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Anti-Circumvention: Has Technology's Child Turned Against Its Mother?

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NOTES

Anti-Circumvention: Has Technology's Child Turned Against Its Mother?¹

ABSTRACT

Because its function is to protect and support innovation, copyright has been deemed a child of technology. Yet, as copyright laws increase the scope of protection for copyrighted material, one may wonder when such protection will begin to stymie, rather than encourage, emerging technology. The global trend toward internationalizing copyright protection has resulted in the World Intellectual Property Organization (WIPO) Copyright Treaty, which was intended, in part, to bring international copyright protection into the digital age. The treaty, however, extends traditional copyright protections by including a requirement that member nations implement anti-circumvention provisions into their laws.

Great debate has emerged about whether anti-circumvention provisions are a permissible extension of traditional copyright law. This Note considers some of the primary criticisms of anti-circumvention laws and the dangers inherent in an overly broad interpretation of Article 11 of the WIPO Copyright Treaty on anti-circumvention. Indeed, this Note argues that instead of encouraging creativity and the production of technology, overly broad anti-circumvention provisions have thwarted research into and development of advancing technologies. As a result, this Note considers how the goals of the WIPO and its Copyright Treaty could be achieved and concludes that anti-circumvention provisions would be more effective if limited by narrow interpretation or reasoned exceptions.

1. PAUL GOLDSTEIN, COPYRIGHT'S HIGHWAY 27 (1994). Professor Goldstein of Stanford University notes that "[c]opyright was technology's child from the start."

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I. INTRODUCTION

True or false: A person can commit a federal crime in the United States with only a compact disc (CD) and a felt-tip marker purchased legally at Wal-Mart. Not long ago, the answer would have been false, but two important things have happened to make the scenario much more plausible. First, the Digital Millennium Copyright Act (DMCA) was signed into U.S. law in 1998.² Among other things, the DMCA makes it illegal to circumvent technological measures employed by copyright owners in the protection of their copyrighted materials.³ Second, copyright owners have begun to use very innovative technologies, such as the copy-protected music CD, to protect their copyrighted materials.⁴

By changing the location of data on compact discs, music recording companies hoped to prevent their discs from being readable by computers and, in turn, to prevent the data from being copied onto computer hard drives and then limitlessly distributed.⁵ Once the so-called copy-protected music CDs hit the market, however, crafty consumers discovered that CD copy protection technologies, like Sony's key2audio and Midbar Tech's Cactus Data Shield (CDS), could easily be foiled by covering over a section of the disc with a mark from a common felt-tip marker, a piece of electrical tape, or a self stick memo.⁶ Shortly after the release of the copy-protected CDs, Internet newsgroups exposed the underlying technology and revealed simple ways to defeat the technology, allowing users to play the CDs on computers and copy the contents onto their hard drives.⁷

2. Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (adding §§ 512 and 1201-05 to the Copyright Act of 1976) [hereinafter DMCA].

3. See *infra* notes 156-58 and accompanying text.

4. See, e.g., *Anti-Copying Row Asks: When is a CD not a CD?*, REUTERS, Jan. 18, 2002, at <http://www.usatoday.com/life/cyber/tech/review/2002/1/18/cd-row.htm>.

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

6. *Id.*

7. *Id.* According to reports in the media, the copy-protected CDs often use an additional track of data, written on the outer edge of the disc to make the CD unreadable by the average computer. When the additional track is hidden from the computer's laser by ink from a marker, a piece of electrical tape, or a piece of a self-

Even though the technology behind copy-protected CDs is easily thwarted, the anti-circumvention provisions of the DMCA may serve to criminalize attempts to bypass such copy protection systems. If using a felt tip marker to get around the protection amounts to “circumvention of any measure that effectively controls access to a copyrighted work,” then a person commits a federal crime by doing so.⁸ Therefore, under the DMCA, a person might be able to commit a federal crime in the United States by applying a felt-tip marker to a CD.

II. INTERNATIONAL PROTECTION OF INTELLECTUAL PROPERTY

In a world where innovation is the key to success, it is important to foster such innovation by protecting the innovator’s right to his own work. Analogizing the innovator’s ownership of his ideas and creations to his ownership of tangible property gave rise to the term “intellectual property.”⁹ Traditionally, intellectual property laws have encompassed four separate and distinct types of intangible property: patents, trademarks, copyrights, and trade secrets.¹⁰ Each type of intellectual property is protected on a national basis, with protection varying from country to country.¹¹ However, the worldwide trend is toward harmonizing national intellectual property laws through international agreements.¹² This Note focuses on only one type of intellectual property—copyright—and the agreements specifically affecting its international protection.

A. *The Importance of Worldwide Copyright Protection*

The term “copyright” usually refers to the bundle of rights provided to the creators and owners of original creative works, including the rights to reproduce and distribute the work.¹³ Ideally, a system of copyright law is designed both to protect creative works

stick memo, the computer does not attempt to read the additional track and moves on to the tracks that store the actual content, as if the CD were an ordinary audio disc. *Id.*

8. 17 U.S.C. § 1201(a)(3)(A) (Supp. 2002).

9. See generally Laurence R. Hefter & Robert D. Litowitz, *What is Intellectual Property?*, at <http://usinfo.state.gov/products/pubs/intelprp> (defining and comparing specific varieties of intellectual property). Although it is intangible, intellectual property shares many characteristics with real and personal property, which are recognized as assets that can be bought, sold, or given away. *Id.*

10. *Id.*

11. See *infra* notes 24-27 and accompanying text.

12. *Id.*

13. LESLEY ELLEN HARRIS, *DIGITAL PROPERTY: CURRENCY OF THE 21ST CENTURY* 117-19 (1998).

against unauthorized copying, and to serve the public interest in the creation and dissemination of original works.¹⁴ The protection extended by copyright law differs throughout the nations of the world, but because of the mobility of copyrighted works, the broadest protection can be obtained only when countries work together to protect works that originated both in their own lands and abroad.

There are three key reasons why an individual nation would seek to protect copyright internationally. First, the illegal copying of copyrighted material creates a direct loss in profits to the material's creator or owner.¹⁵ The lost revenue worldwide from computer software piracy was an estimated USD \$11 billion in 1998 alone.¹⁶ Second, the support of copyright protection ensures that the purchaser of an end product receives product quality equal to that of every other legal user of the product.¹⁷ Pirated products have a higher probability of poor quality, and once a problem arises, the lack of legal copyright verification leaves users without assistance from the legal producer of the product.¹⁸ Finally, the illegal copying of copyrighted material indirectly deprives individual countries of economic gain.¹⁹ When the works distributed in a country are primarily pirated works, the country will not receive the taxes that would have been collected on the legal sale of the protected works, the benefit of wages that would have come into the country for the legal manufacture and distribution of protected works, and the service and support networks that would have accompanied the distribution of legally manufactured works.²⁰

For these reasons, nations have been cooperating for more than a century in an attempt to protect the creators and owners of original

14. Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 814 (2001) (describing the evolution of copyright from the beginning of the guild monopoly of the Stationers' Company of London in 1556 and criticizing recent changes in copyright law as moving back toward guild control).

15. Tanya Poth, *The Computer Piracy Super Highway*, 28 DENV. J. INT'L L. & POL'Y 469, 470-71, 492 (2000) (providing general statistics concerning the lost revenue from computer software piracy and concluding that the losses are an important rationale behind international support for copyright protection).

16. Adam Creed, *Business Software Piracy Globally Costs \$11 Billion Says BSA*, NEWSBYTES NEWS NETWORK, May 26, 1999, available at LEXIS, Academic Universe Database; Kenneth Li, *Software Piracy Costs the World \$11 Billion in Lost Sales*, N.Y. DAILY NEWS, June 8, 1999.

17. *Microsoft to Donate \$25 Million from Software Piracy Recoveries; Donations Help Increase Access to Technology for Disadvantaged Communities Worldwide*, P.R. NEWSWIRE, May 20, 1999, available at LEXIS, News Library, All News File; see also Poth, *supra* note 15.

18. See generally Poth, *supra* note 15.

19. *Id.* at 493.

20. *Id.*

works from piracy.²¹ A number of international treaties and agreements have been signed for this very purpose. Following is a brief discussion of the evolution of treaties protecting copyright throughout the years, focusing on three of the main agreements: the Berne Convention, the Universal Copyright Convention, and the General Agreement on Tariffs and Trade (GATT), including Trade Related Aspects of Intellectual Property Rights (TRIPS).

1. The Berne Convention for the Protection of Literary and Artistic Works

The Berne Convention was the first treaty created to address copyright issues.²² Adopted in 1886, it protects "every production in the literary, scientific, and artistic domain, whatever may be the mode or form of its expression."²³ The Berne Convention rests on three basic principles: (1) works originating in one of the contracting states must be given the same protection in each of the other contracting states as the former grants to the works of its own nationals; (2) such protection must not be conditional upon compliance with any formality; and (3) such protection is independent of the existence of protection in the country of origin of the work.²⁴ If, however, a contracting state provides for more protection than the work's country of origin, protection may be denied after protection in the country of origin ceases.²⁵ The treaty delineates minimum standards for all of its members, regardless of a particular nation-state's level of domestic protection.²⁶ For example, the treaty allows a copyright to endure for the "life of the author plus 50 years." Thus the work should be protected for at least 50 years beyond the author's death in any of the member states, but may be protected for a longer time under the laws of individual member nations.²⁷

21. See *infra* text accompanying notes 22-48.

22. See generally Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, 223 U.N.T.S. 11850 [hereinafter Berne Convention].

