doctrine, Princeton University Press v. Michigan Document Services”, 66 *Univ. of Cincinnati L. Rev.* 959, at p. 1001 (1998). Lipton, “Copyright in the Digital-Age: A Comparative Survey”, 27 *Rutgers Computer & Tech. L.J.* 333, at p. 358 (2001). “. . . the privilege to use ideas gives access to almost all the benefits of free speech and dissemination of thoughts, while constraining only the form of their communication. The exclusive rights over the form of expression, on the other hand, seem to provide sufficient incentives to serve the purposes of copyright”. *Harper & Row Publishers Inc. v. Nation Enterprises*, 471 U.S. 539, at pp. 558 and 559 (1985). “In view of the First Amendment protections already embodied in the Copyright Act’s distinction between copyrightable expression and uncopyrightable facts and ideas, and the latitude for scholarship and comment traditionally afforded by fair use, we see no warrant for expanding the doctrine of fair use to create what amounts to a public figure exception to copyright”.

The limiting doctrines operate by excluding certain material from copyright²⁹⁵ protection and thus giving copyright law a “permeable” character. However, the permeability is not carried through into the technological protection tier.

For instance, it is well established that copyright law protects expression, but excludes from protection ideas, concepts, and systems because they are reserved for common use.²⁹⁶

The distinction between such unprotectable ideas and protected expression is highly subjective, and the mechanical operation of technological measures is incapable of making it. As a result, the technological layer indiscriminately covers both protectable and unprotectable material, and the permeability is lost at the level of technological protection measures. The “impermeable” technological protection is then reinforced by digital rights legislation.

Because the technological protection mechanism is incapable of recognizing the “permeability”, users are subject to liability under digital rights legislation even if their conduct is permissible under traditional copyright law. Thus, a user’s circumvention of technological protection in an effort to reach unprotectable ideas in a work is a violation of the Digital Millennium Copyright Act, as well as of other digital-age laws, even though the user engaged in an act authorized by copyright law.²⁹⁷ The United States fair use doctrine is a particular challenge to digital rights management because of the particular subjectivity of its four-factor balancing test.²⁹⁸

295 Boyle, “The Second Enclosure Movement and the Construction of the Public Domain.” 66 *Law and Contemporary Problems* 33, at p. 60 (2003), summarizing the view expressed in Patterson and Lindberg, *The Nature of Copyright, a Law of User’s Rights* (1991). “The United States copyright law system is designed to feed the public domain [by] providing temporary and narrowly limited rights [to authors, the rights] themselves subject to considerable restrictions even during their existence.”

296 Article 2 of the WIPO Treaty provides that “copyright protection extends to expression and not to ideas, procedures, methods of operation or mathematical concepts as such”. *International News Service v. Associated Press*, 248 U.S.215, at p. 250 (1918). “In no case does copyright protection for a work of authorship extend to any idea, process, procedure, system, method of operation, principle, concept of discovery, regardless of how it is embodied in the work.” 17 United States Code, section 102 b. See also categorization of “material not subject to copyright”. 37 Code of Federal Regulations, section 202.1. Article 2 of the WIPO Treaty provides that “copyright protection extends to expression and not to ideas, procedures, methods of operation or mathematical concepts as such”.

297 Samuelson, “Digital Rights Management (and, or, vs) the Law”, *Communications of the ACM*, volume 46, Issue 4 (April 2003).

298 Nimmer, “The Public Domain, Fairest of Them All and Other Fairy Tales of Fair Use”, 66 *Law & Contemp. Prob.* 263, at p. 280 (2003).

Digital rights management technology is incapable of such refined evaluation²⁹⁹ and, consequently, as a practical matter, no fair use can be made of a work protected by digital rights management. The private use³⁰⁰ and quotation³⁰¹ right of Civil Law jurisdictions also are at risk,³⁰² unless the particular national implementation of digital-age legislation allows for specific exemptions from liability for exercise of these rights.³⁰³

Content users are concerned that the erosion of copyright exclusions and limitations will result in the disappearance of uses taken for granted in an analog environment, such as the ability to browse, re-use, quote, share, time shift, and space shift. The fear is that consumption of digital content gradually moves towards an all-comprising pay-per-use model.

The content industry acknowledges the need to accommodate users' fair-use interests into digital rights management technologies.³⁰⁴ However, as a practical matter, the content industry has little incentive to do so. First, development of new capabilities involves certain costs. Furthermore, if unrestricted fair use/private use copies of a work become freely available on the Internet, they threaten to replace the entire work in the market. For this reason, the fair use debate is an "all or nothing" situation for the content industry. Unless seriously pressured by legislature or the market, the content industry will seek to maintain the "all" status quo, rather than risk the "nothing" by enabling fair use.

(e) Does the Public Have a Voice?

Historically, users of copyrighted material have not acted in concert to protect their rights in legislative bodies, courts, and other public *fora*.³⁰⁵

299 The technology and content industries assert that they have made it a priority to develop technology capable of discerning fair from infringing use. See Internet caucus policy statements, at <http://www.netcaucus.org/events/2003/drm/video.shtml>.

