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THE DIGITAL MILLENNIUM COPYRIGHT ACT AND NON- INFRINGING USE: CAN MANDATORY LABELING OF DIGITAL MEDIA PRODUCTS KEEP THE SKY FROM FALLING?

MICHAEL P. MATESKY, II*

INTRODUCTION

Under the fair use doctrine, certain unauthorized uses of copyrighted material are not considered copyright infringement.¹ Before the passage of the Digital Millennium Copyright Act (“DMCA”),² this meant that copyright holders had no legal tool to stop people from engaging in such fair uses of their copyrighted works. Now, however, copyright holders can use both technological and legal tools to prevent individuals from engaging in unauthorized fair use of their copyrighted material by incorporating technological protection measures into digital media products.³ These protection measures (when successful) physically prevent the user from accessing or copying, or both, content stored on digital media. The DMCA prohibits circumvention of technological protection measures that control access to copyrighted works, regardless of whether the user circumvents the access-control measure for a non-infringing purpose, such as fair-use copying.⁴ On the other hand, it is not a violation of the DMCA to circumvent technological control measures that do *not* control access to a copyrighted work, but merely prevent certain uses of the work, such as copying or modification.⁵ Yet, even though the DMCA allows circumvention of protection measures that do not control access to a work, the DMCA does prohibit distribution

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1. 17 U.S.C. § 107 (2000).

2. Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998).

3. See Jeff Sharp, *Coming Soon to Pay-Per-View: How the Digital Millennium Copyright Act Enables Digital Content Owners to Circumvent Educational Fair Use*, 40 AM. BUS. L.J. 1, 26–28, 33–36 (2002).

4. 17 U.S.C. § 1201(a)(1)(A).

5. See S. REP. NO. 105-190, at 29 (1998).

of devices or expertise that enable circumvention of technological protection measures that prevent access *or* specific uses of copyrighted material,⁶ which effectively prevents all but the most technologically savvy consumers from doing either. Thus, whereas copyright holders had little or no ability to prevent fair uses and other non-infringing uses of their copyrighted works before passage of the DMCA, copyright holders now have the technological and legal tools to prevent nearly all instances of unauthorized use, whether “fair” or not.

This Note will discuss how the current technological and legal paradigm expands copyright holders’ control beyond the scope of the fair use doctrine, how this threatens reasonably developed consumer expectations of such use, and how requiring the authorship industries to fully disclose the characteristics of technological protection measures embedded in digital media products can protect consumer expectations and fair use while enhancing the efficiency and responsiveness of the market for such products. The first section will provide background on the fair use doctrine and other non-infringing exceptions to the exclusive rights of copyright holders, the development of digital media and technological protection measures, and the passage of the DMCA. The second section will explain how the confluence of technological protection measures and the DMCA expands authors’ control over the use of their works. The third section will describe how digital media consumers have developed a reasonable expectation of certain non-infringing uses. By requiring that digital media products be labeled with the characteristics of any technological protection measures restricting their use, these consumer expectations can be protected and used as a market incentive to keep copyright holders from prohibiting customary and expected non-infringing uses of their works, while at the same time enhancing the efficiency and responsiveness of the market for digital media products.

I. FAIR USE, TECHNOLOGY, AND THE DMCA

A. *The History of the Fair Use Defense to Copyright Infringement*

Before the American Revolution and the creation of the United States, English courts began applying exceptions to their copyright statute (the Statute of Anne) in certain cases, allowing defendants to use copyrighted material without authorization of the copyright holder.⁷ While Master of

6. 17 U.S.C §§ 1201(a)(2), 1201(b).

7. WILLIAM F. PATRY, *THE FAIR USE PRIVILEGE IN COPYRIGHT LAW* 3-17 (1985).

Rolls Sir Thomas Clarke stated in 1761 that every such case “must depend upon its own circumstances,”⁸ the courts considered a number of factors, including the creative nature of the use,⁹ the public benefit of the use,¹⁰ the existence of a custom of such use and its results,¹¹ and the presence of good faith on behalf of the defendant¹² to determine whether unauthorized use of copyrighted material was acceptable. In *Sayre v. Moore*,¹³ Lord Mansfield explained the policy behind such limitations to a copyright holder’s right of exclusion:

[W]e must take care to guard against two extremes equally prejudicial; the one, that men of ability, who have employed their time for the service of the community, may not be deprived of their just merits, and the reward of their ingenuity and labour; the other, that the world may not be deprived of improvements, nor the progress of the arts be retarded.¹⁴

Two years after Lord Mansfield articulated this balance of private incentive against public benefit, the framers of the United States Constitution included a similar balance of interests in the primary legal document of the United States. The United States Constitution states that “Congress shall have Power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”¹⁵ In the words of Supreme Court Justice Stanley Reed, “[t]he economic philosophy behind the [Constitution’s copyright clause] is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in ‘Science and useful Arts.’”¹⁶ In other words, granting an author the exclusive private right to use his original works is not an end in itself, but a tool by which the framers hoped to secure the public welfare through “the Progress of Science and the useful Arts.”¹⁷

Supreme Court Justice Joseph Story is often credited with pronouncing the first articulation of the fair use exception in the United States while sitting as a Circuit Justice in the case of *Folsom v. Marsh*.¹⁸ The plaintiff in

8. *Id.* at 8.

9. *Id.* at 6–7.

10. *Id.* at 6–7, 10.

11. *Id.* at 8.

12. *Id.* at 9–10.

13. *Cary v. Longman*, 102 Eng. Rep. 138, 139 n.(b) (1801) (quoting *Sayre v. Moore* (1785)).

14. *Id.* at 140.

15. U.S. CONST. art. I, § 8, cl. 8.

16. *Mazer v. Stein*, 347 U.S. 201, 219 (1954).

17. U.S. CONST. art. I, § 8, cl. 8.

18. PATRY, *supra* note 7, at 18; *see Folsom v. Marsh*, 9 F. Cas. 342 (C.C.D. Mass. 1841) (No. 4901).

Folsom held the copyright on letters written by George Washington, edited them, and included them in an original biography of Washington.¹⁹ The defendant later published a two-volume work in the style of Washington's autobiography by editing together excerpts of Washington's writings, including the letters used in the plaintiff's work, to which the plaintiff held the copyright.²⁰ The defendant argued that he did not infringe the plaintiff's copyright because "[a]n author has a right to quote, select, extract or abridge from another, in the composition of a work essentially new."²¹

Although Story held that the defendant's use of the plaintiff's copyrighted letters was an infringement, he stated that some unauthorized use of copyrighted material does not constitute infringement.²² He noted and distinguished two extreme and opposite uses of copyrighted material. He presented a situation in which "the whole substance of one work has been copied from another, with slight omissions and formal differences only" as an obvious case of infringement.²³ On the other extreme, Story presented the example of a critic using excerpts of a copyrighted work:

