10-1-2002

The Digital Millennium Copyright Act and the Functionality Fallacy

Lora Saltarelli

Follow this and additional works at: http://scholarship.law.nd.edu/ndlr

Recommended Citation

Lora Saltarelli, *The Digital Millennium Copyright Act and the Functionality Fallacy*, 77 Notre Dame L. Rev. 1647 (2002).
Available at: http://scholarship.law.nd.edu/ndlr/vol77/iss5/6

THE DIGITAL MILLENNIUM COPYRIGHT ACT AND THE FUNCTIONALITY FALLACY

Lora Saltarelli*

INTRODUCTION

The Digital Millennium Copyright Act (DMCA) has fundamentally altered traditional copyright law.[1] It grants copyright owners an unprecedented right to control access to their works, in addition to the traditional right of controlling uses of their work.[2] The DMCA notably departs from the traditional focus on wrongful uses by prohibiting circumvention of measures that control access to copyrighted works or making available technology that facilitates such circumvention.[3] These prohibitions apply without regard as to whether the use

1   Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified at 17 U.S.C. §§ 1201–1205 (Supp. V 1999)).

2   Jane C. Ginsburg, *Copyright and Control over New Technologies of Dissemination*, 101 COLUM. L. REV. 1613, 1632 (2001) (explaining that "[t]raditional rights under copyright did not entitle the copyright owner to dictate the user's enjoyment of her copy; copyright owners' control over an individual copy was "exhausted" with its sale"); Shandra J. Kotzun, Note, *The Digital Millennium Copyright Act: Anticircumvention Ban Gives More Rights to Copyright Owners*, 3 TUL. J. TECH. & INTELL. PROP. 123, 134 (2001) ("[T]he copyright owner gains more rights through the DMCA than they previously had. By being able to protect copyrighted works through technological protective measures, it ensures that information users cannot make fair use of the material as was previously allowed under copyright law."); Hannibal Travis, Comment, *Pirates of the Information Infrastructure: Blackstonian Copyright and the First Amendment*, 15 BERKELEY TECH. L.J. 777, 837 (2000) ("Uncompromising anti-circumvention laws thus permit the copyright holders to expand their rights to encompass every conceivable use for an period of indefinite time."); *see* 17 U.S.C. § 1201(a) (Supp. V 1999).

3   Eddan Elizafon Katz, RealNetworks, Inc. v. Streambox, Inc. & Universal City Studios, Inc. v. Reimerdes, 16 BERKELEY TECH. L.J. 53, 69 (2001); *see* 17 U.S.C.

after circumvention violates any of the copyright holder's exclusive rights,[4] which led the Second Circuit to hold that defenses to copyright infringement liability are not available for circumvention liability.[5] This prohibition fails to take into account that "[v]irtually any technology can be used for good or evil; the person operating the technology determines the role that technology plays."[6] By focusing on technology, Congress "upset the balance between copyright protection and public access by assigning absolute rights to the copyright owner while creating only narrow exemptions for technology innovators, academic researchers, and the general public."[7]

---

§ 1201(a)(1) (prohibiting the act of circumvention); *id.* § 1201(a)(2) (prohibiting providing or trafficking in access-control circumvention technologies or devices). *See generally* Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain,* 74 N.Y.U. L. REV. 354, 366–67 (1999) (discussing the tension between copyright and the public domain and the effects of "enclosing" information by access controls).

4   Katz, *supra* note 3, at 63–64, 66–67 (2001); *see* Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 322 (S.D.N.Y. 2000) ("Access control measures such as CSS do involve some risk of preventing lawful as well as unlawful uses of copyrighted material."), *aff'd sub nom.* Universal City Studios, Inc. v. Corley, 273 F.3d 429 (2d Cir. 2001); David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act,* 148 U. PA. L. REV. 673, 739 (2000) (noting that Congress did not restrict liability under the anti-trafficking provision "to those who induce or collude with bad actors" and that "Congress deliberately failed to incorporate a fair use exemption"); *see also infra* note 10 (listing copyright holder's exclusive rights).

5   *See* Universal City Studios, Inc. v. Corley, 273 F.3d 429, 459–60 (2d Cir. 2001); *Reimerdes,* 111 F. Supp. 2d at 321–24.

6   Jonathan Band & Taro Issihiki, *The New Anti-Circumvention Provisions in the Copyright Act: A Flawed First Step,* 3 CYBER. LAW., Feb. 1999, at 2.

7   Katz, *supra* note 3, at 69; *see* Ginsburg, *supra* note 2, at 1627–36 (discussing history of congressional balancing of rights and the effect the DMCA may have on that balance). *See generally* 17 U.S.C. § 1201(d) (exempting from civil liability "nonprofit library, archives, or educational institution which gains access to a commercially exploited copyrighted work solely in order to make a good faith determination of whether to acquire a copy of that work"); *id.* § 1201(f)(1) (exempting reverse engineering "for the sole purpose of identifying and analyzing those elements of the program that are necessary to achieve interoperability . . . and that have not previously been readily available . . . to the extent any such acts . . . do not constitute infringement under this title" from liability for circumvention); *id.* § 1201(g) (exempting encryption research "conducted to advance the state of knowledge in the field of encryption technology or to assist in the development of encryption products" actor meets conditions set forth in the subsection); *id.* § 1201(i) (exempting circumvention for protection of personally identifying information if the actor complies with the subsection's provisions); *id.* § 1201(j)(1) (exempting circumvention for purpose of security testing "solely for the purpose of good faith testing, investigating, or correcting, a security flaw or vulnerability, with the authorization of the owner or operator").