300 For example, the German Copyright Act, section 53(1), allows private copying to the extent that the original has been lawfully obtained.

301 For example, the German Copyright Act, section 53(1), allows private copying to the extent that the original has been lawfully obtained.

302 Public interest groups are actively seeking to exempt the private copy, quotation right, and other exceptions from the operation of digital-age legislation. See <http://www.privatkopie.net>.

303 Germany Copyright Act, section 53(1).

304 See <http://www.netcaucus.org/events/2003/drm/video.shtml>.

305 Some attribute the fact that present-day copyright laws are unfavorable to consumers to the lack of representation of the public interest. Commentators attribute copyright's expanding doctrinal creep to the absence of the public interest at the legislative negotiation table. For example, in the United States, for more than 100 years Congress has essentially delegated the legislative drafting to the industry affected, with the result that legislation is both industry-negotiated and industry-drafted. Litman, *Digital Copyright* (2001), at p. 62.

As consumption of content is playing an increasing role in today's knowledge-based society, advocacy groups have begun to represent the public interest in the debate surrounding digital content.³⁰⁶ Digital copyright law issues are coming into the forefront of public attention as a result of incidents such as the criminal prosecution of Sklyarov, the demise of Napster, and RIAA lawsuits against individual P2P downloaders.³⁰⁷

Both in the United States and the European Union,³⁰⁸ efforts are being made to pass legislation to restore some of the traditional copyright limitations, which are being eroded by the combined effect of digital rights management and digital-age legislation. Public interest groups represent copyright users in litigation,³⁰⁹ and numerous groups speak out in court actions to avoid decisions adverse to the public interest.³¹⁰

However, the ultimate success of such efforts depends on whether the public interest's cause can gain support sufficiently widespread to affect legislation.³¹¹

4.09 Impact on Technology Providers

(a) Tension between Rightsholders and Technology Providers

Digital technology allows distribution of content through increasingly complex technological channels. This fact has brought a third stakeholder into the balancing process — the information technology industry. Its role is significant because it makes available the channels for distribution of digital content and the means of controlling them. These elements are critical to the rightsholders' ability to control the digital content market.

306 Public advocacy groups include the Electronic Frontier Foundation, Privatkopie, and various academic institutions, such as the Stanford Center for Internet and Society.

307 The recording industry is filing approximately 700 individual lawsuits a month against individual infringers. "New Round of Lawsuits Against 717 Illegal File Sharers Includes Continued Focus On University Network Users Who Illegally Download Music", RIAA Press Release (24 January 2005), at <http://www.riaa.com>.

308 See Privatkopie, at <http://www.privatkopie.net>; Electronic Frontier Foundation, at <http://www.eff.org>.

309 For example, the Stanford Center for the Internet and Society represented Eric Eldred in his action to challenge the Sonny Bono Copyright Term Extension Act; *Eldred v. Ashcroft*, 534 U.S. 1126 (2002).

310 Forty-six law professors signed an *amicus* brief in *MGM v. Grokster*, 380 F3d 1154, at p. 1160 (9th Cir., 2004), advocating that the standard for contributory copyright infringement set forth in *Sony v. Universal Studios* not be altered.

311 For example, California Congresswoman Zoe Lofgren, who supports the interests of the digital consumer, introduced H.R. 1066, the Benefit Authors without Limiting Advancement or Net Consumer Expectations (Balance) Act of 2003 and proposes that digital transmissions be treated as fair use, storing, adapting, and archiving copies be permitted, and circumvention for non-infringing uses be legalized. The bill did not pass.

The existence of a digital content market is based on scarcity of supply of digital content.³¹² New distribution technologies create unlimited supply of content and thus threaten to disrupt the market.³¹³

As one court pointed out, the introduction of new technology, whether a “player piano, a copier, a tape recorder, a video recorder, a personal computer, a karaoke machine, or an MP3 player”,³¹⁴ is always disruptive to existing markets, particularly to those copyright owners using well-established distribution mechanisms.³¹⁵

To limit supply and restore the market, copyright owners seek to gain control over newly developed technologies. Such efforts include standard-setting legislation for devices capable of reproducing digital content,³¹⁶ legislation criminalizing manufacture and distribution of such devices,³¹⁷ and litigation against technology manufacturers.

Technology providers are increasingly concerned that such efforts to control new technologies can operate as a deterrent to innovate.³¹⁸

(b) Liability of Technology Providers under Secondary Infringement Theories

Efforts to impose liability on technologies are not new. The doctrines of contributory and vicarious copyright infringement have been asserted against technology providers in the past.³¹⁹

312 “Property rights in patents and copyrights make possible the creation of a scarcity of the products appropriated which could not otherwise be maintained”. Cohen, “Lochner in Cyberspace: The New Economic Orthodoxy of ‘Rights Management’”, 97 Mich. L. Rev. 462, at p. 511 (1998).

313 A tension has always existed between rightsholders’ exercise of control under copyright law, on the one hand, and the availability of new technology, on the other. Ginsburg, “Copyright and Control over New Technologies of Dissemination”, 101 *Colum. L. Rev.* 1613, at p. 1616 (2001).