[N]o one can doubt that a reviewer may fairly cite largely from the original work, if his design be really and truly to use the passages for the purposes of fair and reasonable criticism. On the other hand, it is as clear, that if he thus cites the most important parts of the work, with a view, not to criticise, but to supersede the use of the original work, and substitute the review for it, such a use will be deemed in law a piracy.²⁴

Story recognized, however, that a "wide interval might, of course, exist between these two extremes" in any given case²⁵ and said that, when determining whether unauthorized use is infringement, the court must "look to the nature and objects of the selections made, the quantity and value of the materials used, and the degree in which the use may prejudice the sale, or diminish the profits, or supersede the objects, of the original work."²⁶ Notably, Justice Story praised the *Folsom* defendant's work as a valuable contribution and recognized a public interest in the continued publication of the work,²⁷ but held that it was an infringement nonetheless because its value derived not from original creation, but from the value of

19. *Folsom*, 9 F. Cas. at 343.

20. *Id.*

21. *Id.* at 344.

22. *Id.* at 344-45, 349.

23. *Id.* at 344.

24. *Id.* at 344-45.

25. *Id.* at 345.

26. *Id.* at 348.

27. *Id.* at 349.

the plaintiff's copyrighted material.²⁸ The fair use exception to copyright infringement remained a creature of common law development until 1976, when Congress incorporated the doctrine into the Copyright Act.²⁹ The Act states:

[T]he fair use of a copyrighted work . . . for purposes such as criticism, comment, news reporting, teaching . . . , scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—

1. the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
2. the nature of the copyrighted work;
3. the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
4. the effect of the use upon the potential market for or value of the copyrighted work.³⁰

The Copyright Act's legislative history indicates that the codification of the fair use doctrine was intended only to provide a guide as to what factors were considered in determining whether use is "fair," and not to modify the doctrine as it had been developed by the courts.³¹ In fact, the House of Representatives Report on the Copyright Act specifically states that the fair use provisions of the Copyright Act were intended to endorse the purpose behind the judicial doctrine of fair use, were not intended to freeze the doctrine at its 1976 state of development, and that the courts must be free to interpret asserted fair use defenses on a case-by-case basis after codification.³²

The fair use doctrine has undergone significant development at the hands of the judiciary and Congress since its codification in 1976. Furthermore, the fair use doctrine is not the only exception to the exclusive rights of copyright holders. Congress has carved out other exceptions to the exclusive rights of copyright holders that insulate users from infringement liability. For example, it is not an infringement for businesses to publicly perform copyrighted songs on certain equipment,³³ despite the otherwise exclusive public performance right of songwriters.³⁴ Nor are users who

28. *Id.*

29. Pub. L. No. 94-553, 90 Stat. 2541 (1976).

30. 17 U.S.C. § 107 (2000).

31. H.R. REP. NO. 94-1476, at 66 (1976).

32. *Id.*

33. 17 U.S.C. § 110(5).

34. *Id.* § 106(4).

make a personal, noncommercial copy of a digital sound recording liable for infringement in most cases,³⁵ despite the copyright holder's otherwise exclusive right to copy or authorize copying of his work.³⁶ To fully understand how these non-infringing exceptions to the exclusive rights of copyright holders pertain to the anti-circumvention provisions of the DMCA, it is necessary to understand how copying and distribution technology has progressed in the period since the codification of the fair use doctrine.

B. The Development of Digital Media and Technological Protection Measures

Before the advent of digital media, all media was analog. An analog signal is continuous and represents "an infinite number of smooth gradations between given levels of signal strength" onto the analog recording media.³⁷ For example, an analog tape recorder takes such an electrical signal and applies it to an electromagnet in the record head.³⁸ "As the tape passes over the [recording] head, it is magnetized to varying degrees, depending on the strength of the signal feeding the electromagnet at that moment in time."³⁹ In this sense, the level of magnetization on the tape at any given moment has a 1:1 correlation with the signal source; it is analogous to the source. When playing back the tape, the process is reversed and "the varying magnetic field on the tape produces a varying electrical signal as the tape is pulled across the playback head."⁴⁰ This electrical signal is then sent to a speaker.⁴¹

Digital media is fundamentally different. Instead of relying on a signal whose fluctuations and variances have a 1:1 correlation with the fluctuations of the source material, digital recording devices convert the source information into binary code, a series of "1"s and "0"s (digits), which is stored on digital media.⁴² For example, sound is recorded onto compact

35. *Id.* § 1008.

36. *Id.* § 106(1).

37. Boston University, Webcentral, *From Analog to Digital* (Oct. 24, 2002), at <http://www.bu.edu/webcentral/-learning/av1/analog-digital.html>.

38. Ferromagnetic materials, such as audio recording tape, can be magnetized by the application of an external magnetic field. G.E. Pedretti, *The Analog vs. Digital Recording Debate I: A Primer for Musicians*, TIP TOP SOUND, pt. 3, at <http://www.tiptopsound.com/articles.asp?ArticleID=4&Page=3> (last visited Jan. 8, 2005) (citing Kelin J. Kuhn, *Magnetic Recording—An Introduction*, at www.ee.washington.edu/conselec/CE/kuhn/magtape/95x1.htm (last visited Jan. 8, 2005)).

39. *Id.*

40. *Id.*

41. *Id.*

42. *Id.* pt. 4, at <http://www.tiptopsound.com/articles.asp?ArticleID=4&Page=4> (last visited Jan. 8, 2005).

discs by making a series of binary representations on the disc.⁴³ Each binary representation on the CD, called a sample, represents the frequency of the source material at a single instant.⁴⁴ This binary representation of the source material must then be decoded and converted to an analog electric signal that can be run through speakers in order to be heard.⁴⁵ In the case of compact discs, this conversion and playback occurs at a rate of 44,100 samples per second, approximating a continuous stream of sound to the human ear.⁴⁶

For the purposes of this Note, the most important difference between analog and digital media is the relative amount of quality degradation resulting from the generation of analog copies, in comparison to the generation of digital copies. Generating an analog copy results in degradation of quality from the master, and a further degradation in quality follows with each subsequent generation.⁴⁷ Despite this flaw in analog recording and duplication, as home electronics became increasingly common, industrial copyright holders attempted to prevent distribution of technology that would allow consumers to make analog copies of copyrighted content at home.⁴⁸

In 1975, Sony introduced the Betamax home video cassette recorder.⁴⁹ The following year, Universal City Studios and Walt Disney Productions sued Sony under the theory of contributory copyright infringement, arguing that the Betamax was used to make unauthorized copies of their copyrighted television shows and movies.⁵⁰ By suing Sony rather than individual infringers, the studios could attempt to get the means of copying out of the public's hands, and possibly attempt to force Sony to pay royalties as part of a licensing arrangement.⁵¹ However, the Supreme Court held that using the Betamax to "time-shift" freely broadcasted television content for noncommercial purposes (i.e., recording a television show that is originally broadcast at an inconvenient time in order to watch it at a later, more convenient time) was fair use and did not infringe on the plaintiffs' copy-

43. *Id.*

44. *Id.*

45. However, this digital-to-analog conversion need not occur simply to transfer information from one digital medium, such as a CD, to another, such as a hard drive.