Congress enacted the DMCA in pursuance of the World Intellectual Property Organization (WIPO) Copyright Treaty.[8] The DMCA amended the Copyright Act of 1976,[9] which grants certain exclusive rights to copyright holders.[10] It, like the DMCA, was enacted pursuant to Congress's power under the Copyright Clause, which empowers Congress to "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."[11] One of the principal

---

8 Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified at 17 U.S.C. §§ 1201–1205) (Supp. V 1999)). On December 20, 1996, the World Intellectual Property Organization (WIPO) held a conference in Geneva that led to the adoption of two treaties. *See generally* WIPO, Treaties and Contracting Parties, *at* http://www. wipo.org/treaties/index.html (last visited Apr. 24, 2002) (providing information about the treaties that it administers). The United States became a contracting party to the WIPO Copyright Treaty on April 12, 1997. WIPO Treaty, Apr. 12, 1997, S. TREATY DOC. No. 105-17 (1997), *available at* 1997 WL 447232. Article 11 of the WIPO Copyright Treaty requires contracting parties 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 . . . and that restrict acts . . . not authorized by the authors concerned or permitted by law." *Id. See generally* 17 U.S.C. § 1201(a)–(b) (prohibiting circumvention of access-control and copyright protection measures); *id.* § 1202 (protecting integrity of copyright management information); *id.* § 1203 (providing civil remedies); *id.* § 1204 (providing for criminal sanctions); Nimmer, *supra* note 4, at 682–85 (discussing the legislative history of the DMCA); Michelle A. Ravn, Note, *Navigating Terra Incognita: Why the Digital Millennium Copyright Act Was Needed To Chart the Course of Online Service Provider Liability for Copyright Infringement*, 60 OHIO ST. L.J. 755, 778–87 (1999) (discussing legislative debates and proposed legislation leading to the enactment of the DMCA).

9 Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified at 17 U.S.C. §§ 1201–1205) (Supp. V 1999); 17 U.S.C. § 101 (Supp. V 1999)).

10 17 U.S.C. § 106 (1994). The statute provides as follows:

Subject to sections 107 through 121, the owner of a 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;

(2) to prepare derivative works based upon the copyrighted work;

(3) to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;

(4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly;

(5) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly; and

(6) in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.

Id.

11 U.S. CONST. art. I, § 8, cl. 8.

purposes of copyright law is to provide an economic incentive that will serve the public interest and increase public knowledge by stimulating the creation and dissemination of works.[12] In enacting the DMCA, Congress sought to secure this economic incentive by providing increased protection for works in digital format because of the increased risk of piracy in the digital medium.[13]

The DMCA contains two separate circumvention provisions. The access-control provision prohibits the circumvention of measures that control *access* to copyrighted works or making such circumvention technology available.[14] The rights protection provision only prohibits *trafficking* in technologies that circumvent "protection afforded by a technological measure that effectively *protects a right* of a copyright owner" but does not prohibit the actual act of circumvention.[15] This Note addresses the application of the access-control provision,[16] focusing on the First Amendment issues that arise when the prohibited "technology"[17] is also "speech." This Note does not address the rights protection provision because it is limited to protection of the exclu-

---

12 *See* Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 558 (1985) ("By establishing a marketable right to the use of one's expression, copyright supplies the economic incentive to create and disseminate ideas."); Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 349 (1991) (finding that primary purpose of copyright is to promote progress). See ADAM D. MOORE, INTELLECTUAL PROPERTY & INFORMATION CONTROL 41–49 (2001), for a discussion of the incentives-based, role-utilitarian argument for justifying protection of intellectual property. He concludes that it "fails to justify anything remotely close to [the] Anglo-American system of intellectual property." *Id.* at 49.

13 *See* Statement by President William J. Clinton upon Signing H.R. 2281, 34 WEEKLY COMP. PRES. DOC. 2168 (Nov. 2, 1998); Ginsburg, *supra* note 2, at 1615–18.

14 17 U.S.C. § 1201(a) (Supp. V 1999). In this subsection, circumvention means "to descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner." *Id.* § 1201(a)(3)(A). It prohibits circumvention of a "technological measure that effectively *controls access* to a work." *Id.* § 1201(a)(1)(A) (emphasis added). For the purposes of this subsection "a technological measure 'effectively controls access to a work' if the measure, in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work." *Id.* § 1201 (a)(3)(B).

15 *Id.* § 1201(b)(1) (emphasis added). In this subsection, circumvention means "avoiding, bypassing, removing, deactivating, or otherwise impairing a technological measure." *Id.* § 1201(b)(2)(A).

16 *Id.* § 1201(a).

17 *Id.* § 1201(a)(2) (prohibiting trafficking in "any technology . . . or part thereof").

sive rights granted under the Copyright Act and therefore does not raise the same First Amendment concerns.[18]

Part I explains the DMCA's provisions, the facts leading to the first application of the access-control provision, and the terminology of the technologies at issue. Part II.A outlines the fundamental differences between the two types of computer code: source code and object code. It suggests that they should be distinguished for purposes of the First Amendment analysis because source code expresses the writer's ideas and is not directly executable by a computer.[19] It argues that because source code is pure speech, the Second Circuit should not have subjected it to a lesser standard than that which is applied to regulations of pure speech. Part II.B argues that under Supreme Court precedent neither the (alleged) functionality of code nor the use of the Internet, as a medium for communication, justifies the application of a lesser standard of First Amendment protection. Furthermore, the DMCA is a content-based regulation; therefore, even if source code is functional, courts should analyze regulations of it under strict scrutiny. Part III discusses the DMCA's applicability to the press. It argues that Supreme Court precedent requires strict scrutiny when the traditional media is "punished" for publishing truthful information and that this same standard is applicable to publication by the media on the Internet. Part IV argues that the Second Circuit affirmed the suppression of speech based on generalized predictions, without requiring evidence that the anticipated harm (piracy) was a realistic possibility. It further argues that the regulation of source code, even if it is functional, cannot be treated as analogous to a content-neutral regulation of expressive conduct.

---

18 *See* Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 560 (1985) ("First Amendment protections [are] already embodied in the Copyright Act's distinction between copyrightable expression and uncopyrightable facts and ideas, and the latitude for scholarship and comment traditionally afforded by fair use."); *see also* Ginsburg, *supra* note 2, at 1632 (explaining that the rights-protection provisions have not "provoked the same ire as the provisions on circumvention of access-controls, in part because fair use and other copyright defenses remain available . . . [and] because they seem primarily to protect the status quo in the digital environment rather than to open up new realms of copyright owning opportunities"). *See generally* Neil Weinstock Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1 (discussing tension between copyright and First Amendment).

19 *See infra* notes 46–52 and accompanying text.

I. Background and Terminology

A. Access-Control Provision

The access-control provision prohibits the act of circumventing "a technological measure that effectively controls access to a [copyrighted] work."[20] It also separately prohibits offering to the public, providing or otherwise trafficking in any technology[21] that is "primarily designed or produced for the purpose of circumventing,"[22] has "only limited commercially significant purpose or use other than to circumvent,"[23] or "is marketed . . . for use in circumventing."[24]

The DMCA contains multiple civil remedies. Any person who is injured by a violation of § 1201[25] may seek damages,[26] costs,[27] attorney fees,[28] and destruction of the device that is part of the violation.[29] Additionally, a court "may grant temporary and permanent injunctions on such terms as it deems reasonable to prevent or restrain a violation."[30] The DMCA also provides for criminal sanctions when a person "willfully and for purposes of commercial advantage or private financial gain" violates § 1201.[31]

B. Facts Leading to the First Application of the Trafficking Prohibition

Movies (for home viewing) have traditionally been available in analog format, which can be placed on video cassettes, and played on

---

20   17 U.S.C. § 1201(a)(1)(A); *see also supra* note 14 (defining "effectively controls access").