314 *MGM v. Grokster*, 380 F3d 1154 (9th Cir., 2004).

315 *MGM v. Grokster*, 380 F3d 1154 (9th Cir., 2004).

316 The American Home Recording Act (AHRA), 17 United States Code, sections 1001 *et seq.*, requires installation of serial copy management system chips in all consumer-grade digital audio tape technologies. The Digital Millennium Copyright Act requires Macrovision’s copy-control technology to be installed in all post-1998 video cassette recording devices. 17 United States Code, section 1201(k).

317 Inducing Infringement of Copyrights Act of 2004 (INDUCE Act), section 2560, at <http://thomas.loc.gov>.

318 One commentator points out that technologies over which rightsholders have had control, such as digital audio tape decks, dual-deck VCRs, laserdiscs, and Divx machines have not been successful. Lemley, “The Modern Lanham Act and the Death of Common Sense”, 108 *Yale L. J.* 1687, at p. 1698 (1999).

319 The doctrine derives from the tort of *respondeat superior*. *Fonovisa Inc. v. Cherry Auction*, 76 F3d 259 (9th Cir., 1996). The elements of contributory infringement are: (1) direct infringement by a primary infringer, (2) the defendant’s knowledge (actual or constructive) of the infringement, and (3) material contribution to the infringement. Vicarious liability is present if there is: (1) direct infringement by a primary infringer, (2) a direct financial benefit to the defendant, and (3) the right and ability to supervise the infringers. *A&M Records v. Napster*, 239 F3d 1004, at p. 1022 (9th Cir. 2001).

As early as 1984, Universal Studios claimed, in *Sony Corp. of America, Inc. v. Universal City Studios (Sony/Betamax)*,³²⁰ that Sony was contributorily liable for the infringing use of Sony's video recording device, the Betamax.³²¹

Fair and non-infringing use is a defense to contributory liability. Based on this defense, a manufacturer of devices capable of substantial fair and non-infringing uses can escape liability.³²² Because the Betamax was capable of the fair use of time shifting, i.e., recording copyrighted programs for later, personal non-commercial viewing, the Supreme Court found the device capable of substantial non-infringing use, sufficient to exempt Sony from contributory liability (despite the fact that other infringing uses of Betamax were shown).

In exonerating the technology provider, the *Sony* court fully appreciated the risk that, if found, such liability:

. . . would enlarge the scope of respondents' [film studio] statutory monopolies to encompass control over an article of commerce [the Betamax] that is not the subject of copyright protection . . . [and] . . . block the wheels of commerce.

Several cases decided under the Sony doctrine reached similar results.³²³

Nonetheless, these doctrines remain attractive to copyright owners, because a single lawsuit against the provider of infringing technology can eliminate the infringement of large numbers of users.³²⁴ These doctrines are particularly advantageous in situations such as file sharing where, because of the

320 *Sony Corp. of America, Inc. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984).

321 Sony does not differentiate between contributory and vicarious liability, indicating that the doctrines are too close given the particular facts. *Sony Corp. of America, Inc. v. Universal City Studios, Inc.*, 464 U.S. 417, at p. 435 (1984).

322 *Sony Corp. of America, Inc. v. Universal City Studios, Inc.*, 464 U.S. 417, at p. 433 (1984); *A&M Records v. Napster*, 239 F.3d 1004, at p. 1012 (9th Cir., 2001); and *A&M Records v. Napster*, 114 F. Supp. 2d 896, at pp. 905-908 (N.D. Cal., 2000).

323 *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255, at p. 262 (5th Cir., 1988), a software program that defeated anti-copying software did not give rise to liability; *Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys., Inc.*, 180 F.3d 1072, at p. 1079 (9th Cir., 1999), MP3 players do not infringe because they are used for space shifting; *Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.*, 964 F.2d 965, at pp. 970 and 971 (9th Cir., 1992), alteration of a copyrighted video game did not entail liability.

324 Lemley and Reese, "Reducing Digital Copyright Infringement without Restricting Innovation", 56 *Stan. L. Rev.* 1345, at p. 1376 (2004). Suing facilitators is more cost-effective because one lawsuit can eliminate the dissemination mechanism for a large number of end-user copies.

vast number of dispersed file sharers operating from their homes,³²⁵ individual prosecution is unduly cumbersome and expensive, if practicable at all.³²⁶

In 1999, members of the recording industry sued Napster, a popular song file sharing service that enabled users to download music, including copyrighted music files, free of charge.³²⁷ Napster was estimated to facilitate the download of more than 1-billion songs a month.³²⁸ The recording industry asserted theories of contributory and vicarious liability.