23. *Id.* art. 2(1).

24. Nisha M. Vora, *International Policy and Accords*, at <http://usinfo.state.gov/products/pubs/intelprp/accords.htm> (describing the basic elements of the significant multinational conventions and treaties that require member countries to provide intellectual property protection for the benefit of foreign nationals); see also Berne Convention, *supra* note 22.

25. Berne Convention, *supra* note 22.

26. *Id.* art. 2(4); see also Poth, *supra* note 15, at 475.

27. *Id.*

2. The Universal Copyright Convention

For almost a century, the Berne Convention was arguably the only landmark treaty in the realm of international copyright protection.²⁸ The next substantially important treaty on the subject was the Universal Copyright Convention, signed in 1952 and revised in 1971.²⁹ The purpose of this treaty almost mirrors that of the Berne Convention—both seek to protect the copyrights of literary, scientific, and artistic works.³⁰ However, the two treaties differ in that the Universal Copyright Convention determines the parameters of protection much more specifically than does the general language of the Berne Convention.³¹

The two treaties also diverge because the Universal Copyright Convention requires what the Berne Convention may deem a “formality.”³² The Universal Copyright Convention requires a work to be marked with a symbol before the work is afforded copyright protection.³³ This symbol is meant to ensure that users of the work are on notice that an author has a claim to copyright over the material.³⁴ The treaty, however, does not preclude any additional forms of notice required in an individual country.³⁵ Upon its revision in 1971, the Universal Copyright Convention permitted certain uses of protected works, even without the author’s permission.³⁶ The updated version allows copying and distribution of a protected work “for the purpose of teaching, scholarship, or research” or where it is “without the object of commercial purpose.”³⁷

Both the Berne Convention and the Universal Copyright Convention served as the bases for international copyright protection in the 20th century, although many world powers did not sign either

28. See generally Poth, *supra* note 15, at 475-76 (describing the Universal Copyright Convention as “[t]he next substantially effective treaty on international copyright issues” after the Berne Convention).

29. Universal Copyright Convention, Sept. 6, 1952, 6 U.S.T. 2731, *revised* July 24, 1971, 25 U.S.T. 1341.

30. *Id.* at Proclamation. See also Poth, *supra* note 15, at 475.

31. *Id.* Compare Berne Convention, *supra* note 22.

32. Universal Copyright Convention, *supra* note 29, art. 3(1). But see Berne Convention, *supra* note 22 (stating that no formality is required to acquire protection under the convention).

33. *Id.*

34. Universal Copyright Convention, *supra* note 29, art. 3(2); see also Poth, *supra* note 15, at 475-76.

35. *Id.*

36. Poth, *supra* note 15, at 476.

37. Universal Copyright Convention (revised), *supra* note 29, at 1355.

or both of the treaties until the age of computer technology.³⁸ Once the treaties were broadly accepted and implemented, the weaknesses of the Berne Convention and the Universal Copyright Convention became apparent, and need for expanded intellectual property protection was recognized.³⁹

3. The General Agreement on Tariffs and Trade (GATT) and Trade Related Aspects of Intellectual Property Rights (TRIPS)

Purported to be the most important treaty in existence on international trade,⁴⁰ GATT includes the intellectual property agreement commonly known as TRIPS.⁴¹ Earlier treaties attempted to provide protection of copyright owners' rights, but they neither offered specific means for the copyright owners to enforce their rights, nor imposed penalties on member states that failed to satisfy their obligations.⁴² These issues were addressed, however, by TRIPS, which became effective in 1995.⁴³ GATT and TRIPS not only incorporated the substantive provisions of the Berne Convention, but also provided detailed enforcement mechanisms that participating nations were required to make available for copyright owners.⁴⁴

One of the most important features of GATT is its requirement that member states give significant legal relief and remedy for copyright infringement found within their borders; it thus creates a much higher standard of relief than provided in either the Berne Convention or the Universal Copyright Convention.⁴⁵ Member countries also agree to police the imports in their own countries and enforce the agreement to the extent reasonably possible.⁴⁶ Finally, GATT authorizes the World Trade Organization (WTO) to handle cross-border disputes relating to the enforcement of the agreement, for the first time stipulating that a particular body serve as a legitimate forum for hearing disputes related to computer software

38. Poth, *supra* note 15, at 476. The United States, for example, did not pass the Berne Convention Implementation Act until the late 1980s, more than 100 years after the Berne Convention's original creation. Berne Convention Implementation Act of 1988, S. Rep. No. 100-352 (1988).

39. See generally, Vora, *supra* note 24 (explaining that before TRIPS there was "no single source for intellectual property obligations or norms").

40. Poth, *supra* note 15, at 478.

41. *Id.*

42. Shira Perlmutter, *Future Directions in International Copyright*, 16 CARDOZO ARTS & ENT. L. J. 369, 372-73 (1998).

43. *Id.* at 374; Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, 331 I.L.M. 1125, 1197 [hereinafter TRIPS].

44. Perlmutter, *supra* note 42, at 374-75.

45. STEPHEN FISHMAN, SOFTWARE DEVELOPMENT 10/9 (2d ed. 1998).

46. *Id.* The agreement recognizes the difficulties inherent in attempting to police the Internet.

piracy.⁴⁷ This innovation in international copyright agreements “will become increasingly important as protected works and sound recordings are transmitted on advanced computer networks”⁴⁸ because there are likely to be international disputes over whether individual nations’ copyright laws sufficiently conform to the treaty.

B. *Bringing Copyright Protection into the Electronic Age*

For centuries, intellectual property was embodied primarily in the form of books and other print sources, sound recordings, films, paintings, and other works of art.⁴⁹ More recently, the media have been changing from print and analog-based to digital.⁵⁰ Even with a shift in the form of intellectual property, copyright owners still have the same concerns about the use and control of their works, and the legal protection of the works is equally important, if not more so.⁵¹ Indeed, “[b]ecause of the availability of information and the ease with which it can be copied,” the piracy of copyrighted works is more threatening than ever before.⁵²

While the aforementioned treaties were consistently applied to protect copyrighted digital information, the methods of legal copyright protection for digital creations remained inadequate. After GATT, a clear international interest was established in protecting digital works, but converting such interest into enforceable laws proved to be problematic.⁵³ Policing the digital transfer of information was much more difficult than policing more antiquated methods of copyright infringement.

Digital intellectual property is readily available in a number of forms,⁵⁴ contained in a number of different storage devices,⁵⁵ or kept on large servers and available via the Internet.⁵⁶ With the increasing

47. Poth, *supra* note 15, at 478.

48. Eric H. Smith, *Worldwide Copyright Protection Under the TRIPS Agreement*, 29 VAND. J. TRANSNAT’L L. 559, 577-78 n.36 (discussing the impact of TRIPS on worldwide copyright protection and the problems that may arise when enforcing TRIPS).

49. HARRIS, *supra* note 13, at 5.

50. *Id.*

51. *Id.*

52. Bentley J. Olive, *Anti-Circumvention and Copyright Management Information: Analysis of New Chapter 12 of the Copyright Act*, 1 N.C. J.L. & TECH. 2 (2000) (discussing whether recent copyright legislation has been drafted properly to effectively meet current needs and to anticipate future needs or whether it has been drafted too broadly or narrowly).

53. Poth, *supra* note 15, at 478.

54. Forms of digital intellectual property include programs, text, images, animation, audio, and film clips.

55. Storage devices include hard drives, compact discs, floppy disks, and DVDs.

56. HARRIS, *supra* note 13, at 5.

prevalence of digital technology, piracy has become easier and more efficient. Copying works electronically takes very little time and effort and is relatively inexpensive.⁵⁷ Additionally, reproductions of digital works are “as perfect as the originals,” unlike copies of works embodied in print and analog media, which often lose quality with successive copying.⁵⁸

Perhaps the technological innovation that most concerned the owners of intellectual property was widespread access to the Internet.⁵⁹ Described as “a global copying machine, with millions of irresponsible and anonymous pirates pushing the buttons,”⁶⁰ the Internet makes digital information available worldwide to anyone with Internet access. Such access allows the copying of digital works by people who would not otherwise have access to an original.⁶¹

The concerns about such widespread access are further heightened by characteristics of the Internet that make it almost impossible to control. First, the Internet is an ever-changing medium; its boundaries are undefined, and it is composed entirely of intangible encrypted bits of information. Second, all age groups and people of every race, color, and creed participate in the Internet. Third, the Internet has a presence in every corner of the globe, and every nation has a different perception of the copyright protections that it would extend to material made available on the Internet. These three problems, in particular, illustrate the difficulties inherent in providing intellectual property protection to digital works. The practical effect of such difficulties is manifest in any attempt to provide international copyright protection to material made available on the Internet.⁶² For example, because of the breadth of the Internet, it is difficult to determine who should have jurisdiction to

57. *Id.*

58. *Id.*

59. See generally P. Bernt Hugenholtz, *Software as a Commodity: International Licensing of Intellectual Property: Commentary: Copyright, Contract, and Code: What Will Remain of the Public Domain?*, 26 BROOKLYN J. INT'L L. 77, 78 (2000) (highlighting the concern that the traditional copyright system could not offer adequate protection in the Internet age).

60. *Id.* at 83 (considering the characteristics of the internet and suggesting that contractual and technological measures of copyright protection may obviate the need for additional legislative action).

61. For example, with file-sharing Internet programs, such as Napster, one legally-purchased music file could easily be shared with millions of other users, who could potentially make an unlimited number of pirated copies.