46. *Id.*

47. Sharp, *supra* note 3, at 20–21; see also TechWeb: The Business Technology Network, TechEncyclopedia, Analog, at <http://www.techweb.com/encyclopedia/defineterm.jhtml?term=analog> (last visited Jan. 8, 2005).

48. Sharp, *supra* note 3, at 19–20.

49. *Id.* at 19.

50. *Id.* at 19–20.

51. *Id.* at 20.

rights.⁵² Thus, the Court held that the Betamax was “capable of substantial noninfringing use,” and that Sony could not be held liable for contributory infringement for selling it.⁵³ Videocassette recorders subsequently became a popular and widely used mechanism for making analog copies of copyrighted audiovisual content at home.

With the development of digital media, it became possible to make theoretically identical copies of copyrighted works with the push of a button, with no degradation in quality from generation to generation.⁵⁴ No quality degradation occurs because creating a digital copy only involves copying a series of numbers.⁵⁵ As long as those numbers stay the same, and in the same order, the copy should be exactly the same as the original, with none of the “noise” that can be introduced through analog copying. During the 1990s, the increasing power and ubiquity of personal computers, digital transmission systems like the World Wide Web, and the development of information compression protocols such as MPEG-1 Audio Layer 3 (“MP3”) not only made it easy for a large number of people to make identical copies of copyrighted material, but also to distribute these copies to the masses.

However, before the MP3, there was the Digital Audio Tape (“DAT”). The first DAT recorders were demonstrated in 1986 and provided the ability to make perfect digital copies of audio content at home.⁵⁶ In response to the perceived threat DAT recorders posed to the recording industry, Congress passed the Audio Home Recording Act (“AHRA”) in 1992.⁵⁷ The AHRA mandated that all consumer-oriented digital audio recording devices incorporate a Serial Copy Management System⁵⁸ and that a royalty be paid on the sale of certain digital audio recording devices and units of digital audio media.⁵⁹ However, in an attempt to protect consumers’ ability to engage in certain uses of audio content on digital media, the AHRA insulated consumers from infringement liability based on noncommercial copying of audio content using the devices or media covered by the act.⁶⁰ Thus, at the time the AHRA was passed, it allowed consumers to make unauthorized, noncommercial digital copies of copyrighted content without fear of

52. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 447–55 (1984).

53. *Id.* at 456.

54. Sharp, *supra* note 3, at 21; *see also* TechWeb: The Business Technology Network, *supra* note 47.

55. Sharp, *supra* note 3, at 21.

56. *Id.*

57. Audio Home Recording Act of 1992, Pub. L. No. 102-563, 106 Stat. 4237.

58. 17 U.S.C. § 1002 (2000).

59. *Id.* §§ 1003–04.

60. *Id.* § 1008.

legal liability.⁶¹ In exchange, a portion of the money consumers spent on the devices and media used to make such copies is deposited in a royalty pool, which is then distributed to copyright holders.⁶²

However, the AHRA does not apply to personal computers or their hard drives when used as audio recording devices or storage media.⁶³ The law only applies to devices “the digital recording function of which is designed or marketed for the primary purpose of . . . making a digital audio copied recording for private use”⁶⁴ and media “that is primarily marketed or most commonly used by consumers for the purpose of making digital audio copied recordings by use of a digital audio recording device.”⁶⁵ Because computers and their hard drives are not *primarily* marketed for their digital audio recording abilities, they are not covered by the AHRA.⁶⁶ This limitation became important as computers became one of the most common devices used to record, play, copy, and transmit copyrighted content.

During the 1990s, compact discs became the gold standard for audio recording, Digital Versatile Discs (“DVDs”) became common as media for audiovisual content, and personal computers (not covered by the AHRA and not bound to incorporate the SCMS) became the device of choice for copying, manipulating, and distributing the content stored on these media. However, the steady march of technological progress not only increased consumers’ ability to manipulate digital content, but also increased copyright holders’ ability to protect content stored on digital media.⁶⁷ Technological protection measures incorporated into digital media can physically prevent access to the content stored on such media, except by certain approved devices or by users who know a password, and can prevent digital copying of the content.⁶⁸

61. This is still the case under the terms of the AHRA, as long as the content the user attempts to copy is not protected by a technological protection measure that prevents access to the work. *Id.* § 1201(a)(1)(A).

62. *Id.* §§ 1003–07.

63. *See* Recording Indus. Ass’n of Am. v. Diamond Multimedia Sys., Inc., 180 F.3d 1072, 1076–78 (9th Cir. 1999).

64. 17 U.S.C. § 1001(3).

65. *Id.* § 1001(4)(A).

66. *See* *Diamond Multimedia*, 180 F.3d at 1078.

67. Sharp, *supra* note 3, at 27–28 (citing PCTechGuide—The PC Technology Guide, Content Protection, at http://www.pctechguide.com/10dvd_Content_protection.htm (last updated Dec. 1, 2003)).

68. However, most technological protection measures do not decrease consumers’ ability to make analog copies through more traditional methods. While technological protection measures may prevent the user from doing many things, they do not prevent the user from making an analog copy by pointing a camcorder at the television screen while playing a DVD, or holding a microphone up to the speakers while playing an audio CD.

For example, in 1996, the DVD Forum, a group comprised of and representing over 230 industrial copyright holders, agreed to incorporate a technological protection measure known as the Content Scramble System (“CSS”) into all DVDs sold by group members.⁶⁹ CSS encrypts the digital information stored on the DVD (known as “scrambling”) so that it cannot be played or copied by a DVD player, unless the DVD player incorporates the technological “key” needed to descramble the information.⁷⁰ A manufacturer of DVD players must pay a licensing fee in order to use the decryption key necessary to make such a player functional.⁷¹ The DVD Forum used different encryption and decryption keys in different regions of the world, attempting to ensure that DVDs sold in one region could only be played by DVD players sold in the same region.⁷² Technology such as this allows the copyright holder to physically restrain consumers’ ability to use their copyrighted content, regardless of whether the user is infringing on the copyright.