The court held that Napster had knowledge of infringing activity and the right and ability to control it. For this reason, the *Sony* exemption from liability of devices with substantial non-infringing uses was not applicable.³²⁹ The Napster service was forced to close down.³³⁰

The *Napster* decision was followed shortly by a similar decision in the consolidated cases of *In re Aimster Litigation*.³³¹ Aimster conducted a service which used AOL's instant messaging system to transfer files among members of the services, including copyrighted music files. Following the *Napster* precedent, Aimster was found liable and forced to close down.³³²

325 *In re Aimster Copyright Litigation*, 334 F3d 643, at p. 645, (7th Cir., 2003). "Recognizing the impracticability or futility of a copyright owner's suing a multitude of individual infringers . . . the law allows a copyright holder to sue a contributor to the infringement instead, in effect as an aider and abettor" . . . "chasing individual consumers is time consuming and is a teaspoon solution to an ocean problem".

326 Nonetheless, the recording industry is pursuing infringers on an individual basis as well, filing approximately 700 individual lawsuits a months. "New Round of Lawsuits Against 717 Illegal File Sharers Includes Continued Focus on University Network Users Who Illegally Download Music", RIAA Press Release (24 January 2005), at <http://www.riaa.com>.

327 Napster provided a collection of centralized servers for the file sharing purposes, as well as indexing services to facilitate file location.

328 Smith, "Napster enabled 1.4bn song swaps in September", *The Register* (14 October 2000).

329 *A&M Records v. Napster, Inc.*, 239 F3d 1004, at pp. 1020 and 1022 (9th Cir., 2001).

330 Bertelsman AG, a Germany media conglomerate, attempted to acquire Napster's assets. Wingfield, "Napster Files for Chapter 11, May Sell Assets to Bertelsmann", *The Wall Street Journal Online* (4 June 2002). This effort was blocked by United States Bankruptcy Court in September 2002. Ahrens, "Judge Blocks Napster's Sale to Bertelsmann", *WashingtonPost.com* (4 September 2002). Subsequently, all of Napster's assets were acquired by Roxio, an Internet media company. See <http://www.roxio.com/en/company/news/archive/prelease021115.jhtml>.

331 *In re Aimster Copyright Litigation*, 177 F. Supp. 2d 1380 (Judicial Panel on Multidistrict Litigation 2001).

332 *In re Aimster Copyright Litigation*, 177 F. Supp. 2d 1380 (Judicial Panel on Multidistrict Litigation 2001). The *Aimster* court found that Aimster had actual knowledge, because its services included indexing, ranking, and commenting on the MP3 music for the benefit of its users.

As a result of successful legal action by the recording industry against Napster, Aimster, and others, the music downloading activity migrated to a different file sharing system, generally known as peer-to-peer (P2P). The P2P method of file sharing is not contingent on the existence of a centralized server and therefore not subject to the Napster precedent.

The most prominent file sharing services, Grokster, Morpheus, and Kazaa, were sued by the movie and recording industries in 2002 for contributory and vicarious copyright infringement. Grokster, Morpheus, and Kazaa are distributors of software that, once installed on a user's computer, automatically connects to a network and allows users to copy digital files, containing text, video, and music from each other. The entertainment industry plaintiffs argued that these services are similar in nature to Napster and should, therefore, be shut down. The court of appeal accepted the defense that the defendants' software was capable of substantial non-infringing uses, because they lacked knowledge³³³ of infringement and the ability to control the file sharing.³³⁴

(c) Liability of Technology Providers under the Digital Millennium Copyright Act

The Digital Millennium Copyright Act's anti-trafficking provisions are an alternate source of liability to technology providers, because their prohibitions extend to developers and distributors of tools, capable of circumventing access or use control measures.³³⁵ A technology provider is prohibited from creating or trafficking devices "primarily designed or produced" for the respective prohibited purposes that have "only limited commercially significant purpose or use" other than engaging in the prohibited conduct and that are marketed with knowledge of use in circumventing.³³⁶

Although the Digital Millennium Copyright Act purports not to "enlarge or diminish vicarious or contributory liability for any technology manufacturers",³³⁷ it subtly changes the pre-existing standard of secondary liability set forth in *Sony* and its progeny.

333 *MGM v. Grokster*, 380 F3d 1154, 1160 (9th Cir., 2004). If a product is capable of "substantial or commercially significant non-infringing uses", then the right holder must show that the defendant had knowledge of specific infringing files and failed to act on such knowledge; if it is not capable of substantial uses, then the rightholder must only show constructive knowledge.

334 The court found that the defendant's software distributors did not provide file storage and index maintenance, infringing messages or file indices did not reside on their computers, and they did not have the ability to suspend user accounts. Rather, it is the users of the software who, by connecting to each other over the internet, create the network and provide the access.

335 17 United States Code, section 1201(a)(2) and (b)(1).

336 17 United States Code, section 1201(a)(2) and (b)(1).

337 17 United States Code, section 1201(c)(2).

First, the Digital Millennium Copyright Act refers specifically to a “commercially significant” purpose or use and, thus, focuses solely on the circumventing technology’s commercial impact. The Sony standard, on the other hand, is broader, leaving room for non-commercial considerations.³³⁸

Second, the focus under the Digital Millennium Copyright Act is on circumvention and not on copyright infringement. Whether the uses made were otherwise authorized under copyright law and whether copyright is infringed in the course of circumvention are irrelevant.³³⁹

Third, under the Digital Millennium Copyright Act, liability is based on the manufacturer’s intent, not on the use of the device at issue. Thus, a technology developer who merely contemplated a technology defeating use could be held liable even though the device was never used or was used solely for non-infringing purposes.³⁴⁰

The result of these changes is that the scope of defenses available to technology providers under *Sony* have been reduced by the Digital Millennium Copyright Act.