21   17 U.S.C. § 1201(a)(2). As a whole, this subsection prohibits manufacturing, importing, offering to the public, providing, or otherwise trafficking in "any technology, product, service, device, component, or part thereof." *Id.* § 1201(a)(2). This Note only discusses offering, providing, or otherwise trafficking because the other prohibited actions are regulating conduct that is not speech. It also focuses only on the prohibition of "any technology" because, unlike the other prohibitions that prohibit tangible things or actions, it is broad enough to encompass pure speech or expressive conduct.

22   *Id.* § 1201(a)(2)(A).

23   *Id.* § 1201(a)(2)(B).

24   *Id.* § 1201(a)(2)(C).

25   *Id.* § 1203(a).

26   *Id.* § 1203(b)(3).

27   *Id.* § 1203(b)(4).

28   *Id.* § 1203(b)(5).

29   *Id.* § 1203(b)(6).

30   *Id.* § 1203(b)(1). The court may not grant an injunction if it would constitute "a prior restraint on free speech or the press protected under the 1st amendment to the Constitution." *Id.*

31   *Id.* § 1204.

a video cassette recorder (VCR).[32] During the 1990s, the major movie studios began developing technology to provide movies in digital format.[33] They developed an optical media storage device called a digital versatile disk (DVD) to store movies in digital format.[34] DVDs provided improved audio and visual quality, larger data storage capacity, and greater longevity than video cassettes.[35]

The studios were concerned about providing works in digital format because digital files can be copied without degradation, which increases the risk of piracy.[36] To minimize that risk, they agreed that the DVD would be the standard medium for home distribution of digital works and sought an encryption scheme to protect movies placed on DVDs.[37] In 1996, the studios adopted Content Scramble System (CSS), which encrypts the digital files on the DVD according to an algorithm.[38] A DVD player cannot access the contents of CSS encrypted DVDs unless it contains "player keys" capable of decrypting the digital files.[39]

The studios formed an organization, the DVD Copy Control Association (DVD CCA), that grants licenses to consumer electronics manufacturers so that they are able to produce compliant devices.[40] The

---

32   Universal City Studios, Inc. v. Corley, 273 F.3d 429, 436 (2d Cir. 2001).

33   *Id.*

34   *Id.* at 435. A DVD is similar to a compact disk (CD) but differs in some ways, such as its capability of storing larger amounts of data. *Id.* at 435 n.1.

35   *Id.* at 436.

36   *See id.* Unlike works in analog format, works in digital format do not lose perceptible quality during the copying process. *See id.* Additionally, it is possible to continuously create virtually perfect copies of a work in digital format because the copying process does cause physical degradation to the digital files. *See id.* In contrast, the copying process itself will eventually destroy a work in analog format because it physically degrades the "tape," on which the work is stored. *See id. See generally* John Borland, *Studios Scramble To Prevent Net Piracy*, CNET News.com (Oct. 25, 1999), *at* http://news.com.com/2100-1040-231874.html (discussing MPAA's efforts to develop technology to prevent online piracy).

37   *Corley*, 273 F.3d at 436.

38   *Id.* The algorithm is a mathematical formula that is used to scramble the digital files. *Id.* CSS code is embedded in the movie itself. *Id.* at 452.

39   *Id.* at 436–37. DVD players can be stand-alone devices or a component of a computer. *Id.* at 436. Decryption also requires the player to "understand" the CSS algorithm. *Id.* at 437. An algorithm is a set of instructions to complete a task. The player keys are actually decryption keys, and in that way "understand" the CSS algorithm. Andy Patrizo, *Why the DVD Hack Was a Cinch*, Wired News (Nov. 2, 1999), *at* http://www.wired.com/news/technology/0,1282,32263-2,00.html (discussing security flaws in one company's DVD player that enabled reverse engineering).

40   DVD Copy Control Ass'n v. Bunner, 113 Cal. Rptr. 2d 338, 341 (Ct. App. 2001). There are 400 player keys on every DVD, and each licensee is assigned one or more keys unique to that license. *Id.* All of the major motion picture studios belong to the

manufacturers pay an administrative fee to receive player keys and other necessary information, which is subject to strict security requirements.[41] In 1997, the studios introduced DVDs to the consumer market, where they quickly gained acceptance and became a significant source of revenue for the studios.[42] By the end of 1997, almost all released DVDs were CSS encrypted.[43]

In September of 1999, Jon Johansen, a fifteen-year-old Norwegian citizen, created computer code called DeCSS.[44] The code, when in executable form, can decrypt the CSS encryption, thereby allowing the user to copy the decrypted file onto the computer hard drive.[45]

There are two types of computer code: object code and source code. Object code represents instructions to the computer as a se-

---

DVD CCA. Stephen M. Kramarsky, *Copyright Enforcement in the Internet Age: The Law and Technology of Digital Rights Management*, 11 DEPAUL-LCA J. ART & ENT. L. & POL'Y 1, 11 (2001). *See generally* DVD CCA, Content Scrambling System, *at* http://www.dvd cca.org/css/ (last visited Apr. 24, 2002) (describing the differing requirements and processes to obtain CSS licensing agreement or information related to such agreements).

   41   Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 310 (S.D.N.Y. 2000), *aff'd sub nom. Corley*, 273 F.3d 429; *see also Corley*, 273 F.3d at 437 (discussing some of the security requirements contained in the CSS licensing agreement).

   42   *See Corley*, 273 F.3d at 437. Judge Kaplan found that "DVDs have proven not only popular, but lucrative for the studios." *Reimerdes*, 111 F. Supp. 2d at 310. He noted that revenue from the sale and rental of DVDs "currently accounts for a substantial percentage of . . . revenue from the home video market" and that the "home market, in turn, makes up a large percentage of the studios' total distribution revenue." *Id.* at 310–11.

   43   *Corley*, 273 F.3d at 437 n.3.