62. See generally Edward Lee, *Rules and Standards for Cyberspace*, 77 NOTRE DAME L. REV. 1275 (2002) (discussing the difficulties of regulating the Internet and noting the conflict between the need to proceed cautiously in the rapidly developing technology field and the need to proceed definitively to keep from lagging behind technology).

police the Internet and who should determine the scope of copyright protection afforded to digital works.

1. The World Intellectual Property Organization

At the forefront of the attempt to move beyond some of these problems and to offer more protection to digital works is the World Intellectual Property Organization (WIPO). In 1974, WIPO became one of the 16 specialized agencies under the organizational structure of the United Nations.⁶³ The Convention Establishing the World Intellectual Property Organization, signed in 1967 and amended in 1979, officially established the WIPO as a fully authorized entity with the official support of the United Nations.⁶⁴ The WIPO's mission is "[t]o promote through international cooperation the creation, dissemination, use, and protection of works of the human spirit for the economic, cultural, and social progress of all mankind."⁶⁵ As of January 2003, the WIPO had 179 member states, over 90 percent of the world's countries, including China, France, Germany, Japan, the United Kingdom, and the United States.⁶⁶ As of the same date, the WIPO administered 23 international treaties, including 6 relating to copyright.⁶⁷

According to the WIPO, the organization is dedicated to protecting the rights of creators and owners of intellectual property.⁶⁸ This protection "acts as a spur to human creativity, pushing forward the boundaries of science and technology and enriching the world of literature and the arts."⁶⁹ Through its activities, WIPO seeks to address what it calls the "dual character of the intellectual property system" by both protecting intellectual property rights and promoting creativity.⁷⁰

In accordance with these goals, WIPO pursues the progressive development and application of new international agreements.⁷¹ While the Berne Convention remains a cornerstone of WIPO's treaty

63. World Intellectual Property Organization (WIPO), *General Information*, at http://www.wipo.int/about-wipo/en/index.html?wipo_content_frame=/about-wipo/en/gib.htm [hereinafter *WIPO General Information*].

64. Convention Establishing the World Intellectual Property Organization, July 14, 1967, revised Sept. 28, 1979.

65. *General Information*, *supra* note 63.

66. WIPO, *Member States*, at <http://www.wipo.int/members/members/index.html>.

67. *General Information*, *supra* note 63.

68. *Id.*

69. *Id.*

70. WIPO, *Vision and Strategic Direction of the World Intellectual Property Organization*, para. 37, at http://www.wipo.int/about-wipo/en/index.html?wipo_content_frame=/about-wipo/en/gib.htm.

71. *General Information*, *supra* note 63.

system, subsequent treaties have “widened and deepened the protection they offer, and have encompassed technological change and new areas of interest and concern.”⁷² The WIPO Copyright Treaty is one of these new treaties and the center of the following discussion.

2. The WIPO Copyright Treaty

Concluded in Geneva on December 20, 1996, the WIPO Copyright Treaty was created to address the changing needs of copyright protection in a digital age.⁷³ Almost exactly five years later, after receiving accession from 30 countries, the treaty was ratified on December 6, 2001.⁷⁴ The WIPO Copyright Treaty begins by stating its purposes: to protect the rights of authors effectively and uniformly, to clarify international copyright law, to update international copyright law and make it applicable to digital media, to emphasize copyright protection as an incentive for literary and artistic creation, and to recognize the balance between the rights of authors and the public interest.⁷⁵ The treaty explicitly states that it does not take away from any obligations under the Berne Convention; rather, it operates in conjunction with the Berne Convention.⁷⁶

The WIPO Copyright Treaty articulates two specific subject matters to be protected by copyright: computer programs in any mode or form, and compilations of data or material in any form which constitutes an intellectual creation.⁷⁷ It also recognizes three explicit rights of authors: the right of distribution, the right of rental, and the right of communication to the public.⁷⁸ The treaty clarifies the scope and duration of protection of works and allows contracting nations the liberty to enact some exceptions to its protection.⁷⁹ The WIPO treaty also details its obligations concerning rights management information and administrative particulars concerning the treaty’s

72. *Id.*

73. See WIPO Treaty, Apr. 12, 1997, pmbl., S. Treaty Doc. No. 105-17 (1997), available at 1997 WL 447232 [hereinafter WIPO Copyright Treaty].

74. Juliana Koranteng, *International Agreement Provides Guidelines for Media Transferred via Internet*, BILLBOARD, Dec. 22, 2001, at 9. The first 30 countries to sign the agreement were: Argentina, Belarus, Bulgaria, Burkina Faso, Chile, Colombia, Costa Rica, Croatia, Czech Republic, Ecuador, El Salvador, Gabon, Georgia, Hungary, Indonesia, Japan, Kyrgyzstan, Latvia, Lithuania, Mexico, Panama, Paraguay, Peru, Republic of Moldova, Romania, Saint Lucia, Slovakia, Slovenia, Ukraine, and the United States. Ray Bennett, *WIPO Nabs 30th Signature for Copyright Treaty*, HOLLYWOOD REPORTER, Dec. 7, 2001.

75. WIPO Copyright Treaty pmbl.

76. WIPO Copyright Treaty art. 1, 3.

77. Vora, *supra* note 24.

78. *Id.*

79. WIPO Copyright Treaty art. 2, 9, 10.

ratification and enforcement.⁸⁰ While the above portions of the treaty enhance copyright law, they are not gross variations from the traditional standards of copyright protection. As discussed in Part III of this Note, the greatest extension of copyright protection is found in Article 11 of the WIPO Copyright Treaty, which concerns the contracting parties' obligations concerning technological measures.

a. Digital Rights Management

The information industry has sought to capitalize on the rapid development of technology by distributing works in digital form. Although the Internet and advancing digital media have opened up a new market for creative works, they also have expanded the piracy of creative works.⁸¹ Because of the difficulties associated with legally protecting digital works with copyright law, some copyright owners have attempted to "fight fire with fire" by using technology to provide additional protection for their works.⁸²

Often called digital rights management tools, there are a variety of mechanisms that have been somewhat effective at preventing, or at least monitoring, illegal access, use, reproduction, and manipulation of digital works.⁸³ Each digital rights management tool is technologically unique, but all share a single purpose—to raise the costs of unauthorized use of protected works, in terms of time and trouble, above the benefits of such use, thereby discouraging the piracy of digital material.⁸⁴

Three of the most common digital rights management tools are encryption, virtual containers, and watermarks.⁸⁵ Encryption is the conversion of digital information into a code, making the information useless to anyone who does not have the decryption key.⁸⁶ Virtual containers are like digital envelopes that contain the protected material; the container can only be opened when the user agrees to the terms and conditions of use set by the owner of the content.⁸⁷ Digital watermarks contain data, such as copyright information, that identifies a work and is incorporated into the work itself; watermarking allows the content owner to track the use of his work

80. *Id.* arts. 12-25.

81. *See* HARRIS, *supra* note 13, at 5.

82. *Id.* at 172-74.

83. *Id.* at 173.

84. *See id.* at 172-74; *see also* Shahram A. Shayesteh, *High Speed Chase on the Information Superhighway: The Evolution of Criminal Liability for Internet Piracy*, 33 LOY. L. A. L. REV. 183, 227 (1999) (noting alternatives for copyright protection that may be less restrictive on the public domain than legislation).

85. HARRIS, *supra* note 14, at 173.

86. *Id.*

87. *Id.*; *see also* Poth, *supra* note 15, at 486.

and ensure payment.⁸⁸ Other digital rights management tools exist, and new tools are continually being developed to provide copyright owners with stronger protections for their digital material.

The use of digital rights management tools provides some added protection for digital works, but the protection mechanisms are hardly impenetrable. A key can be created for every digital lock.⁸⁹ Talented “hackers” often use their programming abilities to get around such devices and actively work to create technology that circumvents these attempts at digital protection.⁹⁰

III. ANTI-CIRCUMVENTION PROVISIONS

The potential effectiveness but subsequent weakness of digital rights protection mechanisms has led to the most recent extension of copyright law, the legal protection of the digital rights management tools that are created to protect copyrightable material. Such additional protection is accomplished through anti-circumvention provisions.⁹¹ Anti-circumvention provisions are laws that prohibit the modification or evasion of digital rights management tools, thus offering an additional layer of protection to copyrighted materials.⁹² While these laws are typically applauded by copyright owners, they have stirred much controversy among several diverse groups, including librarians, computer researchers, and academics.⁹³ The remainder of this Note focuses on the controversy over anti-circumvention provisions in general, as well as the specific anti-circumvention provisions included in the WIPO Copyright Treaty and the Digital Millennium Copyright Act in the United States.

A. *Anti-Circumvention in the WIPO Copyright Treaty*

The desire for an extra level of protection for copyright owners inspired the anti-circumvention provisions included in Article 11 of

88. *Id.*

89. *See generally*, Lunney, *supra* note 14, at 827-28 (explaining the evolution of attempts to curb piracy via technological controls); Shayesteh, *supra* note 84, at 191-95 (illustrating the prevalence of software piracy on the Internet).

90. *Id.*; *see also* Poth, *supra* note 15, at 487 (describing some drawbacks to the use of digital rights management tools).

91. *See generally* Olive, *supra* note 52 (explaining the basics of anti-circumvention provisions and the additional protection the provisions offer to copyrighted works).