(d) Potential to Deter Innovation

The potential exposure of technology providers under the secondary liability doctrines or the Digital Millennium Copyright Act can operate as a powerful deterrent to the freedom to innovate.³⁴¹ A provider of technology that is capable of both infringing and non-infringing uses (dual-use technology) accused of a Digital Millennium Copyright Act violation must be prepared to demonstrate that its technology is “primarily” or “substantially” used for non-infringing purposes.³⁴²

338 Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 2.04[2] (2004).

339 17 United States Code, section 1201(a)(1), prohibits the act of circumvention of technological measures; section 1201(a)(2) and (b)(1) prohibits trafficking of devices. The act of copyright infringement remains prohibited under traditional copyright law; the Digital Millennium Copyright Act is simply not concerned with it.

340 The argument can be made that circumvention technology that intended to allow users the benefits of authorized uses is not “primarily designed” to circumvent protection measures or that it has a commercially significant purpose other than circumvention.

341 “The anecdotal evidence of such deterrence is quite strong. When programmers started being prosecuted criminally for writing code that violated the Digital Millennium Copyright Act’s anti-circumvention provisions and online magazines were sued for writing stories that linked the reader to allegedly unlawful sites, the result was to chill programming, deterring some from working on encryption at all and steering others away from work in certain areas perceived as sensitive”. Lemley and Reese, “Reducing Digital Copyright Infringement without Restricting Innovation”, 56 *Stan. L. Rev.* 1345, at p. 1388 (2004).

342 Lemley and Reese, “Reducing Digital Copyright Infringement without Restricting Innovation”, 56 *Stan. L. Rev.* 1345, at p. 1388 (2004); Dratler, *Cyberlaw: Intellectual Property in the Digital Millennium*, section 2.05, n. 256 (2004).

In making design decisions, technology providers may be forced to consider alternate designs, which reduce or eliminate the possibility of infringing uses.³⁴³ These concerns can easily stifle inventiveness.³⁴⁴ Even if a technology provider is ultimately successful in defending against such claims, this type of litigation is so costly that it can easily put a small company out of business.

Courts dealing with actions against technology companies are forced to make a choice between the interests of the rightsholder and those of the technology provider. If the rightholder prevails, the court must ban the service or device, declare it contraband, and prohibit its sale.³⁴⁵ This result effectively eliminates the particular technology.³⁴⁶

A ban is most likely an excessive penalty against the company that has invested resources into the creation of a technology. The loss to the company is compounded by the loss to overall social welfare, as a result of the technology being eliminated altogether.³⁴⁷ Along with the technology itself, its “spillover” effects, those unanticipated future benefits which the banned technology could have brought also are eliminated.

Often, the value of the “spillover” exceeds the immediate value of the banned technology.³⁴⁸ An obvious example is the VCR. A technology that the copyright industry tried to ban, later developed in unanticipated ways and created new markets that have provided tremendous benefit to the very copyright owners who would have outlawed it.³⁴⁹

343 Lemley and Reese, “Reducing Digital Copyright Infringement without Restricting Innovation”, 56 *Stan. L. Rev.* 1345, at p. 1362 (2004).

344 Lemley and Reese, “Reducing Digital Copyright Infringement without Restricting Innovation”, 56 *Stan. L. Rev.* 1345, at p. 1388 (2004).

345 Lemley and Reese, “Reducing Digital Copyright Infringement without Restricting Innovation”, 56 *Stan. L. Rev.* 1345, at p. 1386 (2004).

346 For example, the *321 Studios* cases arose out of distribution, but 321 Studios distributed software and instructions for copying DVDs. The court found in favor of the content owners, and the company was enjoined from manufacturing, distributing, or otherwise trafficking in any type of DVD circumvention software. *321 Studios v. MGM Studios, Inc.*, 307 F. Supp. 2d 1085 (N.D. Cal. 2004); *Paramount Pictures Corp. v. 321 Studios*, 2004 U.S. Dist. LEXIS 3306 (S.D.N.Y., 3 March 2004).

347 Lemley and Reese, “Reducing Digital Copyright Infringement without Restricting Innovation”, 56 *Stan. L. Rev.* 1345, at p. 1386 (2004). It is reduced by the net social value of the particular innovation.

348 Lemley and Reese, “Reducing Digital Copyright Infringement without Restricting Innovation”, 56 *Stan. L. Rev.* 1345, at p. 1387 (2004).

349 Lemley and Reese, “Reducing Digital Copyright Infringement without Restricting Innovation”, 56 *Stan. L. Rev.* 1345, at p. 1387 (2004). The early history of radio offers a similar lesson.