Yet, copy prevention technology such as this is fallible. In fact, by 1999, a piece of computer code known as DeCSS designed to descramble the CSS protection measure on DVDs began circulating on the internet.⁷³ While early versions of DeCSS consisted of sixty lines of code,⁷⁴ similar circumvention programs have been condensed down to seven lines.⁷⁵ But while DeCSS was not a particularly long or complicated piece of code, even simpler methods to circumvent technological protection measures were discovered. In May of 2002, Reuters news service published a story detailing how a simple felt-tipped marker could be used to circumvent Sony’s Key2Audio protection technology.⁷⁶ While a Celine Dion CD equipped with the Key2Audio technology could not be played on a personal computer originally, it not only played, but its content was copied onto the hard drive of a computer after the edge of the CD was blacked out

69. Sharp, *supra* note 3, at 27.

70. *Id.* at 27–28.

71. *Id.* at 28.

72. PCTechGuide—The PC Technology Guide, Regional Coding, at http://www.pctechguide.com/10dvd_Regional_coding.htm (last updated Dec. 1, 2003). This technology impairs the market for “gray goods”—goods sold at a low competitive price in one market (e.g., Hong Kong), imported into another market with a higher competitive price (e.g., the United States), then sold below that second market’s competitive price.

73. Sharp, *supra* note 3, at 47.

74. *Id.*

75. Declan McCullagh, *Descramble that DVD in 7 Lines*, WIRED NEWS, at <http://www.wired.com/news/print/0,1294,42259,00.html> (Mar. 7, 2001). DeCSS became so popular that it was even printed on t-shirts. The author’s roommate at the University of Washington owned one such shirt that read “Got DeCSS?” on the front, and “You do now! [DeCSS code]” on the back.

76. Reuters, *CD Crack: Magic Marker Indeed* (May 20, 2002), WIRED NEWS, at <http://www.wired.com/news/technology/0,1282,52665,00.html>.

with the felt-tipped marker.⁷⁷ In October of 2003, Alex Halderman, a Princeton computer science student, published a paper detailing the ease with which he circumvented SunComm's latest technological protection measure.⁷⁸ Halderman circumvented SunComm's MediaMax CD3 technology installed on an Anthony Hamilton CD simply by holding down the "shift" key on his personal computer while loading the CD.⁷⁹ This disabled Microsoft Windows' "autorun" function, preventing the protection measure embedded in the CD from installing the driver designed to prevent copying.⁸⁰

Thus, while copyright holders and technology companies have made progress in the fight to physically control consumers' ability to manipulate content stored and sold on digital media, these efforts are far from reaching perfection.

C. *Technological Protection Measures Under the WIPO Treaties and the DMCA*

While copyright holders' efforts to create technology that prevents unauthorized use of copyrighted material have produced mixed results, their efforts to create a legal mechanism for preventing such use have been much more successful. In 1998, Congress enacted the DMCA.⁸¹ The DMCA was enacted in an effort to implement provisions of the World Intellectual Property Organization ("WIPO") Copyright Treaty and the WIPO Performances and Phonograms Treaty.⁸² These two treaties require signatory nations to adopt:

adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.⁸³

The DMCA contains anti-circumvention provisions prohibiting both the act of circumventing technological protection measures and the distribution or sale of technology that enables a user to circumvent such meas-

77. *Id.*

78. Brij Khurana, *Halderman GS Sees Copy-protection Flaw in New CDs*, DAILY PRINCETONIAN, Oct. 9, 2003, at <http://www.dailyprincetonian.com/archives/2003/10/09/news/8785.shtml>.

79. *Id.*

80. *Id.*

81. Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998).

82. H.R. REP. NO. 105-551, pt. 1, at 9 (1998).

83. *Id.* at 17.

ures.⁸⁴ However, the DMCA distinguishes between measures that “control access” to copyrighted content and measures that protect a copyright holder’s rights in such content.⁸⁵ The DMCA prohibits the sale or distribution of any device or technology that is “primarily designed or produced for the purpose of” circumventing access-prevention or rights-protection technology, or has “only limited commercially significant purpose or use” other than to circumvent either type of protection measure.⁸⁶ Yet the DMCA only prohibits the *act* of circumventing access-control measures, while the *act* of circumventing rights-protection measures cannot be punished under the DMCA.⁸⁷ In other words, the DMCA prohibits the distribution of *devices* aimed at circumventing access-control or rights-protection measures, or both, but only prohibits the *act* of circumventing access-control measures, leaving the *act* of circumventing rights-protection measures unpunished.

This scheme clearly raises the question: what is the difference between access-control measures and rights-protection measures? The DMCA itself does not define the term “access,” but the United States District Court for the Eastern District of Kentucky recently adopted the Merriam-Webster’s Collegiate Dictionary definition, holding that “access” to copyrighted content “is the ‘ability to enter, to obtain, or to make use of’” such content.⁸⁸ Commentators such as R. Anthony Reese suggest that the term “is likely to be read broadly, probably extending to any act by which the work is made perceptible.”⁸⁹ For example, the CSS used on DVDs likely would be considered an access-protection measure because one cannot view or interact with the content stored on a DVD without a DVD player that contains the relevant region key. The issue of defining “a tech-

84. 17 U.S.C. § 1201(a)–(b) (2000).

85. R. Anthony Reese, *Will Merging Access Controls and Rights Controls Undermine the Structure of Anticircumvention Law?*, 18 BERKELEY TECH. L.J. 619, 622–23 (2003).

86. 17 U.S.C. § 1201(a)(2) prohibits distribution of technology aimed at circumventing access-prevention technology. 17 U.S.C. § 1201(b)(1) prohibits distribution of technology aimed at circumventing rights protection technology.

87. 17 U.S.C. § 1201(a)(1)(A).

88. *Lexmark Int’l, Inc. v. Static Control Components, Inc.*, 253 F. Supp. 2d 943, 967–68 (E.D. Ky. 2003) (holding that an authentication sequence that must be completed before interacting with a copyrighted computer program stored on microchips in toner cartridges “controls access” to a copyrighted work), *rev’d on other grounds*, 387 F.3d 522, 546–47 (6th Cir. 2004) (accepting district court’s definition of “access,” but holding that authentication sequence did not “effectively control access” to copyrighted computer program because program could be copied without circumventing authentication sequence). The United States District Court for the District of Maine recently held that a defendant violated the “access control” anti-circumvention provision of the DMCA without defining the term “access.” *See Pearl Invs., LLC v. Standard I/O, Inc.*, 257 F. Supp. 2d 326, 349–50 (D. Me. 2003) (password protection on private network “effectively controlled access” to works stored on that network).

89. Reese, *supra* note 85, at 627–28.

nological measure that effectively protects a right of a copyright owner”⁹⁰ (a rights-protection measure) is a bit trickier.