92. *Id.*

93. Andrea L. Foster, *College Groups Challenge Copyright Office on Digital-Copyright Law*, CHRON. OF HIGHER EDUC., Jan. 10, 2003, at 29.

the WIPO Copyright Treaty.⁹⁴ Article 11 requires each contracting nation to address the circumvention of encryption and other digital rights management tools used by the authors or owners of the material to protect their rights.⁹⁵ It requires member states to

Provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts . . . which are not authorized by the authors concerned or permitted by law.⁹⁶

Each nation must also ensure that enforcement procedures are available under its law, including not only “expeditious remedies to prevent infringements,” but also “remedies which constitute a deterrent to further infringements.”⁹⁷

While a provision restricting the circumvention of digital protection mechanisms seems very sensible and standard amidst the other language of the treaty, it is in fact a large step—forward or backward, depending upon whom you consult—for international copyright protections. These anti-circumvention provisions and other similar provisions have been aptly deemed the “third legal regime” because they offer “legal protection of technological protection of copyright protection.”⁹⁸

Since the anti-circumvention provisions in the WIPO Copyright Treaty expand the scope of copyright protection to cover the rapidly developing Internet technology sector, the language used in Article 11 is intentionally broad. It would be implausible to expect lawmakers to anticipate the advances in the technology industry accurately enough to draw up specific legislation that would still be viable upon enactment. As a result, the provisions in the WIPO Copyright Treaty are fairly general. Unfortunately, the breadth of the language in the treaty may lead to uncertainty in the provisions’ interpretation, even though it was intended to allow the flexibility to adapt to technological change.

Because of the broad language used in Article 11, it is unclear whether the anti-circumvention provision in the WIPO Copyright Treaty applies only to persons who actually circumvent protection schemes.⁹⁹ Because machines or computer programs will typically accomplish the acts of circumvention, the provision usually is not

94. See Jesse Feder, *Symposium: Keynote Address*, 11 *FORDHAM INTELL. PROP. MEDIA & ENT. L. J.* 265, 267-68 (2001).

95. WIPO Copyright Treaty art. 11; Vora, *supra* note 24.

96. WIPO Copyright Treaty art. 11.

97. *Id.* art. 14.

98. Hugenholtz, *supra* note 60, at 89.

99. See WIPO Copyright Treaty art. 11.

construed to have such a limitation.¹⁰⁰ Rather, the provision has been construed to require prohibition of not only the act of circumvention, but also the manufacture, import, or distribution of the devices that are produced and used to circumvent.¹⁰¹ If, indeed, the required anti-circumvention laws would not be limited to those who actually circumvent, they would prohibit conduct which has traditionally fallen outside of the regulatory sphere of intellectual property law altogether.¹⁰² It is this aspect of anti-circumvention laws that has drawn the most fire from critics.

1. Violating Anti-Circumvention Provisions Does Not Require Violating a Copyright

The most controversial aspect of anti-circumvention provisions is that a person can be guilty of violating anti-circumvention laws without violating any particular copyright.¹⁰³ Critics often view this extension of copyright law as an impermissible violation of free expression.¹⁰⁴ On its face, Article 11 requires a prohibition of any act of circumvention, regardless of whether the intent of the circumvention was to infringe on a particular copyright.¹⁰⁵ Theoretically, it would seek to prohibit a library from circumventing a digital protection to look over a copyrighted work to determine if it wished to purchase a copy for its collection, if an exception for that purpose was not provided.¹⁰⁶ This is one example for which the

100. Jane C. Ginsburg, *Copyright Legislation for the "Digital Millennium,"* 23 COLUM.-VLA J.L. & ARTS 137, 138 (1999) (criticizing legislation aimed at copyright protection for its breadth and prolixity but recognizing that the effect of the legislation will depend greatly on its interpretation).

101. *Id.*

102. Mark Radcliffe, *Digital Millennium Copyright Act: Forging the Copyright Framework for the Internet: First Steps*, J. OF INTERNET L., at http://www.gcwf.com/articles/journal/jil_march99_1.html (considering the Digital Millennium Copyright Act and its significance as the U.S. Congress's "first step" in dealing with the legal challenges brought about by the Internet).

103. See David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 U. PA. L. REV. 673, 718-20 (2000) (describing how anti-circumvention legislation "stands copyright law on its head" and "makes a mockery of [the] Constitution").

104. If anti-circumvention provisions are construed broadly to prohibit the creation of anti-circumvention devices, they limit creative expression through computer code. See, e.g., Pamela Samuelson, *Anticircumvention Rules: Threat to Science*, SCI., Sept. 14, 2001, at 1018 (stating that anti-circumvention provisions restrict expressive activity by ignoring the communicative aspects of computer programming and by limiting citation to encrypted works).

105. WIPO Copyright Treaty art. 11.

106. See generally *id.*; Laura N. Gasaway, *Values Conflict in the Digital Environment: Librarians Versus Copyright Holders*, 24 COLUM.-VLA J.L. & ARTS 115 (2000) (describing the inherent conflicts between the needs of libraries and the desires of copyright holders).

WIPO Copyright Treaty's vague language allows interpretation that may be broader than intended by the drafters of the treaty.

In order for nations to prohibit the act of circumventing a protection, even when the access gained from the circumvention does not violate a protected right in the work, they must draw a distinction between access to a material and use of a material. As such, anti-circumvention provisions are often interpreted as differentiating between the original access to a work and the use to which it is applied once it has been lawfully accessed.¹⁰⁷ Such is a differentiation that has not traditionally been a part of copyright law.

Because copyright laws already provide remedies against the illegal infringement of copyrighted material, the necessity, effectiveness, and enforceability of additional anti-circumvention provisions has been questioned.¹⁰⁸ This Note discusses two reasons why anti-circumvention provisions' extension of the scope of copyright protections is impermissible. First, the provisions effectively protect material that cannot be protected by copyright. Second, they prohibit the manufacture, import, and distribution of devices that may have legitimate uses, including providing a means for rightful users to gain access to material protected by technological measures.

a. Anti-Circumvention Provisions Allow Protection of Material that Cannot Be Protected by Copyright

Historically, the law of copyright has sought to spur the creation of original works by offering protection as an incentive for creators to produce and disseminate creative material. Copyright creates a "legal fence around certain information that meets the criteria for protection," represented by the exclusive rights granted to copyright owners.¹⁰⁹ Yet, this protection must be balanced with the public's interest in promoting access to works that enhance the cultural and educational goals of society.¹¹⁰ Society reaps the benefits of having a

107. See Ginsburg, *supra* note 100, at 140 (explaining the difference between original access to a work and its substantive use, once accessed).

108. Jacqueline Lipton, *E-commerce in the Digital Millennium: The Legal Ramifications of the DMCA and Business Method Patents*, 27 RUTGERS COMPUTER & TECH. L. J. 333, 359-60 (2001) (questioning whether the "draconian approach" taken by anti-circumvention provisions is necessary to protect information that is already protected by traditional copyright law and noting that the provisions will serve to protect information that would not be subject to copyright protection).

109. Marshall Leaffer, *The Uncertain Future of Fair Use in a Global Information Marketplace*, 62 OHIO ST. L.J. 849, 851 n.5 (2001) (discussing recent legal developments in international copyright law and their infringement upon the doctrine of fair use).

110. Hugenholtz, *supra* note 60, at 86. While copyright often focuses on an individual's rights in a work, the principles of copyright also consider the general public's rights in a work. Public rights encompass "a right by the public at large to have access and use of information without constraints imposed by an individual."

well-educated citizenry, and individuals generally benefit from the availability of creative works. The necessity of such a balance has led to the primary characteristic of copyright law—protection is limited, both in scope and in duration.

Copyright has a limited scope in that it can only protect original works and expression. By its definition, copyright cannot be used to protect ideas, procedures, processes, systems, methods of operation, concepts, principles, or discoveries.¹¹¹ These limitations are based on the premise that no one can have a monopoly on ideas.¹¹² Copyright is focused on the expression of ideas, and thus there can be a copyright in more than one work expressing the same idea.¹¹³ While multiple expressions of one idea are indeed copyrightable, an idea itself is not, and, therefore may be expressed freely by anyone.

Even when material is protected by copyright, the protection is limited in duration. Traditionally, under the Berne Convention, copyright protection lasted for the life of the author plus 50 years after his death.¹¹⁴ Because each nation is allowed to offer more protection within its own laws than that provided under the treaties, some countries have chosen to extend the duration of copyright protections even further within their borders. Many European countries and the United States, for example, provide copyright protection for an author's life plus 70 years after his death.¹¹⁵

One problem with anti-circumvention provisions arises when they are construed broadly without exceptions for works that are not protected by copyright. In such a situation, "anything can be encoded against copying and, in practicality, be protected by copyright law."¹¹⁶ For this reason, when anti-circumvention provisions are broadly construed without proper exceptions, they allow unlimited copyright protection, with the full force of law. If a work cannot be copyrighted or its copyright protection has expired, its owner can merely use a digital rights management tool such as encryption to protect the work, and anyone wishing to access the work would be without a practical means to do so, other than by requesting permission from the owner. Attempts to circumvent the protection could amount to

RAYMOND NIMMER, INFORMATION LAW, ¶ 2.07. When a work is not copyrightable or is no longer protected by copyright, it is said to be in the public domain, freely available for public use.