   44   *Reimerdes*, 111 F. Supp. 2d at 310; *see also Corley*, 273 F.3d at 437 (providing additional background information about Johansen and the development of DeCSS). In collaboration with two unidentified individuals, Johansen reverse-engineered a licensed DVD player to determine the encryption algorithm and "player keys." *Corley*, 273 F.3d at 437. He used this information to create a computer program capable of decrypting CSS scrambled files. *Id. See generally* Andy Patrizo, *DVD Piracy: It Can Be Done*, Wired News (Nov. 1, 1999), *at* http://www.wired.com/news/technology/0,12 82,32249,00.html (discussing technical aspects of DeCSS code and its use). All licensees of DVD technology are required to encrypt their decryption key so that "no one can reverse-engineer the playback software and extract the key." Patrizo, *supra* note 39. One licensee did not encrypt its key and, thus, Jon Johansen was able to reverse-engineer that player and obtain a player key. *Id.* DeCSS equipped with one player key would not have posed a piracy threat because the key could be removed from future players. *Id.* However, because the CSS algorithm is only five bytes, Johansen was able to find over 170 player keys by trial and error. *Id.*

   45   *Corley*, 273 F.3d at 437.

quence of binary digits (zeros and ones).[46] It is directly executable by the computer.[47] Pure object code "can be, and often is, read and understood by experienced programmers";[48] however, it is not an easy or effective tool for a programmer to communicate ideas because it is only a sequence of numbers.[49] Consequently, programmers have developed programming languages that employ syntax and symbols to convey meaning.[50] Source code refers to programs written in these languages.[51] Like object code, it represents instructions to the computer. "*Source code*, however, *must be converted* into object code *before a computer will execute* the software's instructions."[52]

Johansen posted only the executable object code on his personal website.[53] He then notified members of an Internet mailing list that

---

46 Junger v. Daley, 209 F.3d 481, 483 (6th Cir. 2000). Binary digits are zeros and ones that represent the absence (zeros) or presence (ones) of an electrical charge, to which the computer responds.

47 *Corley*, 273 F.3d at 438–39; *Junger*, 209 F.3d at 483; *Reimerdes*, 111 F. Supp. 2d at 305.

48 *See Corley*, 273 F.3d at 446.

49 *Reimerdes*, 111 F. Supp. 2d at 305; *see Corley*, 273 F.3d at 439 ("Source code has the benefit of being much easier to read (by people) than object code . . . .").

50 *Reimerdes*, 111 F. Supp. 2d at 306; *see Corley*, 273 F.3d at 439; Bernstein v. U.S. Dep't of Justice, 176 F.3d 1132, 1140 (9th Cir. 1999) (noting that a "programmer must follow stringent grammatical, syntactical, formatting and punctuation conventions"), *reh'g granted, opinion withdrawn by* Bernstein v. U.S. Dep't of Justice, 192 F.3d 1308 (9th Cir. 1999).

51 *Corley*, 273 F.3d at 439; *see also Bernstein*, 176 F.3d at 1140 & n.11 (noting that the distinguishing feature of source code is that it is meant to be read and understood by humans"). Java, Basic, and C++ are examples of commonly known programming languages used to write source code. *Id.* The Second Circuit explained that "computer languages range in complexity, object code can be placed on one end of a spectrum, and different kinds of source code can be arrayed across the spectrum according to the ease with which they are read and understood by humans." *Id.*

52 *Junger*, 209 F.3d at 483 (emphasis added); *see also Bernstein*, 176 F.3d at 1140 (finding that "a computer . . . can make no direct use of source code"); NLFC, Inc. v. Devcom Mid-America, Inc., 45 F.3d 231, 234 (7th Cir. 1995) ("Computers do not act directly on source code instructions, but rather transform them into object code within the machine."); *Reimerdes*, 111 F. Supp. 2d at 305 ("All data and instructions input to or contained in computers therefore *must* be reduced the numerals 1 and 0.") (emphasis added). *Compare Junger*, 209 F.3d at 483 ("This conversion is conducted by compiler software. . . . some source code may have no compatible compiler."), *and Reimerdes*, 111 F. Supp. 2d at 306 ("Some highly skilled human beings can reduce data and instructions to strings of 1's and 0's. . . . But it would be inconvenient, inefficient and, for most people, probably impossible to do so."), *with Corley*, 273 F.3d at 439 ("[A]s a general matter [source code] . . . must be translated back to object code before it can be read by a computer. This task is usually performed by a program called a compiler.").

53 *Reimerdes*, 111 F. Supp. 2d at 311.

he had done so.[54] Within months, both the object code and various versions of source code were available on hundreds of websites.[55] In October 1999, the studios sent cease and desist letters to website operators who posted DeCSS on their websites.[56] Although some website operators complied, many refused to remove DeCSS.[57]

Eric Corley and his company, 2600 Enterprises, publish a print magazine, *2600: The Hacker Quarterly*, and maintain an affiliated website.[58] The magazine and website "cover some issues of general interest to computer users" but are geared for "hackers."[59] The term "hackers" has misleading connotations; the "so-called hacker community includes serious computer-science scholars conducting research on protection techniques, computer buffs intrigued by the challenge of trying to circumvent access-limiting devices or perhaps hoping to promote security by exposing flaws in protection techniques."[60] In November 1999, Corley wrote and posted on the website an "article about the DeCSS phenomenon."[61] The article, in full, appeared as follows:

> The November 25, 1997 edition of Off The Hook (relevant portion 21 minutes into show), reported that DVD copy protection had been defeated. The method involved a C program that hooks into the device drivers from Zoran's SoftDVD player to intercept decoded DVD data. Two years later, the encryption itself has been cracked.
>
> Contents Scrambling System (CSS) is used in DVD copy protection to encode movies. Each DVD player, both software and standalone home theater systems, needs to have a key to decode the movie. Last week the Norwegian group Masters of Reverse Engineering

---

54   *Id.* at 311.

55   *Corley*, 273 F.3d at 439.

56   *Id.*

57   *Id.* at 439–40 ("The movie industry tried to stem the tide by sending cease-and-desist letters to many of these sites. These efforts met with only partial success; a number of sites refused to remove DeCSS."); Courtney Macavinta, *Movie Trade Group Tries To Block DVD Cracking Tool*, CNET News.com (Nov. 18, 1999), *at* http://news.com.com/2100-1023-233258.html (discussing the response to cease and desist letters).