The DMCA defines a rights-protection measure as one that, “in the ordinary course of its operation, prevents, restricts, or otherwise limits the exercise of a right of a copyright owner” under title 17.⁹¹ This definition is inherently limited to the scope of a copyright holder’s exclusive rights. As mentioned above, those rights are not unlimited. Because a copyright holder has no right to stop a user from engaging in non-infringing use, the copyright holder’s exclusive rights necessarily end where the fair use doctrine and other non-infringement exceptions begin. Like the yin and yang of copyright law, they form each others’ boundaries. So, a protection measure that prevents users from making multiple copies of a copyrighted sound recording for commercial purposes “effectively protects a right of a copyright owner,” because the copyright owner has the right to stop such infringing copies from being made.⁹² However, that same protection measure might prevent a user from making a noncommercial copy of a sound recording for home backup purposes. In that case, the technology is not protecting “the right of the copyright owner,” because the copyright owner has no right to stop the user from making such a copy under the AHRA.⁹³

At first glance, this scheme may not appear to greatly change copyright holders’ effective rights and ability to control use of their works. Those engaging in non-infringing use of a copyrighted work are (a) likely to have authorized access to the content, so circumventing access-control measures would not be necessary, and (b) rights-protection measures appear to be legally backed up only to the extent that they protect a copyright holder’s exclusive rights, which do not extend into the realm of non-infringing use. However, as shown below, a detailed evaluation reveals that the confluence of technological protection measures, the anti-circumvention *act* provisions, and the anti-circumvention *device* provisions of the DMCA significantly alter the landscape of copyright law and the market for copyrighted works by providing copyright holders with a near-absolute *de facto* ability to control use of their works.

90. 17 U.S.C. § 1201(b)(1).

91. *Id.* § 1201(b)(2)(B).

92. *See id.* § 106(1) (“[T]he owner of copyright under this title has the exclusive rights to do and to authorize any of the following: (1) to reproduce the copyrighted work in copies or phonorecords.”).

93. *See id.* § 1008 (“No action may be brought under this title alleging infringement of copyright based on . . . noncommercial use by a consumer of [certain media or devices] for making . . . musical recordings.”).

II. THE DMCA GIVES COPYRIGHT HOLDERS A *DE FACTO* ABILITY TO STOP FAIR USE

The DMCA expressly states that its passage does not at all change the contours of the fair use defense to copyright infringement.⁹⁴ Many legislators also praised the DMCA for achieving balanced protection of copyright holders' proprietary interests and the public's interest in fair use.⁹⁵ However, fair use and other non-infringement exceptions only apply to copyright *infringement* suits. The anti-circumvention provisions of the DMCA create an entirely new cause of action that copyright holders can use to prevent unauthorized use of their works, whether infringing or not. Nowhere in the act is fair use mentioned as a defense to a circumvention lawsuit.⁹⁶ Thus, while copyright holders' ability to control the use of their works was previously limited to infringing uses, they now have the technological and legal tools to stop non-infringing use of their copyrighted works, and possibly some uses of public domain works, through technological protection measures and the threat or use of circumvention lawsuits under the DMCA.

The provision that most obviously and directly expands copyright holders' rights into the arena of fair use is the prohibition on circumventing access-control measures.⁹⁷ Before the passage of the DMCA, a copyright holder had no legal method of preventing a user from engaging in non-infringing use of his work, even if it was physically possible to do so with technological protection measures. However, a copyright holder can now use the threat of a circumvention lawsuit (or injunctive relief resulting from such a suit) to prevent users from merely obtaining access to a work, whether or not the use for which such access is sought would infringe the copyright, simply by incorporating an access-control measure into the digital media on which the work is distributed. The rationale behind this provision is that those who legally purchase digital media products will not need to circumvent such access-control measures.⁹⁸ However, this is not necessarily the case.

For example, playing a legally purchased compact disc at home on a personal computer is a non-infringing use.⁹⁹ Yet, if the CD were Celine

94. *Id.* § 1201(c)(1).

95. See David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 U. PA. L. REV. 673, 725-26 & nn. 280-83 (2000).

96. See generally 17 U.S.C. § 1201.

97. *Id.* § 1201(a)(1).

98. See H.R. REP. NO. 105-551, pt. 1, at 17-18 (1998).

99. This would not violate any of the exclusive rights listed in 17 U.S.C. § 106.

Dion's *A New Day Has Come*, Sony's Key2Audio protection technology would prevent a legitimate consumer from playing the CD on a personal computer. Because Key2Audio causes the music on the CD to be imperceptible when placed in a personal computer's CD drive, it likely would be considered an access-control measure. Thus, because the DMCA prohibits circumventing access-control measures, a consumer who blacks out the edge of his recently purchased CD with a felt-tipped marker in order to play the CD on his personal computer would be liable for up to \$2,500 in statutory damages,¹⁰⁰ even though he would not be infringing any of the copyright holder's exclusive rights. This scenario exemplifies the DMCA's *de facto* expansion of copyright holders' right to control use of their works and the consumer protection issues raised by such expansion, which are discussed further below.

However, the DMCA does not prohibit all circumvention of access-control measures. Nonprofit libraries, archives, and educational institutions may circumvent access-control measures for the purpose of making a good faith determination of whether to acquire a copy of the protected work, unless the work is reasonably available in another form.¹⁰¹ Circumvention of access-control measures is allowed for the purpose of encryption research,¹⁰² protecting dissemination of private information,¹⁰³ reverse engineering to achieve software interoperability,¹⁰⁴ and for security testing.¹⁰⁵ The DMCA does not prohibit the act of circumventing protection measures that do *not* control access, such as measures that solely prohibit copying the protected work,¹⁰⁶ under the theory that most instances of such circumvention "will occur in the course of conduct which itself implicates the copyright owner's rights" under title 17.¹⁰⁷

But even if we were to accept that the above exceptions to liability for the *act* of circumvention strike a fair balance between the copyright monopoly and fair use, such a balance is without any practical effect because

100. 17 U.S.C. § 1203(c).

101. *Id.* § 1201(d)(1)-(2).

102. This must involve a legitimately obtained encryption copy and good faith research. *Id.* § 1201(g).

103. *Id.* § 1201(i).

104. *Id.* § 1201(f)(1).

105. *Id.* § 1201(j).

106. Although the *Lexmark* court held that a device controlled "access" to a work because it controlled a user's ability "to make use of" the work, 253 F. Supp. 2d 943, 968 (E.D. Ky. 2003), the DMCA's inherent distinction between access-control measures and rights-protection measures, *see generally* 17 U.S.C. § 1201, suggests that protection measures that solely prohibit exercise of a copyright holder's exclusive right, such as copying, while not preventing perception of the protected work should not be considered access-control measures.