111. HARRIS, *supra* note 13, at 117.

112. *Id.*

113. *Id.*

114. See Berne Convention, *supra* note 22, art. 2(4).

115. HARRIS, *supra* note 13, at 123; Sonny Bono Copyright Extension Act, 112 Stat. 2827 (1998).

116. Olive, *supra* note 52, at 2.

breaking the law.¹¹⁷ In this respect, the anti-circumvention provisions have reversed the incentives of copyright protection, from rewarding authors for the dissemination of their works to rewarding them for making their works inaccessible to the public.¹¹⁸

b. Legitimate Uses for Circumvention and Circumvention Devices

Anti-circumvention provisions are often construed broadly to require prohibition of the manufacture, import, and distribution of devices used to circumvent digital protection mechanisms. One criticism of a broad interpretation of the anti-circumvention provisions is that circumvention devices have many legitimate uses. Accordingly, their manufacture, import, and distribution should not be prohibited. Consider the aforementioned felt tip pen.

Often software programs that are considered circumvention devices may simply offer the purchaser of a digital work an alternative program for viewing or listening to that work, or are necessary for properly testing digital security systems. While it is true that most testers of encryption technology will have permission from the creator of the technology, the digital security industry is often uncertain about the strength of protection systems until computer scientists or enthusiasts have attempted to “crack” those systems.¹¹⁹ Furthermore, critics of manufacture, import, and distribution prohibitions argue that such prohibitions may discourage innovation because the prohibitions would force creators to consider possible criminal and civil liability for future illegal uses of their creations, even if they did not create the product for any illegal purpose.¹²⁰

Additionally, critics of manufacture, import, and distribution prohibitions claim that rightful users of a digitally-protected work must sometimes circumvent the protection to gain access to the work.¹²¹ When the manufacture, import, and distribution of circumvention devices are prohibited, those who have a legitimate right to access or use material may be effectively barred from

117. *But see supra* note 107 and accompanying text. Because anti-circumvention provisions recognize a difference between original access and subsequent use, it may be legal to make copies of a lawfully acquired work, though it would be illegal to gain access to the work through circumvention to make the same legal copies.

118. *See Hugenholtz, supra* note 60 (discussing how the new copyright regime in general has reversed the incentives for copyright owners).

119. *See infra* notes 185-95 and accompanying text.

120. *See, e.g.,* Interview by Ira Flatow with Robin Gross, Staff Attorney, Electronic Frontier Foundation (July 27, 2001), available at 2001 WL 7836869.

121. Dennis E. Powell, *Comment: The Digital Millennium Rape Act*, LINUXPLANET, July 23, 2001, at <http://www.linuxplanet.com/linuxplanet/print/3642>.

asserting that right.¹²² A person may have access rights to a material through any of the exceptions to the anti-circumvention provisions, but if the material is protected by digital rights management tools, it may not be legally accessible.¹²³ In such cases, circumvention devices would allow those with rights to use a protected material to access the material. However, if anti-circumvention provisions are construed broadly enough to prohibit the manufacture, import, and distribution of circumvention devices, even rightful users are not allowed to procure the devices that will circumvent the digital protections standing between them and the material.¹²⁴

An additional problem with prohibiting the manufacture, import, and distribution of circumvention devices is determining which devices should be considered to be circumvention devices to be prohibited under the law. The prohibition on circumvention devices is similar to the prohibition of other devices, such as wiretapping devices, that are "primarily useful" for the commission of a crime.¹²⁵ The "primarily useful" standard seems essential in prohibiting acts or devices that are somewhat attenuated from criminal acts. In determining a device's primary usefulness, the commercial significance of non-circumventing uses for the circumvention device is likely to become the standard for determining whether the device is considered an anti-circumvention device and thus is prohibited by a broadly construed anti-circumvention provision. Yet, imposing a commercial significance standard for determining which devices should fall within the scope of anti-circumvention laws offers interpretation and enforcement problems of its own.¹²⁶

A final criticism of the prohibition of the manufacture, import, and distribution of circumvention devices is that it permits copyright owners to control not only the method of access to their works, but also the way their works can be viewed by someone who has already obtained access legally. For example, devices that allow the

122. Lipton, *supra* note 108.

123. *Id.*

124. *Id.* When the manufacture, import, and distribution of circumvention devices is prohibited, even legal users of protected material will only be able to access the material if they personally have the technological expertise to circumvent the protection measures, because their attempts to gain access in any other way may amount to trafficking in prohibited devices. *Id.*

125. For example, it is a felony in the United States to own or distribute wiretapping devices that are "primarily useful" for the commission of crimes, even if the owner or distributor has no intention to commit a crime with the devices. 18 U.S. 2512.

126. Implementing a commercial significance standard entails determining whether a prohibited device must have no commercial use other than circumvention or only limited commercial uses other than circumvention. Furthermore, a determination of the viability of commercial uses may be highly contested in litigation and may lead to problems enforcing the standard.

purchaser of an electronic book to print a copy for reading away from his computer or allow copying a few paragraphs into another program for a visual presentation can be considered anti-circumvention devices.¹²⁷ Many circumvention devices also allow those who own one copy of a protected work to duplicate it for their own personal use, which has traditionally been acceptable under the U.S. doctrine of fair use and under copyright laws around the world, including those in France and Germany.¹²⁸ Because, in these ways, copyright owners can specify how their works can be used after legal purchase, the anti-circumvention provisions raise additional concerns about unjustly restricting free speech.¹²⁹

In the end, anti-circumvention provisions are very controversial for a number of reasons. More importantly, if the provisions are construed broadly and without the necessary exceptions, they do not adequately balance the rights of copyright owners with the rights of the public. In essence, the anti-circumvention provisions allow a copyright owner to dictate how his work is used, even after it has been legally purchased by an end-user, and the provisions allow the use of digital rights management tools to prevent the public from accessing works that are in the public domain. Following is a discussion of how the anti-circumvention provision in the WIPO Copyright Treaty has been interpreted into national law, and how the interpretation affects the resulting legislation's enforceability and effectiveness at achieving the treaty's primary goals.

B. Implementation of Anti-Circumvention Provisions

When the anti-circumvention provisions of the WIPO Copyright Treaty are construed broadly to include more than just the act of circumvention,¹³⁰ enforcement becomes increasingly problematic. A primary aim of anti-circumvention provisions is to ensure copyright

127. See text accompanying notes 204-15.

128. See Law No. 92-597 of July 1, 1992, J.O. July 3, 1992, *reprinted and translated in* COPYRIGHT LAWS AND TREATIES OF THE WORLD, Supplement 1991-1995, art. L. 122-5(2) (exempting "copies or reproductions reserved strictly for private use of the copier. . ."); Adolf Dietz, *Germany*, in INTERNATIONAL COPYRIGHT AND PRACTICE § 8[2][a], at GER-106 (Paul E. Geller, et al. eds., 1999 ed.) (providing an exception to German copyright law for the making of single copies for strictly private use).

129. When an author can maintain control of a work even after it has been legally purchased by another, the purchaser loses his ability to make fair use of the work. Likewise, the purchaser cannot legally circumvent any digital rights management tools to modify the work to suit his personal preferences (e.g., an eBook reader may not circumvent the eBook's protections to print out a copy of the book for his personal use or an audio CD purchaser may not circumvent the CD's protections to copy certain songs to his computer's hard drive to make a personal compilation CD).

130. This includes a prohibition on the manufacture and distribution of circumvention devices.

protection to materials that are issued in digital form. However, as a result of additional protections, "copyright is moving ever further from controlling the existence of copies to controlling the use made of material, and dissemination of ideas, information, instruction and entertainment. . . . The critical question is whether or not [such laws] can be enforced."¹³¹ Any attempt to enforce the anti-circumvention provisions raises a number of practical concerns, such as jurisdictional issues, how to identify the appropriate defendants, and the ability to obtain an effective remedy.¹³² It is important to consider the difficulties inherent in anti-circumvention laws because "[t]here is little point in resolving the political issues only to find that effective legislation is impossible in practice."¹³³

This Note, in part, examines the anti-circumvention provisions of the WIPO Copyright Treaty as they were implemented in the United States through the Digital Millennium Copyright Act (DMCA) in 1998.¹³⁴ The DMCA was the first significant implementation of the WIPO treaty, and it is constructed similarly to other legislation implementing the treaty.¹³⁵ An analysis of the effects of the anti-circumvention provisions in the DMCA will reveal some of the effects that the provisions of the WIPO treaty could have elsewhere upon enactment, if similarly construed.

1. Digital Millennium Copyright Act

The Digital Millennium Copyright Act (DMCA) was signed into U.S. law on October 28, 1998.¹³⁶ It implemented the WIPO Copyright Treaty and established a legal framework for copyright issues related to the Internet.¹³⁷ The DMCA was passed amidst great controversy, especially over the anti-circumvention provisions it included.¹³⁸ The battle in Congress over its implementation has been aptly described

131. Hector L. MacQueen, *Copyright and the Internet*, in *LAW & THE INTERNET: A FRAMEWORK FOR ELECTRONIC COMMERCE* 222-23 (Lilian Edwards & Charlotte Waelde eds., Hart Publishing 2000).

132. Lipton, *supra* note 108, at 366.

133. *Id.* at 369.

134. Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (adding §§ 512 and 1201-05 to the Copyright Act of 1976) [hereinafter DMCA]. See also S. Treaty Doc. No. 105-17 (1997) (ratifying the U.S. accession to the WIPO Copyright Treaty).

135. *E.g.*, Council Directive 01/29 on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society, 2001 O.J. (L 167) 10.

136. *Copyright in an Electronic Age*, available at <http://usinfo.state.gov/products/pubs/intelprp/copyrt.htm>.