58   *Corley*, 273 F.3d at 435, 439. Court filings and related documents are posted on the magazine's website. DVD Lawsuit Archive, *at* http://www.2600.com/dvd/docs/ (last visited Apr. 24, 2002); *see also infra* note 207 (providing website addresses of organizations that post these materials with accompanying supplementary resources).

59   *Corley*, 273 F.3d at 439.

60   *Id. See generally* Matthew Schwartz, *DVD Encryption Hacked*, CNN.com (Nov. 5, 1999), *at* http://www.cnn.com/TECH/computing/9911/05/dvd.hack.idg/index.html (discussing the appearance and rapid spread of DeCSS).

61   *Corley*, 273 F.3d at 439.

(MoRE) discovered that the DVD player XingDVD did not encrypt its key for decrypting DVDs.

As a result they were able to create DeCSS, a free DVD decoder, that not only facilitated the creation of previously unavailable open source DVD players for Linux - also allowed people to copy DVDs. After the discovery of Xing's key they were able to derive over a hundred additional keys due to the weaknesses of the encryption algorithm. The ease in which this was accomplished can be blamed not just on Xing's sloppiness, but on the United State's [sic] notoriously antiquated encryption export laws that forced DVD manufactures to use weak encryption (40 bit) in the first place.

In the last few days there have been numerous reports of movie industry lawyers shutting down sites offering information about DeCSS. 2600 feels that any such suppression of information is a very dangerous precedent. That is why we feel it's necessary to preserve this information. We do feel sympathy for the DVD industry now that their encryption has been cracked. Perhaps they will learn from this. We hope they apply that knowledge in a constructive way. If they choose to fall back on intimidation, we'll just have to deal with that.[62]

At the end of the article, Corley posted links to the DeCSS code and to other websites containing the code.[63]

C. Application of the Trafficking Prohibition

In January 2000, eight movie studios sued Corley and 2600 Enterprises (collectively Corley) under the DMCA in the Southern District of New York.[64] The case was heard by Judge Kap-

---

62 *DVD Encryption Cracked,* 2600 THE HACKER QUARTERLY (Nov. 12, 1999), *at* http://www.2600.com/news/display.shtml?id=20. On the website, the title "Off The Hook" is a hyperlink. *Id.*

63 *Id.; see Corley,* 273 F.3d at 439.

64 Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 310 (S.D.N.Y. 2000), *aff'd sub nom.* Universal City Studios, Inc. v. Corley, 273 F.3d 429 (2d Cir. 2001). There were two other defendants named in the complaint, but they entered into consent decrees with the studios. *Id.* at 312 n.91. The trial "defense team [was] led by the prominent First Amendment lawyer Martin Garbus, and financially backed by the Electronic Frontier Foundation, a free-speech group." Carl S. Kaplan, *Is Linking Illegal?,* N.Y. TIMES ON THE WEB (June 16, 2000), *at* http://www.nytimes.com/li brary/tech/00/06/cyber/cyberlaw/16law.html. In December 1999, the DVD CCA sued Andrew Bunner and numerous other website operators in California, under the state's Uniform Trade Secrets Act to enjoin them from publishing or linking to DeCSS. DVD Copy Control Ass'n v. Bunner, 113 Cal. Rptr. 2d 338, 341 (Ct. App. 2001), *review granted,* No. S102588, 2002 Cal. LEXIS 614 (Cal. filed Feb. 20, 2002). On January 21, 2000, the *Bunner* trial court issued a preliminary injunction prohibiting further posting or disclosure of DeCSS. *Id.* at 344. It refused to enjoin linking to

lan.[65] The studios sought an injunction prohibiting both posting DeCSS on the magazine's website and linking to other websites that posted it.[66]

The DMCA "makes it unlawful to offer, provide, or otherwise traffic in" circumvention technology, but the statute does not define "offering," "providing," or "trafficking."[67] Judge Kaplan found that

> the phrase "or otherwise traffic in" modifies and gives meaning to the words "offer" and "provide." In consequence, the anti-trafficking provision of the DMCA is implicated where one presents, holds out or makes a circumvention technology or device available, knowing its nature, for the purpose of allowing others to acquire it.[68]

Judge Kaplan further found that Corley violated the anti-trafficking provision by posting the code and linking to websites that contain it because such actions constituted offering and providing circumvention technology.[69] He rejected Corley's arguments that the DMCA was unconstitutional on its face or as applied,[70] and that his activities fell under one of the statutory exemptions (if the DMCA was constitu-

---

other sites because it reasoned that links were indispensable to Internet access and website operators could not be held accountable for the content of other websites. *Id.* The appellate court overturned the preliminary injunction as a prior restraint on pure speech. *Id.* at 351–52. On February 20, 2002, the California Supreme Court granted review of the decision. DVD Copy Control Ass'n v. Bunner, No. S102588, 2002 Cal. LEXIS 614 (Cal. filed Feb. 20, 2002). The Electronic Frontier Foundation (EFF) is coordinating the defense in both the *Corley* and *Bunner* cases. Their website tracks all the litigation involving DeCSS and provides court filings, press releases, news articles, discussion forums and links to other sites tracking litigation involving DeCSS. Electronic Frontier Foundation, *at* http://www.eff.org (last visited Apr. 24, 2002).

65 Judge Kaplan's opinion includes a very helpful section on the terminology and technical aspects of the case. *Reimerdes*, 111 F. Supp. 2d at 305–10; *see also* DVD Demystified, *at* http://www.dvddemystified.com/dvdfaq.html (last revision Mar. 10, 2002) (providing comprehensive answers to frequently asked questions about DVDs and related products). The DVD CCA's website provides answers to frequently asked questions about CSS and states the organization's position regarding DeCSS. DVD CCA, *at* http://www.dvdcca.org/faq.html (last visited Apr. 24, 2002).

66 *Reimerdes*, 111 F. Supp. 2d at 303. Judge Kaplan had granted a preliminary injunction prohibiting posting of the code but consolidated with the trial on the merits the motion to expand it to include linking. *Id.* at 304 n.2. Linking refers to providing a cross reference to another website. *See generally Corley*, 273 F.3d at 455–56 (clarifying the definition of linking as used in the injunction).

67 *Reimerdes*, 111 F. Supp. 2d at 325. Judge Kaplan defines these terms by using a dictionary. *Id.* (citing 2 THE COMPACT EDITION OF THE OXFORD ENGLISH DICTIONARY 3372 (traffic), 2340 (provide), 1979 (offer) (1971)).

68 *Id.*

69 *Id.* at 317, 325.