Finally, while courts may be reluctant to ban well-established technologies with proven non-infringing uses, newer technologies whose advantages and social value can be easily perceived, remain particularly vulnerable to such challenges.³⁵⁰

Despite the potential of stifling innovation of dual-use devices, the technology industry has generally benefited from the content industry's continuing technological needs in the digital rights management field and the consumers' needs for new and diversified means of content consumption. Possibly because of this benefit, the technology industry in the past not advocated its concerns very vigorously.³⁵¹ It remains to be seen whether these benefits continue to outweigh the threat to innovation posed by the continued efforts to impose liability on technology providers, such as the INDUCE Act.

4.10 Future Scenarios

(e) In General

If one were to sum up the needs of each of the stakeholders in a few words, it would read something like this:

1. Rightsholders need payment;
2. The public needs some free access; and
3. The technology industry needs freedom to innovate.

Can these interests be reconciled in a single solution? This is a difficult task for policymakers, complicated by the fact that an acceptable solution must be internationally sanctioned. The following will discuss some views discussed in recent literature as to how future scenarios could play out.

(f) Models Based on Existing Building Blocks

(i) In General

Because one of the challenges in this debate is passing legislation acceptable to all stakeholders involved, the first category of scenarios is based on already existing building blocks, and the assumption of no new legislation in the copyright field.³⁵²

350 Lemley and Reese, "Reducing Digital Copyright Infringement without Restricting Innovation", 56 *Stan. L. Rev.* 1345, at p. 1389 (2004).

351 It should be noted here nonetheless that the technology industry's lobby resulted in the addition of section 512 to the Digital Millennium Copyright Act, a section that exonerates online service providers from liability for copyright infringement if certain procedures are complied with. 17 United States Code, section 512.

352 Legislation for the purpose of these scenarios is understood as a major restructuring of the system, rather than minor adjustments to the present situation.

(ii) Digital Rights Management-Based Models (Pay-Per-Use)

Digital rights management is likely to be the basis of most future business models and, despite the criticism brought against it, digital rights management is likely here to stay.³⁵³ A likely scenario, based on digital rights management and already in use to a limited extent, is the pay-per-use model.

In a pay-per-use system, users would be able to buy access to a particular work in the exact amount they wish to consume, rather than obliging them to invest in a larger quantum of works that they do not need.³⁵⁴ In its simplest version, if a user wished to look up a certain definition in an encyclopedia which costs US \$500, a pay-per-use model could allow the user to read the necessary definition at a cost of, for example, US \$1, or download it at a cost of, for example, US \$2, or any other means of access that the content provider's creative marketing could devise.

This would result in the most efficient allocation of resources in the market; a transaction between two willing parties. For the content provider it is a way to monetize its product and, for the user, it is a way of fulfilling the need for information by purchasing a product.³⁵⁵

Full functionality of this model is simply a matter of time. The main hurdles to overcome are the immaturity of digital rights management³⁵⁶ and the lack of consumer acceptance.³⁵⁷ No particular legislative intervention is required to enable this model.

The model favors rightsholders in that it unqualifiedly meets their needs for a market in which product is exchanged for payment. It only meets the user's needs to a limited extent, i.e., the free limited access to works to which users are entitled under traditional copyright law will be curtailed, if not eliminated. Whether the flexibility and convenience of the offer can compensate for this remains to be determined.

353 Sobel, "DRM as an Enabler of Business Models: ISPs as Digital Retailers", 18 *Berkeley Tech. L.J.* 667 (2003). The article lists several different models and, including the Internet Service Providers as digital retailers, would place the distribution task with ISPs. It would give the rightsholder control over the content, but delegate the technological aspect to the ISP.

354 Ginsburg, "Copyright and Control over New Technologies of Dissemination", 101 *Colum. L. Rev.* 1613, at p. 1645 (2001).

355 For the user, it is simply an economic decision which option to purchase. If engaged in major research that would require consulting the encyclopedia several hundreds of times, US \$500 might be an appropriate investment.

356 Digital rights management must be capable of performing the dual function of controlling access and use and offering differentiated products. These requirements are based on improved interoperability of individual digital rights management technologies.

357 Consumer acceptance would necessitate attractive selection of products and competitive prices.

(iii) The Collaborative Model

Another model whose building blocks already exist is the collaborative model.³⁵⁸ The model envisions the collaborative commons-based creation of cultural products. Traditional concepts of copyright ownership remain in place; however, content is distributed by free sharing with a wide audience.

The audience can consist either of content consumers or, alternatively, of producers of new creations, based on the work shared. The distribution of such content is based on a license agreement which, in most instances, grants a royalty-free perpetual license to reproduce, modify, distribute, display, and perform in public. It also is often subject to certain limitations, such as the requirement that the work be attributed to the original author.³⁵⁹

Theorists supportive of this model explain that, in a digitally networked environment, cultural goods and information are increasingly produced by collaborative production of numerous individuals.³⁶⁰ Production occurs in the form of joint contribution by individuals who are organized in diverse productive enterprises, operating in a decentralized but coordinated manner.³⁶¹

The participation of numerous and diverse contributors would provide a wider range of cultural goods with greater accessibility and at lower cost.³⁶²

358 This model also is referred to as the “commons” or “peer production” model.

359 See <http://www.opensource.org>. The source code is made available royalty-free, with no restrictions on its redistribution. See also the “creative commons” license, at <http://creativecommons.org/licenses/by/2.0/legalcode>.