137. See *id.*

138. Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to Be Revised*, 14 *BERKELEY TECH. L. J.* 519, 522 (1999).

as a battle between Hollywood and Silicon Valley.¹³⁹ Hollywood sought strong protections for the owners of original works and the technology used to protect such works, while Silicon Valley opposed broad protections that would impede on the ability to engage in reverse engineering, computer security testing, and encryption research.¹⁴⁰

Exceptions to the anti-circumvention provisions in the DMCA were included, supposedly to allow the fair use of copyrighted materials for academic and other worthy causes.¹⁴¹ These exceptions were created in an attempt to balance the protections for copyright owners with the fair use of copyrighted materials and as a way of compensating for the broadening of copyright protections. However, the exceptions are generally ineffective for two reasons.¹⁴² First, they are not applicable equally to the three types of anti-circumvention violations in the statute.¹⁴³ Second, the only users whose interests are truly safeguarded are those who personally have the knowledge to get around digital rights management tools.¹⁴⁴

Even though the DMCA included exceptions to address some of the concerns from Silicon Valley, the resulting legislation favored the Hollywood perspective and offered broad protections to copyright owners, including the protections against the circumvention of digital rights management tools to which Silicon Valley strongly objected.¹⁴⁵ Indeed, the legislation offered such broad protections that it went beyond what would have been required to bring U.S. law into line with the requirements of the WIPO Copyright Treaty.¹⁴⁶ In many ways, U.S. law already complied with the treaty.¹⁴⁷

The WIPO treaty digital copyright norms were . . . mostly old news for U.S. law. Its cases had already recognized the rights of authors to

139. *Id.*

140. *Id.*

141. *Id.* at 537-43. *See also* DMCA, 17 U.S.C. §§ 1201(c)-(i) (supp. 2002) (providing the seven exceptions and other qualifications to the general ban on anti-circumvention).

142. *See* Nimmer, *supra* note 103, at 694-99 (explaining why the exceptions included in the DMCA were inadequate and generally ineffective to balance the rights of copyright owners and users of copyrighted material).

143. *Id.*

144. *Id.* at 740.

145. *Id.* Because the DMCA offered such broad protection to copyright owners, it is susceptible to the criticisms discussed in Part III.A. of this Note.

146. *See, e.g.,* Samuelson, *supra* note 139, at 521.

147. The main stated purpose of the DMCA was to implement the WIPO Copyright Treaty, even though critics have argued that the DMCA was largely unnecessary for this purpose because U.S. copyright law already complied with all but one provision of the treaty. "Only the treaty provision calling for protecting the integrity of rights management information needed legislative implementation in U.S. law." *Id.* at n.10.

control digital reproductions of their works, as well as to control digital transmissions of their works to the public. Courts had invoked fair use in a number of digital copyright cases, and had refused to hold online service providers liable for infringing activities of users about which the providers had no knowledge. Because of the substantial accord between the WIPO treaty norms and existing U.S. law, the Clinton Administration initially considered whether the WIPO Copyright Treaty might even be sent to the Senate for ratification “clean” of implementing regulation.¹⁴⁸

Beyond allegations that the DMCA was mostly unnecessary, other criticisms of the legislation have surfaced. Critics maintain that the provisions of the DMCA are too vague, overly broad, and perhaps unconstitutional.¹⁴⁹

Even amidst doubts over its necessity and propriety, the DMCA was proposed and passed, ensuring that U.S. law would offer broad protection to copyright owners in the digital age and would wholly comply with the minimum standards set forth in the WIPO Copyright Treaty. As enacted, the DMCA serves four main functions: implementing WIPO treaty provisions, limiting liability for copying computer programs in specific situations, limiting certain liabilities of online service providers, and protecting certain original designs.¹⁵⁰ This Note focuses on the sections of the DMCA that implement the WIPO Copyright Treaty’s anti-circumvention provisions. Evaluating these portions of the DMCA best demonstrates the practical effects of implementing anti-circumvention provisions because, although dozens of other countries have agreed to incorporate anti-circumvention into their laws, “the United States has taken the lead in terms of enacting ‘anti-circumvention’ provisions into its domestic law.”¹⁵¹

148. *Id.* at 530.

149. *See supra* notes 104, 129 (considering the ways in which broad anti-circumvention provisions can restrict free speech and free expression). Furthermore, the concept of fair use and the first sale doctrine have been used to ensure that copyright laws do not violate the freedoms guaranteed by the First Amendment of the U.S. Constitution. When anti-circumvention provisions, like those in the DMCA, are construed broadly without exceptions that maintain the concepts of fair use and first sale, their constitutionality comes into question. *See Lee, supra* note 62, at 1359-60 (stating that the rejection of “fair use as a defense to the anti-circumvention provision threatens to give copyright holders complete dominion over their works” and jeopardizes freedom of expression). *See also* John R. Therien, Comment, *Exorcising the Specter of a “Pay-Per-Use” Society: Toward Preserving Fair Use and The Public Domain in The Digital Age*, 16 BERKELEY TECH. L. J. 979, 997-1028 (2001) (discussing the effects of copyright laws, including anti-circumvention provisions, that “silence[] an infringer’s speech through legislative mandate by compelling courts to intervene to suppress a work that infringes on any of the statutory rights of the author”).

150. DMCA, 112 Stat. 2860.

151. Lipton, *supra* note 108, at 359.

Although the DMCA is still relatively young,¹⁵² problems have already arisen in its enforcement.¹⁵³ These problems highlight the difficulties inherent in the practical implementation of a broad interpretation of the anti-circumvention provisions in the WIPO Copyright Treaty. The following analysis will show that anti-circumvention provisions, although required by the treaty, may not offer an adequate balance between the rights of copyright owners and the dissemination of information for the public benefit when interpreted to include more than the act of circumvention. The anti-circumvention provisions in the DMCA, specifically, have discouraged creativity and innovation in specific areas of study since they became effective October 28, 2000.¹⁵⁴ Such effects are clearly at odds with the WIPO's stated purposes for both its Copyright Treaty and its organization in general.¹⁵⁵

a. The WIPO Copyright Treaty as Implemented by the DMCA

Title I of the DMCA amends U.S. law to extend protection to those works that require protection under the WIPO Copyright Treaty.¹⁵⁶ This Title also includes the aforementioned broadly construed anti-circumvention provisions.¹⁵⁷ The basic prohibition of the anti-circumvention provisions is against the unauthorized "circumvention of any measure that effectively controls access to a copyrighted work . . . irrespective of whether the access gained, apart from the circumvention needed to effect it, infringes a property right in the work."¹⁵⁸

The DMCA defines three types of anti-circumvention violations: a basic provision, a ban on trafficking, and "additional violations."¹⁵⁹ The basic provision bans the act of circumvention itself.¹⁶⁰ The ban on trafficking prohibits the manufacture, import, and distribution of any "technology, product, service, device, component, or part thereof" that is primarily designed to circumvent copyright protections, has little commercially significant use other than such circumvention, or is marketed for the use of such circumvention.¹⁶¹ The additional provisions are worded very similarly to the ban on trafficking but

152. Enforcement of certain portions of the Act, including the anti-circumvention provisions, was delayed until October 28, 2000. DMCA, 112 Stat. 2860.

153. See *infra* notes 166-221 and accompanying text.

154. DMCA, 112 Stat. 2860.

155. See *supra* text accompanying note 69.

156. DMCA, 112 Stat. 2860.

157. *Id.*

158. 17 U.S.C. 1201(a)(3)(2002).

159. Nimmer, *supra* note 103, at 684.

160. See *id.*

161. *Id.*; see also 17 U.S.C. §1201(a)(2)(A)-(C) (Supp. 2002).

apply to persons who have authorized access to a copy of the work, but then manufacture, import, or distribute any of the above prohibited items.¹⁶² Clearly, the DMCA enacts a broad interpretation of the WIPO Copyright Treaty's anti-circumvention provisions because it applies to acts beyond actual technical circumvention and to those who have a legal right to use the works.

2. Enforcement of the Anti-Circumvention Provisions in the United States

Both civil and criminal penalties can be imposed for a violation of the DMCA.¹⁶³ Because the anti-circumvention provisions of the DMCA became effective in October 2000, their enforcement has been problematic in both the civil and criminal arenas. Even members of the U.S. Congress have had second thoughts about the DMCA. Rick Boucher of Virginia's Ninth Congressional District had the following to say:

In the three years since the law was enacted, we have not seen . . . new digital content. Instead, we have seen a rash of lawsuits; the imprisonment by U.S. authorities of a Russian computer programmer who had come to the United States to give a technical talk; and, more recently, the release of compact discs into the market that cannot be played in computers or even some CD players, and thus cannot be used to create custom compilations of consumers' favorite songs.¹⁶⁴

This Section of the Note discusses two specific incidents in which the threat of punishment for violation of the DMCA has stifled academic research into security and encryption devices. Additionally, it discusses both examples of civil cases that have been brought under the Act and the first criminal case under the DMCA, to illustrate the problems with enforcing overbroad anti-circumvention provisions.

a. Civil Enforcement

In *Universal City Studios, Inc. v. Reimerdes*, the publisher of *2600* magazine was sued by a group of major motion picture studios for providing DeCSS code, which can be used to circumvent the

162. Nimmer, *supra* note 104, at 685; *see also* 17 U.S.C. § 1201(b)(A)-(C) (Supp. 2002).

163. *See generally* DMCA, 112 Stat. 2860.