70 *Id.* at 327–33.

tional).[71] Judge Kaplan found that computer code and linking are speech under the First Amendment.[72] However, he reasoned that the "functional" capability, of both computer code and links, was analogous to expressive conduct (which combines speech and nonspeech components) and therefore warranted only intermediate scrutiny.[73] Under intermediate scrutiny, he held that the DMCA, on its face, was a content-neutral regulation.[74] He then granted a permanent injunction that prohibits posting the code and knowingly linking to websites that contain it.[75]

Corley renewed his constitutional arguments on appeal to the Second Circuit and argued that the injunction was an unconstitutional content-based application of the DMCA.[76] The Second Circuit affirmed the injunction, and the finding that the DMCA, on its face and as applied in this case, was content-neutral.[77] It also affirmed that intermediate scrutiny was the correct standard for analyzing the scope of First Amendment protection for both computer code, the dissemination thereof, and linking.[78] It reasoned that the unique characteristics of computer code, decryption code in particular, and the Internet as a medium for communication justified the application of a lesser standard than that applicable to other types of speech and mediums.[79]

---

71   *Id.* at 319–24.

72   *Id.* at 327, 339.

73   *See id.* at 326–32, 339; *see also* discussion *infra* Part II.B.2 (discussing regulations of expressive conduct).

74   *Reimerdes*, 111 F. Supp. 2d at 333, 345.

75   *Id.* (finding that the injunction was a content-neutral application of the statute).

76   Universal City Studios, Inc. v. Corley, 273 F.3d 429, 435 (2d Cir. 2001). The court summarizes the constitutional arguments as follows:

> Corley renews his constitutional challenges on appeal. Specifically, he argues primarily that: (1) the DMCA oversteps limits in the Copyright Clause on the duration of copyright protection; (2) the DMCA as applied to his dissemination of DeCSS violates the First Amendment because computer code is "speech" entitled to full First Amendment protection and the DMCA fails to survive the exacting scrutiny accorded statutes that regulate "speech"; and (3) the DMCA violates the First Amendment and the Copyright Clause by unduly obstructing the "fair use" of copyrighted materials. Corley also argues that the statute is susceptible to, and should therefore be given, a narrow interpretation that avoids alleged constitutional objections.

Id.

77   *Id.* at 456–58, 468.

78   *Id.* at 450–53.

79   *Id.* at 454–55, 457. On January 14, 2002, the EFF filed a motion requesting en banc review, http://www.eff.org/IP/Video/MPAA_DVD_cases/20020114_ny_2600_appeal.html (last visited Apr. 24, 2002).

II. Courts Should Apply Strict Scrutiny When Applying the Trafficking Prohibition to Technology That Is Also Speech

The First Amendment prohibits Congress from making a law that abridges freedom of speech.[80] That prohibition is not absolute. Courts must first determine if there is "speech" within the meaning of the First Amendment.[81] Speech encompasses "[e]ven dry information, devoid of advocacy, political relevance, or artistic expression,"[82] and conduct with a speech component.[83]

If Congress attempts to regulate constitutionally protected speech, based on its content, the court will apply strict scrutiny.[84] A regulation is content-based when the government adopts the regulation because of the message the speech conveys.[85] It is also content-based when the government regulates expressive conduct because the government disapproves of the ideas expressed.[86] Content-based regulations are presumptively invalid.[87] For a regulation to be constitutional under strict scrutiny, it must "promote a compelling interest," and be "the least restrictive means to further the articulated interest."[88]

Intermediate scrutiny applies if the regulation is unrelated to content.[89] Content-neutral regulations burden speech without reference to the ideas expressed.[90] A regulation is constitutional, under intermediate scrutiny, if it serves a substantial governmental interest that is unrelated to the suppression of speech, and the regulation is narrowly tailored.[91] For example, "'time, place, and manner' regulations are acceptable so long as they are designed to serve a substantial

---

80   U.S. Const. amend. I.

81   *Reimerdes*, 111 F. Supp. 2d at 326.

82   *Corley*, 273 F.3d at 446.

83   *Id.; see also, e.g.,* United States v. O'Brien, 391 U.S. 367, 376 (1968).

84   *E.g.,* Sable Comm. of Cal., Inc. v. FCC, 492 U.S. 115, 126 (1989); *see also* Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622, 642 (1994) (noting that most exacting scrutiny applies to regulations that "suppress, disadvantage, or impose differential burdens upon speech because of its content").

85   *E.g., Sable,* 492 U.S. at 126; *see also, e.g., Turner,* 512 U.S. at 642.

86   Hill v. Colorado, 530 U.S. 703, 720 (2000); R.A.V. v. City of St. Paul, 505 U.S. 377, 382 (1992).

87   *Sable,* 492 U.S. at 126.

88   *Id.*

89   *E.g., Turner,* 512 U.S. at 642; *see also, e.g., Hill,* 530 U.S. at 719–20.

90   *E.g., Hill,* 530 U.S. at 720; *Turner,* 512 U.S. at 643.

91   *Turner,* 512 U.S. at 662. See Universal City Studios, Inc. v. Corley, 273 F.3d 429, 450 n.25 (2d Cir. 2001) for a discussion of the "slightly different formulations to express the narrow tailoring requirement of a content-neutral regulation."

governmental interest and do not unreasonably limit alternative avenues of communication."[92] The Second Circuit noted that "[t]he Supreme Court's approach to determining content-neutrality appears to be applicable whether what is regulated is expression, . . . conduct, or any 'activity' that can be said to combine speech and non-speech elements."[93] Therefore, if the government's interest in regulating the conduct is *because* of the message the conduct conveys, strict scrutiny will apply.[94]

A.   *Source Code and Object Code Distinguished*

Although both the Second Circuit[95] and Judge Kaplan[96] discussed the differences between the types of code, they did not distinguish between the codes for the purpose of First Amendment analysis. The Second Circuit analogized code to musical scores and recipes, both of which are protected speech. It found that code is also speech because it has the capacity to convey information,[97] and it expresses the programmer's ideas.[98] It also found that programmers use code as a learning tool and "almost inevitably communicate in code" when expressing ideas to each other.[99]

---

92   Renton v. Playtime Theatres, Inc., 475 U.S. 41, 47 (1986); *see also* Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 327–28 (S.D.N.Y. 2000) ("Because restrictions of this type are not motivated by a desire to limit the message, they will be upheld if they serve a substantial government interest and restrict First Amendment freedoms no more then necessary."), *aff'd sub nom. Corley*, 273 F.3d 429.