107. S. REP. NO. 105-190, at 29 (1998).

the DMCA prohibits distribution of *devices* that circumvent technological protection measures.¹⁰⁸ Thus, even those individuals and institutions that are allowed to circumvent access-control measures under the DMCA's exemptions will have no means to do so unless they can develop an effective circumvention method on their own. Furthermore, everyone is allowed to circumvent protection measures that do not control access to the copyrighted work, but because authors can use the device provisions of the DMCA to keep the technology necessary to engage in such circumvention off the market and out of the hands of consumers, only the most technologically savvy among us will be able to take advantage of this allowed circumvention. Of course, if use-protection measures continue to fall prey to such simple circumvention devices as felt-tipped markers and the "shift" key, there may not be cause for much alarm. But as technology progresses, that almost certainly will not be the case.

The DMCA does not make it crystal clear which devices aimed at circumventing rights-protection measures are prohibited and which are not. The DMCA prohibits devices that are primarily designed for, marketed for, or have a limited commercially significant purpose or use other than circumventing "protection afforded by a technological measure that effectively protects a right of a copyright owner under [title 17]."¹⁰⁹ A measure that "effectively protects a right of a copyright owner" is one that "in the ordinary course of its operation, prevents, restricts, or otherwise limits the exercise of a right of a copyright owner" under title 17.¹¹⁰ So, even if a protection measure often prevents actions that are *not* the exclusive right of the copyright owner, such as non-infringing copying of sound recordings under 17 U.S.C. § 1008, it likely will still be covered under the definition of a "rights protection measure" if it also prevents actions that *are* the exclusive right of the copyright owner, such as commercial duplication of sound recordings, in the "ordinary course of its operation."¹¹¹ This means that a device that is marketed and primarily designed for circumventing technological protection measures *only* in cases of non-infringing use will still be prohibited under the device provisions of the DMCA if it can also regularly be used to circumvent such measures for infringing purposes.¹¹² Seeing as it is probably impossible to create a circumvention device that only works for non-infringing purposes, the DMCA likely will prohibit distribution of all circumvention devices.

108. 17 U.S.C. § 1201(a)(2), (b).

109. *Id.* § 1201(b).

110. *Id.* § 1201(b)(2)(B).

111. *See id.*

112. *See United States v. Elcom Ltd.*, 203 F. Supp. 2d 1111, 1124 (N.D. Cal. 2002).

The practical effect of this confluence of new law and new technology is that copyright holders can now use injunctive relief and the threat of civil or criminal penalties to legally prevent fair use and other non-infringing uses that they previously could not. When an infringement action was the sole arrow in the legal quiver of copyright holders, the fair use defense kept copyright holders from stopping such fair uses through the courts. Now, however, the copyright monopoly has been expanded to the point where copyright holders can confer upon themselves a nearly unlimited *de facto* right of exclusion simply by incorporating access-control measures into all media on which their work is distributed.¹¹³ Under this new paradigm, members of the public will lack the technology necessary to engage in fair use, will face lawsuits for circumventing the access-control measures necessary to engage in fair use, or will have to pay the copyright holders for the privilege of legally disabling access controls so that they can engage in the desired fair use.

In fact, through the use of access-control measures, content providers could even give themselves some legal rights over public domain works in which they do not own a copyright. For example, if the Art Institute of Chicago Museum (the "Art Institute") were to create a web site containing digital representations of its most famous public domain works, it could obtain *de facto* legal protection over these public domain works simply by employing technology that requires use of a password to view the web site.¹¹⁴ Even though the Art Institute cannot stop people from copying these works from another source, or even from circumventing anti-copying measures on its web site, anybody wanting to copy the public domain works from the site would necessarily need to pay for the required password or face a lawsuit for circumventing an access-control measure, because copying the works on the website would necessarily entail accessing the works. This may not be a significant problem now, because public domain works are usually readily available from multiple sources and, in the scenario described above, the Art Institute could only stop users from copying from *their* site. But, as more content distributors begin to employ access-control measures, it may become very difficult to copy or merely access public domain works without paying for the privilege. This expanded *de facto* right of exclusion bestowed upon copyright holders by the

113. Haimo Schack calls this a "paracopyright" in *Anti-Circumvention Measures and Restrictions in Licensing Contracts as Instruments for Preventing Competition and Fair Use*, 2002 U. ILL. J.L. TECH. & POL'Y 321, 324 (2002).

114. This scenario, however, would depend on the works not being available through any other source.

new techno-legal paradigm has been the subject of several scholarly articles criticizing the DMCA.¹¹⁵

III. MANDATORY LABELING CAN DISCOURAGE ABUSE OF COPYRIGHT HOLDERS' EXPANDED *DE FACTO* RIGHT OF EXCLUSION BY USING CONSUMER EXPECTATIONS AS A MARKET INCENTIVE

As the preceding sections made clear, copyright holders now have a broad power to stop the public from engaging in non-infringing use of their works distributed on digital media that did not exist before passage of the DMCA. However, the mere fact that copyright holders have such a broad power to prohibit non-infringing use of their works does not necessarily mean that they will choose to exercise this power broadly. One could argue, on the one hand, that granting such power invites abuse, but on the other, that the authorship industries will not abuse such power because it would alienate their customer base. As explained below, both sides of the argument regarding whether copyright holders will abuse their expanded right to control their works, and that this right should be limited, depend largely on the reasonable expectations of non-infringing use developed by consumers of digital media products.

A. Consumers have developed reasonable expectations regarding non-infringing uses of digital media products.

Because of this country's long history of protecting fair use rights and the development and advertising of home media technology, consumers have built up a reasonable expectation that they will have both the right and the ability to engage in certain non-infringing uses of the digital media products they purchase. For example, Toshiba advertises their Satellite and Qosmio notebook computers by touting their ability to play, record, and copy CDs, DVDs, and television programs.¹¹⁶ In fact, Toshiba advertises its Qosmio series notebook as a four-in-one television, DVD player, CD player, and personal computer.¹¹⁷ When a user loads an audio CD into the drive of a personal computer running Microsoft's Windows XP Pro operating system, a window automatically pops up giving the user the option to copy the files on the CD to the computer's hard drive using Windows Me-

115. *E.g. id.*; Sharp, *supra* note 3.

116. The exact URL on which these advertisements are or were displayed is subject to constant change, but the content can be reached by following links from www.toshibadirect.com (last visited Jan. 8, 2005).

117. *Id.*

dia Player.¹¹⁸ Windows Media Player, media manipulation software that comes standard with the Windows XP operating system, also enables the user to “copy files to portable devices and recordable CDs.”¹¹⁹ In short, computer hardware and software sellers tout their products’ ability to empower consumers to play, copy, transmit, and otherwise manipulate digital media as significant selling points.