164. Rick Boucher, *Time to Rewrite the DMCA*, available at <http://news.com.com/2010-1078-825335.html> (questioning whether the DMCA was drafted to appropriately balance the rights of copyright owners and fair users of copyrighted material and concluding that the DMCA should be changed to better reflect such a balance of interests).

industry-standard DVD copy protection system, on its website.¹⁶⁵ The court for the Southern District of New York ordered an injunction prohibiting the magazine from posting DeCSS on its website and from knowingly linking its website to any other websites on which DeCSS was posted.¹⁶⁶ After losing at the district court level, the publisher and the magazine appealed, claiming that the injunction violated the First Amendment rights protecting free speech and that the DMCA was constitutionally invalid.¹⁶⁷

The Second Circuit Court of Appeals considered, but did not agree with most of, *2600's* claims.¹⁶⁸ It held that computer code, such as the DeCSS program, could be protected as speech under the First Amendment.¹⁶⁹ Yet, after careful consideration of the factual circumstances of the case, the court found that allowing the impairment of some speech in order to prohibit unlawful circumvention was consistent with the limitations of the First Amendment's protections.¹⁷⁰ The court offered three reasons to support its decision.¹⁷¹ First, a consideration of fair use was beyond the scope of the case because the magazine did not claim that it was prohibited in an attempt to make fair use of any DVDs.¹⁷² Second, the court found that there was not enough evidence to support the magazine's claims that the anti-circumventions would, in fact, restrain fair use.¹⁷³ Finally, the court noted that the ability to make perfect digital reproductions of a DVD was not necessary to make fair use of the underlying copyrighted work because fair users would still be able to take quotes from the material or to record portions onto videotape.¹⁷⁴

Furthermore, the Court of Appeals either rejected or avoided *2600's* constitutional challenges to the DMCA.¹⁷⁵ The magazine claimed that where the language of the DMCA is ambiguous, it should be construed narrowly in order to avoid constitutional problems with its enforcement.¹⁷⁶ Upon reading, however, the court did not find *2600's* selected excerpts from the DMCA to be ambiguous

165. *Universal City Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294 (S.D.N.Y. 2000).

166. *Universal City Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 346, 346-47 (S.D.N.Y. 2000).

167. *Universal City Studios, Inc. v. Corley*, 273 F.3d 429 (2d Cir. 2001).

168. *Id.* at 444-59.

169. *Id.* at 449.

170. *Id.* at 458-60.

171. *Id.*

172. *Id.* at 459.

173. *Id.*

174. *Id.*

175. *Id.* at 442.

176. *Id.* at 443.

or to require as narrow a reading as the magazine would have liked.¹⁷⁷ *2600* further argued that the DMCA would allow circumvention of technology to obtain access to material which would be put to fair use, but the court rejected that claim, noting that the DMCA “targets the circumvention of digital walls guarding copyrighted material . . . but does not concern itself with the use of those materials after circumvention has occurred.”¹⁷⁸ The court refused to consider the merits of the magazine’s additional constitutional challenges to the DMCA for two reasons: they were not properly presented in the brief and were not entitled to appellate consideration, and the claims were premature and speculative on the record presented.¹⁷⁹ Additionally, the court rejected *2600*’s claim that the DMCA unconstitutionally eliminated fair use.¹⁸⁰ In the end, the Court of Appeals affirmed the trial court decision to issue a permanent injunction, prohibiting the magazine and its publisher from offering DeCSS on their website and from knowingly providing links to other websites that offered DeCSS.¹⁸¹

The opinions in the *Universal City Studios* cases lacked no depth or detail, but they did not clarify the majority of the constitutional and policy challenges to the DMCA. The Court of Appeals received no less than 12 amicus curiae briefs from assorted persons and organizations, including intellectual property law professors¹⁸² and the American Civil Liberties Union.¹⁸³ Perhaps to the dismay of the many interested parties, the court carefully avoided resolving “issues of public policy” implicated by its holding because such issues “are for Congress” to decide.¹⁸⁴

In other civil cases brought under the DMCA, the courts have been reluctant to address the far-reaching issues of implementation of the DMCA because the negative consequences posited are too speculative. In one incident, a research team lead by Princeton professor Edward Felten was discouraged from presenting a paper

177. *Id.* at 443-44.

178. *Id.* at 443.

179. *Id.* at 445.

180. *Id.* at 458.

181. *Id.* at 460.

182. E.g., Professor Julie E. Cohen, Georgetown University Law Center, submitted a brief in support of Defendants-Appellants, for amici curiae intellectual property law professors. Professor Yochai Benkler, New York University School of Law, and Professor Lawrence Lessig, Stanford Law School, submitted a brief amici curiae in support of Defendants-Appellants. Professor Rodney A. Smolla, University of Richmond School of Law, submitted a brief in support of Plaintiffs-Appellees, for amici curiae Professor Erwin Chemerinsky et al. *Id.* at 433.

183. *Id.*

184. *Id.* at 458.

about the weaknesses of specific encryption techniques.¹⁸⁵ The controversy began with a public challenge by the Secure Digital Music Initiative (SDMI), offering a USD \$10,000 prize to anyone who could remove a digital watermark from certain files within a month.¹⁸⁶ SDMI, a collection of 200 major record labels and hardware/software manufacturers, issued the challenge to test a number of digital protection systems it had created and was considering for use.¹⁸⁷ Felten and his team decided to participate, although they gave up their opportunity to win the prize money in exchange for the ability to publish their findings.¹⁸⁸

Felten's team defeated most of the encryption techniques within a few weeks, showing that the protection offered by those techniques would be minimal when released into the market.¹⁸⁹ "You don't have to be a world-class computer scientist to defeat these technologies by any means," Felten said.¹⁹⁰ The team wrote a paper about its research and findings, but upon news that the team was planning to present the paper at a conference, the Recording Industry Association of America (RIAA) sent Felten a letter, warning him not to present the paper.¹⁹¹ The letter stated that "any disclosure of information gained from participating in the public challenge" could subject the team to legal action under the DMCA.¹⁹²

The team withdrew from the first conference at which it was scheduled to present its findings and filed a federal lawsuit in New Jersey to clarify the boundaries of the anti-circumvention provisions as they apply to academic research.¹⁹³ Through the civil suit, Felten and the team of researchers specifically sought protection for presenting their paper.¹⁹⁴ The court was not willing to hear the researchers' constitutional challenges to the DMCA and dismissed the suit in November of 2001.¹⁹⁵

Again, the court found that the claims were not ripe for decision because the injuries claimed were still too speculative. However, one of Felten's attorneys, Robin Gross, said that the recording industry's threats have "done untold damage to Felten and the other

185. Thomas Pack, *Legit Hack Creates Legal Controversy*, ECONTENT, October 1, 2001, at <http://www.econtentma.com/r8/2001/ecnews10b.html>.

186. *Id.*

187. *Id.*

188. *Id.*

189. *Id.*

190. *Id.*

191. *Id.*

192. *Id.*

193. *Id.*

194. *Id.*

195. Janet Kornblum, *Judge Dismisses Copyright Lawsuit*, USA TODAY, Nov. 29, 2001, at D3, available at 2001 WL 5477403.

researchers.”¹⁹⁶ She claimed that the industry’s use of the DMCA to threaten the “freedom of speech and scientific progress” would continue to have a “chilling effect on the broader scientific community” if not stopped.¹⁹⁷ Other examples support Gross’s claim that fear of enforcement of the anti-circumvention provisions in the DMCA has stymied research and publication in the scientific field worldwide. In one example, Dutch software engineer Neils Ferguson discovered errors in an Intel program but decided not to present his findings at a conference out of concern about possible DMCA action against him.¹⁹⁸ Clearly, enforcement or threatened enforcement of the DMCA has had negative effects in at least the scientific community. “If computer scientists engaged in cutting edge research can’t publish their results, their research, and the research of those who would build on it, is effectively stymied.”¹⁹⁹

b. Criminal Enforcement

When it enacted the DMCA, Congress created “strong disincentives” for potential infringers of the Act by imposing “severe criminal penalties for a variety of offenses.”²⁰⁰ A person who “willfully or for purposes of commercial advantage or private financial gain” violates the DMCA provisions is subject to fines of up to USD \$500,000 or up to five years in jail for the first offense.²⁰¹ A subsequent offense could result in a fine of up to USD \$1,000,000 or up to ten years in jail, or both.²⁰² The breadth of the statute, especially when coupled with such severe penalties for its violation, has been a point of contention among critics. “[M]any relatively minor infringers may be unnecessarily caught in the wide net cast by the DMCA. . . . [People] may thus be held criminally liable for felony copyright infringement, even though they may have played absolutely no part in hacking or supplying the pirated software in question.”²⁰³

The first criminal indictment under the DMCA took place in the Summer of 2001, involving a Russian software programmer who was arrested for designing a program to unlock a digital rights

196. Pack, *supra* note 185.

197. *Id.*

198. Charles Oriez, *DMCA Puts Rights at Risk*, INFO. EXECUTIVE, October 1, 2001.

199. *Id.*

200. Shayesteh, *supra* note 84, at 212.

201. 17 U.S.C. 1204(a).