360 Ginsburg, “Copyright and Control over New Technologies of Dissemination”, 101 *Colum. L. Rev.* 1613, at p. 1619 (2001). Creators also could benefit from technological developments. Digital media may give creators the ability to distribute without help of intermediaries. The public may obtain greater variety. It has been suggested that “digital media by making the means of production and dissemination available to any computer-equipped author, give authors a realistic opportunity to bring their works to the public without having to put themselves in thrall to traditional intermediaries. The technological measures that reinforce legal control may enable and encourage authorial entrepreneurship, because authors may be able to rely on these measures to secure distribution of and payment for their works. Greater author control not only enhance the moral appeal of the exercise of copyright, but also may offer the public an increased quantity and variety of works of authorship, as authors whom the traditional intermediary-controlled distribution system may have excluded may now directly propose to the public (and be compensated for) their creations”.

361 Benkler, “Freedom in the Commons: Towards a Political Economy of Information”, 52 *Duke L.J.* 1245, at p. 1257 (2003). Benkler also refers to this process as “peer production”.

362 Benkler, “Freedom in the Commons: towards a Political Economy of Information”, 52 *Duke L.J.* 1245, at p. 1261 (2003).

The significance of proprietary market-based cultural production, on the other hand, would decrease.³⁶³

The most prominent example is that of open source software. The Open Source Initiative is based on the philosophy of an “open license”, i.e., allowing software to evolve by freely allowing programmers to read, redistribute, and modify any piece of software.³⁶⁴ Similarly, the GNU/Linux initiative which licenses software under the GNU license, is dedicated to “promoting computer user’s right to use study, copy, modify, and redistribute computer programs”.³⁶⁵ Open-source software has seen rapid development and has gained support and acceptance worldwide.

In addition to software development, projects based on collaborative use of “open content”³⁶⁶ are under way in a number of areas, such as:

1. Education, the MIT OpenCourseWare imitative;³⁶⁷
2. Music distribution, LOCA Records;³⁶⁸
3. General cultural creation, Creative Commons;³⁶⁹
4. Software documentation, the Linux documentation project;³⁷⁰ and
5. The Wikipedia, an online encyclopedia.³⁷¹

This model favors consumers in that works would be freely accessible. It will likely constitute a threat to the content industry as it risks disrupting

363 Benkler, “Freedom in the Commons: towards a Political Economy of Information”, 52 *Duke L.J.* 1245, at p. 1254 (2003).

364 See <http://www.opensource.org>. The source code is made available royalty-free, with no restrictions on its redistribution. See also GNU/Linux Project of the Free Software Foundation, at <http://www.gnu.org>.

365 See <http://www.gnu.org/fsf/fsf.html>.

366 “Open content” refers to creative work that is in the public domain or is subject to a free license.

367 Under this initiative, the Massachusetts Institute of Technology (MIT) is placing all educational materials free online available to the public, whereby MIT retains copyright to the materials. See <http://ocw.mit.edu/index.html>.

368 An independent United Kingdom record label which releases music under GNU type licenses. See <http://www.locarecords.com>.

369 See <http://www.creativecommons.org>.

370 The Linux documentation project is a volunteer project that maintains and develops documentation for Linux. It contains more than 475 documents contributed by a large number of authors. See <http://www.tldp.org>.

371 The materials are produced collaboratively by more than 2,000 distributed volunteers; Benkler, “Freedom in the Commons: Towards a Political Economy of Information”, 52 *Duke L.J.* 1245, at p. 1258 (2003). See <http://www.wikipedia.com>. Works include articles, pictures, audio, and video published in a format that explicitly allows the copying and modification of the information by third parties. See http://en.wikipedia.org/wiki/Open_content.

established distribution channels. However, in an increasingly networked society and given the growing technological sophistication of the average consumer, migration of part of the cultural production of our society to this model cannot be ruled out.

(g) Models Enabled by Future Legislation

(i) Non-Commercial Use Levy

A non-commercial use levy, limited to digital use, would be imposed on the sale of consumer products or services whose value is substantially enhanced by P2P file sharing,³⁷² including any devices involved in the reproduction, storage, or distribution of P2P files, such as Internet access, P2P software and services, computer hardware, CDs, MP3 players, and video recorders. Non-commercial downloading, copying, and distribution, as well as adaptations and modifications of the underlying work would be granted immunity in exchange for the levy.³⁷³

The collection mechanism would be based on creators and would be identified by a unique file name registered with a copyright office or equivalent, which tracks transmissions of the work on the Internet. The collected levies would be allocated among copyright holders in proportion to the popularity of the work.