Because of the rapid development of such home media technology and its advertisement, consumers have built up a reasonable expectation that they will be able to engage in certain home uses of the digital media products they buy. A consumer who buys a CD released by a Sony subsidiary music label would probably expect to be able to play that disc not only on Sony brand CD players, but on all stand-alone CD players and personal computers with CD drives. He might also reasonably expect to be able to make personal backup copy of the disc on his hard drive, or reorder individual songs on a “mix” CD,¹²⁰ using the Windows Media Player software that comes preinstalled on nearly all personal computers.¹²¹ Such expectations are reasonable because copyright holders have never had the legal ability to stop such uses in the past, have not physically attempted to stop such uses until very recently, and users are bombarded with hardware and software advertisements touting such media manipulation ability as standard selling points.

Yet, with the development of technological protection measures embedded in digital media products, a consumer may very well find out that some digital media products do *not* meet such reasonable expectations of use, *after* paying for the product. A consumer paying \$15.00 for Celine Dion’s *A New Day Has Come* might reasonably believe that he has purchased the ability to play that CD on his personal computer, create a backup copy on his hard drive, add certain songs from the CD onto a “mix” play list on his hard drive or a CD-R, and maybe convert some songs to MP3 form so he can play them on his portable MP3 player when he goes

118. Microsoft’s Windows Media Player FAQ touts the Player’s ability to manipulate works in such a way, containing headings titled “Ripping (Copying from) CDs” and “Burning (Copying to) CDs.” Windows Media, *Windows Media Player FAQ*, available at <http://www.microsoft.com/windows/windowsmedia/9series/player/faq.aspx> (last updated Dec. 2004).

119. The quoted text pops up when the user moves his personal computer’s cursor over the “Copy to CD or Device” tab on Windows Media Player distributed with Windows XP Pro.

120. A “mix” CD is a compilation of songs copied from different artists or albums, placed in a personalized order, and burned onto a CD-R or CD-RW.

121. See Rachel Konrad & May Wong, *RealNetworks Sues Microsoft over Antitrust*, INFORMATIONWEEK, Dec. 19, 2003, at <http://informationweek.com/story/showArticle.jhtml?articleID=17000378>. Over 90% of Intel processor compatible personal computers, and over 80% of all personal computers, use a Microsoft Windows operating system. See *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 19 (D.D.C. 1999).

jogging. In reality, this hypothetical consumer would not have purchased the ability to perform any of those acts with his new CD, and would actually incur legal liability if he were to do so, because the CD carries Sony's Key2Audio access-control technology that prevents use on a personal computer, the circumvention of which violates the DMCA.¹²²

Granted, the problem of meeting consumer expectations presented by the rapid development of technological protection measures and the law that protects them is much more significant when the digital media carrying the control measures is purchased. For example, it is a greater concern when a consumer who pays \$40.00 for a commemorative boxed set of *The Godfather* trilogy on DVD discovers that he only acquired a small subset of the rights and abilities he thought he had paid for, than if a user listening to freely transmitted digital radio were to discover that he has fewer rights and abilities than he thought he had received for free. Furthermore, as it becomes more common for consumers to use one hardware device, such as a personal computer, for all of their home digital media needs, the ability of copyright holders to limit a digital media product's usefulness on certain devices, without informing consumers, becomes a greater concern.

B. The expectation of non-infringing uses could keep authors from heavily restricting such uses (but has not yet).

Although it is clear that the copyright holders now have the practical capability to prohibit legitimate consumers from engaging in many fair uses of their works purchased on digital media, this does not necessarily mean that the authorship industries will actually go ahead and do so. In fact, the reasonable expectations that consumers have developed regarding their right and ability to make personal backup copies, transfer works into different forms of digital media, and engage in other such uses could act as a deterrent itself against abuse of authors' newly expanded use control powers. In short, if consumers are accustomed to paying \$15 for a digital media product and receiving the right and ability to engage in many uses of the work contained on that product, the authorship industries will have to lower prices to convince consumers to buy products that allow the consumer to engage in only a small subset of those uses, or accept a lower gross number of sales of that product at the same price point. This could act as a free market deterrent to industrial copyright holders who might otherwise want to severely restrict the types of uses consumers are able to engage in once they purchase a digital media product.

122. 17 U.S.C. § 1201(a)(1)(A) (2000).

Unfortunately, this incentive alone has, so far, not been strong enough to deter content distributors incorporating protection measures on their products that cause them *not* to meet reasonable customer expectations. Although mere anecdotes, the examples of Celine Dion's *A New Day Has Come* and Anthony Hamilton's *Comin' From Where I'm From* demonstrate this lack of deterrence. Furthermore, the threat posed by copyright holders' expanded control over the use of their works is not simply that they will actually prohibit non-infringing uses, but that they will force those who wish to engage in such use to pay a licensing fee, even though such use is *not* the exclusive right of the copyright holder. This was the threat kept at bay by the Supreme Court's holding in *Sony Corp. of America* that "time-shifting" analog television programs through the use of home VCRs was a fair use.¹²³ Supposedly, the framers of the DMCA did not intend the act to usher in this type of "pay-per-use" paradigm.¹²⁴

C. Mandatory labeling can increase market responsiveness, market efficiency, and the incentive to refrain from abusing technological control measures.

Requiring the authorship industries to clearly label their digital media products with the acts prohibited by any technological protection measures carried on such products would serve three public goods. First and foremost, such full disclosure will protect consumers' reasonable expectations and ensure that consumers know what they are paying for, when they pay for it. Second, by ensuring that digital media consumers are informed at the time of purchase about the protection measures embedded in a potential purchase, mandatory labeling would encourage the authorship industries to refrain from severely restricting the uses allowed by the protection measures on their products. So far, the fear of a consumer backlash against media products that are heavily restricted by technological protection measures has not stopped the authorship industries from employing such measures. However, the authorship industries would be much less likely to incorporate heavily restrictive technological protection measures on their products if they had to list every act restricted by such measures on the product itself, so that consumers are informed of the restrictions at the point of purchase. Such a mandatory labeling requirement has already been en-

123. Sharp, *supra* note 3, at 20; *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 447-55 (1984).

124. 144 CONG. REC. S11887 (daily ed. Oct. 8, 1998) (statement of Sen. Ashcroft).

acted in Germany.¹²⁵ In France, at least one court has punished record label EMI for selling CDs with a technological restriction that prevents the CDs from being played in automobile CD players, holding that such an undisclosed restriction constitutes a “hidden vice.”¹²⁶ Both France and Germany must abide by a European Commission directive¹²⁷ aimed at implementing the WIPO Copyright Treaty¹²⁸ that was the impetus for the DMCA, so there is no reason to think that the United States would be accused of not meeting its treaty obligations for implementing similar disclosure requirements.