202. *Id.*

203. See, e.g., Shayesteh, *supra* note 85, at 213-14 (“The owners of these Web Sites . . . do not usually pirate the software themselves, but merely locate it elsewhere using specialized search engines.”).

management tool.²⁰⁴ More specifically, Dmitry Sklyarov wrote a computer program that allowed users of an Adobe Systems eBook Reader device to extract text from eBooks to print or copy into other computer applications.²⁰⁵ The program could be used by those who already had access to the eBook files to do a number of legal things with the files, including moving them to a new computer or printing a version to read when away from the computer.²⁰⁶ However, the program would also allow making copies of the book for people who did not pay for it.²⁰⁷ At the time Sklyarov wrote the program, it was legal in Russia and in most of the world.²⁰⁸ His employer, Moscow-based ElcomSoft, sold copies of the program over the Internet and even sought U.S. copyright protection for the program.²⁰⁹ Adobe Systems bought a copy of the program and complained to the U.S. Federal Bureau of Investigation that the program violated the DMCA.²¹⁰

Dmitry Sklyarov was arrested July 16, 2001 while he was in Las Vegas, Nevada to speak at a conference about digital security mechanisms.²¹¹ When the news of Sklyarov's arrest broke, critics noted what a horrible test case this was for the already controversial anti-circumvention provisions in the DMCA.²¹² Beyond the issues raised by the statute on its face, the facts of the Sklyarov case were especially troublesome. Sklyarov never personally violated any particular copyright or sold his program, and all of his personal involvement took place in Russia where the program was perfectly legal.²¹³ The Internet civil rights community recognized Sklyarov's case to be a perfect example of the shortcomings of the DMCA's anti-circumvention provisions; the 26-year-old father of two became the "martyr" of the Internet age.²¹⁴ News of his arrest spawned protests

204. Lawrence Lessig, *Jail Time in the Digital Age*, N.Y. TIMES, July 30, 2001, at A17.

205. *Id.*

206. See Brad Templeton, *An eBook Publisher on Why the U.S. Attorney Should Free Dmitry Sklyarov*, available at <http://www.templetons.com/brad/free.html> (last visited March 18, 2003).

207. *Id.*

208. *Id.*

209. Louis Trager, *U.S. Prosecutors Claim DMCA Applies Around the Globe*, WASH. INTERNET DAILY, Feb. 12, 2002, available at LEXIS, News Library, Warren Publications File.

210. Lessig, *supra* note 204.

211. *ElcomSoft Lawyers Intend to Get U.S. Court to Drop Charges*, INTERFAX NEWS AGENCY, Feb. 5, 2002, available at LEXIS, News & Business Library, Interfax News Agency File.

212. *Locking Up the Lock-Pickers: A Young Russian's Arrest Has Raised Questions About and Experiment in Protecting Copyright Online*, FIN. TIMES, Sept. 6, 2001, at 14.

213. *Id.*

214. *Id.*

worldwide, and even Adobe requested Sklyarov's release after he had been in jail for a week.²¹⁵

Despite the protests, Sklyarov spent three weeks in U.S. prisons and was subsequently prevented from returning home to Russia for more than four months.²¹⁶ In return for his release, Sklyarov agreed to testify in the trial against his employer, ElcomSoft.²¹⁷ Although the United States persisted in prosecuting ElcomSoft for selling Sklyarov's program, the charges against Sklyarov were dropped.²¹⁸ Sklyarov said he was truly impressed by the protestors calling for his release from prison.²¹⁹ He recognized that his supporters were "truly concerned with this law and they are trying to do whatever they can to change the situation."²²⁰

The controversy over the DMCA did not end with Sklyarov's release, however; it continued over prosecuting ElcomSoft. Led by the Electronic Frontier Foundation (EFF), a handful of other technology-related organizations filed an amicus brief in the case, recommending that the anti-circumvention provisions of the DMCA either be thrown out altogether or narrowed substantially.²²¹ In spite of such efforts, U.S. District Judge Ronald Whyte ruled that the DMCA's anti-circumvention provisions were constitutional even when they would prohibit technologies that helped consumers make fair use of files they had legally purchased.²²² After a full trial on the matter, however, the federal jury acquitted ElcomSoft on December 17, 2002, finding that the Russian software company did not have the requisite intent to violate the DMCA.²²³ Because the first criminal case under the DMCA ended with such mixed results, critics question the effects on future enforcement.²²⁴

215. Larisa Naumenko, *From Computer Games to U.S. Prison Cells*, MOSCOW TIMES, Jan. 29, 2002, available at LEXIS, News Group File, Most Recent Two Years.

216. *Id.*

217. *Id.*

218. *Id.*

219. *Id.*

220. *Id.*

221. David McGuire, *Civil Liberties Group: Copyright Law Unconstitutional*, NEWSBYTES, Feb. 4, 2002.

222. Jon Healy, *Russian Firm Cleared in Digital-Piracy Trial: A Jury Finds ElcomSoft Didn't Intend to Violate U.S. Law with Software to Pick Locks on E-books*, L.A. TIMES, Dec. 18, 2002, Business Section, at 1.

223. *Id.*

224. Alex Salkever, *Digital Copyright: A Law Defanged?*, BUS. WEEK ONLINE, Dec. 23, 2002, at http://www.businessweek.com/technology/content/dec2002/tc20021219_4518.htm.

IV. CONCLUSION

Even though the DMCA has had substantial negative effects on individuals and the computer science community, it appears that the courts are reluctant to consider the merits of many of the constitutional and policy claims challenging the DMCA in civil lawsuits, purportedly because many of the injuries are too speculative. Additionally, because of the substantial opposition to parts of the Act, efforts to convict anyone under its criminal provisions have so far been unsuccessful. Most of the opposition to the DMCA has been focused on its anti-circumvention provisions. Some opposition to anti-circumvention provisions has been due to the nature of such provisions and the way they extend the scope of copyright protection, allowing technological protection measures rather than just the protection of creative works. Yet, the majority of the opposition seems to have stemmed from the DMCA's overbroad interpretation of Article 11 of the WIPO Copyright Treaty.

Before the WIPO Copyright Treaty was ratified, an academic predicted that the enactment of anti-circumvention provisions would likely trigger interjurisdictional competition for technological circumvention law.²²⁵ Professor Burk warned of the dangers that might accompany such a competition: overreaching and rent-seeking.²²⁶ He noted that the WIPO Copyright Treaty, while an attempt to modulate the race for circumvention law, might not be effective because of the wide variation of implementation among signatory nations.²²⁷ He additionally considered the effects of anti-circumvention provisions and suggested that they should be "tailored to the minimum" to prevent information producers from having a complete monopoly on information and creative works.²²⁸

The enactment of the DMCA in the United States and the battle over whether authors should be provided additional protection against circumvention, in addition to the copyright protection over their works, has demonstrated the realization of Professor Burk's warnings. Although the WIPO intended to promote creativity and innovation through its copyright treaty, an overbroad interpretation of its anti-circumvention provisions does not provide an adequate balance between the rights given to copyright owners and the dissemination of information for the public benefit.

225. See, e.g., Dan L. Burk, *Symposium on the Internet and Legal Theory: Virtual Exit in the Global Information Economy*, 73 CHI.-KENT L. REV. 943, 994 (1998).

226. *Id.*

227. *Id.*

228. *Id.*

The anti-circumvention provisions in the DMCA have discouraged creativity and innovation in specific areas of study. Professors are canceling the presentation of their research papers, and software technicians are choosing not to examine the weaknesses of certain encryption programs—all in fear of civil litigation or criminal prosecution under the anti-circumvention provisions of the WIPO Copyright Treaty as implemented in the DMCA.

Situations like those mentioned above have arisen in the United States since October 2000; they merely highlight the problems associated with such a broad interpretation of the WIPO treaty's anti-circumvention provisions. Three possible solutions for such problems exist: (1) the WIPO could clarify that its anti-circumvention provisions apply only to the act of circumvention, (2) the countries that are implementing the WIPO treaties could interpret the anti-circumvention provisions as applying only to the act of circumvention, or (3) the countries that are implementing the WIPO treaty could provide for at least adequate exceptions to the anti-circumvention provisions when creating their national legislation.

One possible solution to the problem of the anti-circumvention provisions is for the WIPO to clarify that its anti-circumvention provisions only apply to the act of circumvention. This solution seems unlikely because the WIPO Copyright Treaty was the end result of a collaboration of many nations' input. The WIPO could clarify the meaning of terms, but its clarifications would hardly have the force of law. Furthermore, a main characteristic of international treaties is that they provide minimum requirements; individual nations are customarily free to enact stricter legislation within their own borders. For these reasons, the WIPO will probably not get involved in the controversy over broadly interpreted anti-circumvention provisions.

More realistically, the solution lies with the countries that are implementing the WIPO treaties into their own laws. Each country is given latitude in the laws it enacts to implement the treaty. When creating its implementing laws, the countries should interpret the anti-circumvention provisions in the treaty as applying only to the act of circumvention. There should be no general prohibitions on manufacturing, importing, or distributing devices that can be used for circumvention. If they exist at all, such restrictions should be limited to devices that are primarily used for illegal circumvention and have no other legal uses.

Alternatively, the countries implementing the treaty into their laws should at least provide for adequate exceptions to the anti-circumvention provisions when creating their national legislation. The WIPO Copyright Treaty explicitly allows members to create exceptions to the protection afforded by the treaty "in certain special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the

author.”²²⁹ Adequate exceptions would not only allow the use of certain materials for worthwhile causes but also would provide a means for rightful users of the material to access it—even if the copyright owner has digitally protected the work. Such exceptions would fall within the scope of the exceptions allowed by the treaty and would make it possible for enforcement of the treaty to protect intellectual property rights while still promoting creativity in the scientific and artistic communities.

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229. WIPO Copyright Treaty art. 10.

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