93   *Corley*, 273 F.3d at 450.

94   *See Hill*, 530 U.S. at 720; R.A.V. v. City of St. Paul, 505 U.S. 377, 382 (1992); United States v. O'Brien, 391 U.S. 367, 383 (1968).

95   *See Corley*, 273 F.3d at 439.

96   *See Reimerdes*, 111 F. Supp. 2d at 305–06.

97   *Corley*, 273 F.3d at 446–47 ("A recipe is no less 'speech' because it calls for the use of an oven, and a musical score is no less 'speech' because it specifies performance on an electric guitar.").

98   *See id.*; *see also* Bernstein v. U.S. Dep't of Justice, 176 F.3d 1132, 1140 (9th Cir. 1999) (finding that source code is "meant for human eyes and understanding" and that it "can be used to express an idea or a method"), *reh'g granted, opinion withdrawn by* Bernstein v. U.S. Dep't of Justice, 192 F.3d 1308 (9th Cir. 1999); Bernstein v. U.S. Dep't of State, 922 F. Supp. 1426, 1436 (N.D. Cal. 1996) (concluding that "source code is a means of original expression").

99   *Corley*, 273 F.3d at 447. While Judge Kaplan also stated that all code is "human readable," he found that programmers understand *source code's* expression, and *it* conveys the programmer's ideas. *Reimerdes*, 111 F. Supp. 2d at 329; *see also Bernstein*, 176 F.3d at 1141 (finding that "cryptographers use *source code* to express their scientific ideas in much the same that mathematicians use equations or economists use graphs" (emphasis added)).

The Second Circuit stated that it was joining other courts that have found that computer code is protected speech,[100] but failed to note that each of those courts held that source code is speech.[101] The Sixth Circuit's decision in *Junger v. Daley* is illustrative.[102] The *Junger* court found that "for individuals fluent in a computer programming language, *source code* is the most efficient and precise means by which to communicate ideas."[103] It held that "[b]ecause computer *source code* is an expressive means for the exchange of information and ideas about computer programming . . . it is protected by the First Amendment."[104]

This distinction is important because the Second Circuit found that computer code is functional.[105] It held that the code's "functional capability is not speech within the meaning of the First Amendment,"[106] and therefore it must be treated as combining speech and nonspeech elements for the purposes of First Amendment analysis.[107]

---

100   *Corley*, 273 F.3d at 449 (citing Junger v. Daley 209 F.3d 481, 484 (6th Cir. 2000); *Bernstein*, 176 F.3d at 1140–41; Karn v. U.S. Dep't of State, 925 F. Supp. 1, 9–10 (D.D.C. 1996); *Bernstein*, 922 F. Supp. at 1434–36).

101   *Bernstein*, 176 F.3d at 1141 & n.15 ("[W]e conclude that encryption software, in its source code form . . . must be viewed as expressive for First Amendment purposes. . . . [but] [w]e express no opinion regarding whether *object* code manifests a 'close enough nexus to expression.'"), *reh'g granted, opinion withdrawn by* Bernstein v. U.S. Dep't of Justice, 192 F.3d 1308 (9th Cir. 1999); *Bernstein*, 922 F. Supp. at 1436 ("For the purposes of First Amendment analysis, this court finds that source code is speech."); *see* Karn v. U.S. Dep't of State, 925 F. Supp. 1, 9 (D.D.C. 1996) ("[F]or the purpose of addressing the dispositive issue whether the regulation is justified and permissible, the Court will assume that the protection of the First Amendment extends to the source code . . . .").

102   Junger v. Daley, 209 F.3d 481, 484–85 (6th Cir. 2000) (emphasis added).

103   *Id.* at 484 (emphasis added). It also noted that "computer source code, though unintelligible to many, is the preferred method of communication among computer programmers." *Id.* at 484; *see also Bernstein*, 176 F.3d at 1140–41 & n.11 (noting that source code is "merely text" and that it is used for "expressive purposes"). The Second Circuit also noted that "[p]rogrammers use snippets of code to convey their ideas for new programs," *Corley*, 273 F.3d at 448 n.21, but failed to recognize that this is most likely to be in source code because it is capable of more expression as it uses words and symbols rather than a string of zeros and ones.

104   *Junger*, 209 F.3d at 485 (emphasis added).

105   *Corley*, 273 F.3d at 454. *Contra Bernstein*, 176 F.3d at 1142 (finding that "source code . . . *cannot* be used to control directly the functioning of a computer").

106   *Corley*, 273 F.3d at 454. *But see Bernstein*, 176 F.3d at 1142 (noting that "ignoring the distinction between source and object code obscures the important fact that source code is not meant solely for the computer, but is rather written in a language intended also for human analysis and understanding").

107   *Corley*, 273 F.3d at 454; *see also* discussion *infra* Part II.B.1 (discussing the application of intermediate scrutiny to speech and nonspeech elements combined in the same course of conduct).

It reasoned that "[u]nlike a blueprint or a recipe, which cannot yield any functional result without human comprehension of its content, human decision-making, and human action, computer code can instantly cause a computer to accomplish tasks and instantly render the results of those tasks available throughout the world via the Internet."[108] While recognizing that "a human being decides to insert the disk containing the code into a computer and causes it to perform its function," the court found that "this momentary intercession of human action does not . . . render code entirely speech, like a blueprint or a recipe."[109]

However, the court's reasoning is fundamentally flawed because the court failed to distinguish between source and object code. Only object code is directly executable by the computer's microprocessor.[110] Source code cannot yield a functional result without human action far beyond deciding to run the code. For source code to cause the computer to perform, the user must first convert it into machine-readable object code, either by application of compiler software or translation.[111] In either case, until the source code is converted, it cannot cause the computer to function anymore than a blueprint can cause the design to be constructed or a recipe can cause the food to be prepared. Like reading a blueprint or a recipe, a human must "comprehend" the source code to determine if a compiler exists. Like gathering the materials or ingredients, they must "decide" what compiler to use based on its availability and characteristics or how to otherwise translate it. Finally, like building or preparing, they must "take action" by performing the conversion. This process is not as simple as inserting a disk. Like a recipe or a blueprint, source code is simply a set of instructions that requires much more than a "momentary intercession of human action" to yield a functional result.[112] Source code does not have a functional capability; therefore, it is also "entirely speech," and it should not be subjected to a "different standard than that applicable to pure speech."[113]

---

108 *Corley*, 273 F.3d at 451.