The concept underlying this system is similar to the levy system underlying the private use exceptions in, e.g., German copyright³⁷⁴ and the Audio Home Recording Act in the United States.³⁷⁵

372 Netanel, “Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing”, 17 *Harv. J. Law & Tech.* 1 (2003).

373 Netanel, “Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing”, 17 *Harv. J. Law & Tech.* 1, at p. 29 (2003). A variation of this model, the Tax and Royalty System, would tax ISP access and technologies used to perform music, but it would not allow creation of derivative works by the user. Fisher, *Digital Music: Problems and Possibilities* (2000), at <http://www.law.harvard.edu/faculty/ffisher/Music.html>.

374 However, it should be noted that levies in conjunction with digital rights management lead to a double payment by users/compensation to rightsholders. This was pointed out in Recital 39 of the European Union Copyright Directive, which provides for modification or phase-out of levies where digital rights management is used.

375 Audio Home Recording Act, 17 United States Code, sections 1001–1010. Netanel, “Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing”, 17 *Harv. J. Law & Tech.* 1, at p. 33 (2003). “The AHRA imposes a levy on consumer devices primarily designed to make digital recordings of music for private use and on blank media on which such recordings are stored. In return for the levy (and for requiring manufacturers of digital audio tape recorders to incorporate technology preventing serial digital copying), the Act prohibits suits against consumers for non-commercial copying of music using digital or analog equipment designed for that purpose.”

This model is based on the recognition that P2P sharing is fundamentally speech, not theft.³⁷⁶ Rather than attempting to prohibit an advance of technology that has the capability of disseminating information to an unprecedented extent, it seeks to take advantage of it and allow users to freely engage in copying and modification of copyright-protected content on a non-commercial basis.³⁷⁷

From a copyright standpoint, the impact would be to grant a statutory compulsory license to certain currently prohibited uses. Furthermore, the incentive model remains in effect, in that creators are compensated based on the commercial success of their work.³⁷⁸

Because the basic incentive model inherent in copyright law remains in place, the economic impact on stakeholders would be limited.³⁷⁹ The model is advantageous to the content industry in that it would eliminate the current losses resulting from P2P file sharing.³⁸⁰ Users willing to pay for use of content are equally favored, as the cost is likely to be lower than they would pay under a proprietary copyright regime.³⁸¹

Finally, the increased distribution over the Internet and the need for tracking content are likely to open up a new market and increase revenues of ISPs and technology providers.

The criticism that could be brought against this model is that the increased prices are ultimately passed on to the consumer. The consumer is likely to pay for non-protectable content that is rendered inaccessible by the action of digital rights management. This fact is removed from the consumers' focus due to the indirect nature of the payment. Furthermore, the model introduces an additional administrative layer, which reduces the net compensation to the creators.³⁸²

(ii) More Effective Remedies against Users

Increasing the deterrent effect of copyright laws may be achieved by creating more effective remedies against users, e.g., by means of severe criminal

376 Netanel, "Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing", 17 *Harv. J. Law & Tech.* 1, at p. 83 (2003).

377 Netanel, "Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing", 17 *Harv. J. Law & Tech.* 1, at pp. 83 and 84 (2003).

378 This is a mechanism used in, for example, the German private copy/levy system.

379 Berkman Center for Internet and Society at Harvard Law School, Five Scenarios for Digital Media in a Post-Napster World, at <http://www.cyber.law.harvard.edu/publications>.

380 Berkman Center for Internet and Society at Harvard Law School, Five Scenarios for Digital Media in a Post-Napster World, at <http://www.cyber.law.harvard.edu/publications>.

381 Netanel, "Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing", 17 *Harv. J. Law & Tech.* 1, at pp. 83 and 84 (2003).

382 Netanel, "Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing", 17 *Harv. J. Law & Tech.* 1, at pp. 83 and 84 (2003).

penalties against high-volume uploaders combined with active government prosecution, quick and inexpensive dispute resolution systems, and imposition of severe criminal penalties.³⁸³

(iii) Treatment of Content as a Public Utility

Treatment of copyrighted content as a public utility is a scenario suggested by the similarity in structure of the vertically integrated and concentrated media industry to other highly regulated industries, such as telephone and power companies.³⁸⁴

4.11 Conclusion

The digital environment has caused changes in the distribution mechanism of digital content. Faced with the threat of uncontrolled dissemination of content on the Internet, rightsholders have devised a massive protection structure which, in turn, threatens the other stakeholders. The balance of copyright interests is disrupted, and the polarization of positions among stakeholders is growing. Because of this, a legislative compromise solution acceptable to everyone involved seems unlikely.

If regulatory intervention of any magnitude is not a likely option, what will the future bring? The scenarios based on existing building blocks are still in very incipient stages. However, given time, they could separately or jointly develop into structures which could help restore the lost balance of copyright.

383 Lemley and Reese, "Reducing Digital Copyright Infringement without Restricting Innovation", 56 *Stan. L. Rev.* 1345, at pp. 1396 *et seq.* (2004).

384 Berkman Center for Internet and Society at Harvard Law School, Five Scenarios for Digital Media in a Post-Napster World, at <http://www.cyber.law.harvard.edu/publications>.