Third, by increasing the available information in the marketplace, mandatory labeling of digital media products can enhance the responsiveness and efficiency of the market. The realm of food labeling is illustrative of how mandatory labeling can so affect the market. Such labeling requirements have been imposed in the realm of food products where the market does not provide enough information for consumers to make purchasing choices that mirror their individual preferences.¹²⁹ Where the seller does not disclose negative aspects of his product, the market is likely to underproduce products that would be profitable if the consumers were fully informed, while other, less-desirable products are produced at a higher rate than they would be if consumers were fully informed of their negative qualities.¹³⁰ For example, the labeling of health concerns on cereal boxes has resulted in a change in consumer cereal purchasing patterns, which in turn caused cereal producers to modify their products in an attempt to comply with more desirable labels that meet market demands.¹³¹ This could also be the case where a food product is very high in saturated fat, a characteristic most consumers wish to avoid.

125. Thomas Ramsauer, *Germany's Copyright Law on the Verge of the Information Age*, E.COPYRIGHT BULL., Dec. 2003, at 7, at http://portal.unesco.org/culture/en/file_download.php/e3ca-707578a0ebf3f26d6b9961411052T.+Ramsauer+E.pdf.

126. Estelle Dumout, *Systèmes anticopie: la justice condamne EMI France pour vice caché*, ZDNET, Sept. 3, 2003, at <http://www.zdnet.fr/actualites/technologie/0,39020809,39116752,00.htm> (English translation available at <http://translate.google.com/translate?hl=en&sl=fr&u=http://www.-zdnet.fr/actualites/technologie/0,39020809,39116752,00.htm&prev=/search%3Fq%3DSyst%25C3%25A8mes%2Banticopie:%2Bla%2Bjustice%2Bcondamne%2BEM1%2BFrance%2Bpour%2Bvice%2Bcach%25C3%25A9%2B%26h%3Den%26i%3D%26e%3DUTF-8%26oe%3DUTF-8>).

127. Parliament and Commission Directive 2001/29/EC, 2001 O.J. (L 167) 10, 11.

128. Schack, *supra* note 113, at 324.

129. ELISE GOLAN, ET AL., *ECONOMICS OF FOOD LABELING* 13, 19 (ECON. RESEARCH SERV., U.S. DEP'T AGRIC., ECON. REP. NO. 793, Jan. 2001), at <http://www.ers.usda.gov/publications/aer793/aer-793.pdf>.

130. *Id.* at 13.

131. See Pauline M. Ippolito & Alan D. Mathios, *Information, Advertising, and Health Choices: A Study of the Cereal Market*, 21 RAND J. ECON. 459 (1990).

Introducing a mandatory labeling scheme to correct the asymmetrical distribution of information in the digital media product market (where producers have relevant information about their products that consumers do not) would make the market more responsive to consumer demand and increase efficiency. "In properly functioning markets, consumers are able to purchase the goods and services that best match their preferences. As a result, society's resources are used in ways that match consumers' preferences."¹³² In the case of the digital media market, the content distributors know which uses of their product are restricted by the protection measures embedded therein, but the consumers of these products often do not. Thus, consumers are not able to accurately reflect the true demands of the market by purchasing only those products offering the characteristics they desire at a price they are willing to spend. Instead, consumers may often buy a digital media product at a price they would not have been willing to spend, and would not spend a second time, had they known the true characteristics of the product, such as overly restrictive technological protection measures. By empowering purchasers with the relevant knowledge at the point of purchase, a mandatory labeling scheme for technological protection measures will allow the market to increase responsiveness and efficiency by adjusting the supply of digital media products with certain attributes to more closely reflect the demand for products with those attributes.

Mandatory labeling will also increase economic efficiency by reducing consumer search costs. For example, a consumer who uses his personal computer for all his multimedia needs will only want to buy CDs that can be played on a personal computer. If the consumer is not able to discern at the point of purchase which CDs can be played on a personal computer, he must spend time and effort researching which record labels use technological control measures that prevent access on personal computers. This could mean a series of trials and errors in which the consumer purchases CDs, tests them, and only continues to buy CDs from the record labels whose CDs work on his personal computer (spending more time to return those that do not). Or, it could mean searching the internet or trade publications for the same information. Either way, each individual consumer must expend great effort to find the products that fit his or her needs. Under a mandatory labeling scheme, content distributors that already know the relevant characteristics of their products, and in many cases already engage in labeling programs for explicit lyrics and content, can provide the necessary information during packaging, effectively reducing search costs by streamlining the process of creating informed consumers.

132. GOLAN, *supra* note 129, at 13.

It is true that, even without mandatory labeling, the market in digital media products is likely to be more responsive than the food product market because the distribution of information in the digital media market is not quite as asymmetrical. For example, whereas both the food and digital media consumer may lack relevant information at the point of purchase, the digital media consumer likely will acquire the relevant information as soon as he tries, and fails, to play his product in a prohibited device. On the other hand, the food product consumer is not likely to learn the fat content or growing conditions of his food simply by eating it. Still, even if a digital media consumer can learn relevant information *after* purchase, wasted first-time purchases of digital media products, and subsequent product returns, are market inefficiencies that should not be written off. Furthermore, even after a consumer learns that one digital media product does not meet his needs, that knowledge does not automatically empower him with the information necessary to determine if any future purchases will meet his needs. Thus, the greater amount of information digital media consumers are able to acquire after purchase, relative to markets in some other products, does not negate the fact that greater dissemination of information regarding technological protection measures at the point of purchase will aid consumers in making accurate purchases, increasing the responsiveness and efficiency of the digital media market.

CONCLUSION

By empowering consumers with knowledge about technological protection measures that is currently lacking in the digital media marketplace through a mandatory labeling scheme, we can strengthen consumers' power to influence the authorship industries' decisions on whether and to what degree they impose use restrictions on their products through technological control measures. Because consumers expect and desire to be able to engage in a wide variety of uses on purchasing a digital media product, it is unlikely that consumers will continue to pay the same price in the same numbers for products that prohibit consumers from engaging in those uses—if they are aware of these prohibitions at the point of purchase. By enhancing the power of consumers to know what they are paying for and to pay *only* for what they want, requiring full disclosure of the technological protection measures carried on digital media products can become a powerful market incentive for content providers to refrain from prohibiting non-infringing use of their products. Moreover, even though such a labeling requirement might primarily be used as a consumer protection tool designed to combat the industrial copyright holders' growing power, it could

also end up aiding copyright holders. Labels identifying the uses for which a digital media product is sold may end up conditioning media consumers to think of digital media products as a bundle of rights that they are purchasing. In the long run, this may help condition users and consumers into thinking that certain uses of copyrighted works are acceptable, while others are not. Such a mindset would go a long way to counteracting the “everything is free” culture that has developed around file trading systems such as Kazaa and Napster.¹³³

133. See *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 910–11 (N.D. Cal. 2000) (finding as fact that free download services such as defendant Napster, Inc., contribute to an attitude that copyrighted music ought to be free), *rev'd in part on other grounds*, *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001).