109 *Id.*; *see also* David L. Burk, *Patenting Speech*, 79 TEX. L. REV. 99, 115–17 (2000) (discussing a similar analogy). *But see* Bernstein v. U.S. Dep't of State, 922 F. Supp. 1426, 1436 (N.D. Cal. 1996) ("Source code is essentially a set of instructions to that is used indirectly in a computer since it must be translated into object code to achieve the desired result.").

110 *See supra* notes 46–49 and accompanying text (defining object code and explaining its capabilities).

111 *See supra* notes 50–52 and accompanying text (defining source code and explaining its capabilities).

112 *See supra* text accompanying note 109.

113 *Corley*, 273 F.3d at 451.

It is unclear what level of scrutiny would apply when DeCSS is expressed in ways that are undoubtedly non-functional. For example, Professor Touretzky of Carnegie Mellon University maintains a scholarly website that makes DeCSS available in many forms, including artwork, poems, songs, t-shirts, and in programming languages for which no compiler exists.[114] Another website runs a contest for incorporating DeCSS into artistic creations.[115] These expressions of DeCSS (like source code) cannot cause a computer to perform, but a computer programmer could use them to compile object code.[116] Judge Kaplan seemed to suggest that he would enjoin these other methods of expressing DeCSS. He stated that the injunction only drew the line at prohibiting code, rather than "other modes of expression that convey the same idea" because that is all "the relief plaintiffs sought."[117]

In contrast, the Second Circuit held that the DMCA was "applied to DeCSS *solely* because of its capacity to instruct a computer to decrypt CSS,"[118] which indicates that it would not apply the DMCA to expressions (like t-shirts, songs, or poems) that clearly lack any functional capability. However, it is not clear where the Second Circuit would draw the line between what is functional and what is "entirely" speech. A t-shirt containing the object code could not "instantly cause a computer to accomplish tasks,"[119] but if someone choose to input the code into a computer, it would cause the computer to perform. However, it is not clear that this would be enough "human action" and "decision-making" for it to be considered "entirely speech."[120]

---

114 D. S. Touretzky, *Gallery of CSS Descramblers, at* http://www.cs.cmu.edu/~dst/DeCSS/Gallery (last modified Feb. 26, 2002).

115 Tom Vogt, DeArt, *at* http://www.lemuria.org/DeArt/ (last visited Apr. 26, 2002).

116 *Reimerdes,* 111 F. Supp. 2d at 345 n.275 (discussing the testimony of Professor Touretzky). Professor Touretzky has posted his testimony and the documents he submitted to the trial court. Touretzky, *supra* note 114 (providing additional links to media coverage of trial and the gallery); *see supra* notes 51–52 and accompanying text (discussing necessity of compiling source in order to execute its instructions).

117 Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 345 n.275 (S.D.N.Y. 2000) ("Access control measures such as CSS do involve some risk of preventing lawful as well as unlawful uses of copyrighted material."), *aff'd sub nom.* Universal City Studios, Inc. v. Corley, 273 F.3d 429 (2d Cir. 2001).

118 Universal City Studios, Inc. v. Corley, 273 F.3d 429, 454 (2d Cir. 2001) (emphasis added).

119 *See supra* notes 108–09 and accompanying text (discussing the Second Circuit's reasoning for finding that code has a functional capability).

120 *See supra* notes 108–09 and accompanying text (discussing the Second Circuit's reasoning for finding that, because code is functional, it is not "entirely speech").

B. *Functionality Does Not Justify a Lesser Standard*

1. Speech and Nonspeech Elements

The Second Circuit found that "[t]he functionality of computer code properly affects the scope of its First Amendment protection,"[121] following extensive quotation of Judge Kaplan's reasoning that the functional aspect of the code itself justifies the application of intermediate scrutiny.[122] Judge Kaplan based this assertion on the Supreme Court's distinction between the speech and nonspeech elements of expressive conduct in *United States v. O'Brien*.[123] The Second Circuit held that the "realities of what code is and what its normal functions are require a First Amendment analysis that treats code as combining nonspeech and speech elements, i.e., functional and expressive elements."[124]

In *O'Brien*, the Supreme Court held that if "'speech' and 'nonspeech' elements are combined in the same course of conduct," then "a sufficiently important interest in regulating the nonspeech element can justify incidental limits on First Amendment freedoms."[125] The statute at issue prohibited the destruction of draft cards, which the Court noted, "plainly does not abridge free speech on its face."[126] It also found that "*both the governmental interest and the operation* of the [statute] are limited to the noncommunicative aspect."[127] It held that the statute was constitutional because it was "an appropriately narrow means" of protecting the government's interest and it "*condemn[ed] only the independent noncommunicative impact* of conduct within its reach."[128]

Like the statute in *O'Brien*, the DMCA does not abridge speech on its face. However, as interpreted by the Second Circuit, its operation is not limited to the non-communicative aspect, and therefore the *O'Brien* distinction does not supply a basis for applying intermediate scrutiny to the prohibition of source code.[129] Regulating the func-

---

121 *Id.* at 452.

122 *Reimerdes*, 111 F. Supp. 2d at 332–33. Judge Kaplan states that code designed to circumvent can be regulated based on its content. *Id.* at 333.

123 United States v. O'Brien, 391 U.S. 367 (1968).

124 *Corley*, 273 F.3d at 451. *Contra* Bernstein v. U.S. Dep't of State, 922 F. Supp. 1426, 1436 (N.D. Cal. 1996) (finding that because "source code is speech and not conduct, *O'Brien* does not appear to provide the appropriate standard").

125 *See O'Brien*, 391 U.S. at 376.

126 *Id.* at 375.

127 *Id.* at 381–82 (emphasis added).

128 *Id.* (emphasis added).

129 *See id.; see also* Karn v. U.S. Dep't of State, 925 F. Supp. 1, 10 (D.D.C. 1996).

tional aspect of source code is not analogous to regulating conduct because conduct may or may not be expressive. In *O'Brien*, there was "nothing necessarily expressive about such conduct," which is not true of source code because it necessarily expresses the writer's ideas.[130] Judge Kaplan noted numerous times that it is the dissemination of the code that causes the harm.[131] Furthermore, he found that "the statutory purpose [is] preventing dissemination of circumvention technology."[132] This weighs against the analogy to *O'Brien* because the *O'Brien* Court stated that "[t]he case at bar is therefore unlike one where the alleged governmental interest in regulating conduct arises in some measure because the communication allegedly integral to the conduct is itself thought to be harmful."[133] Therefore, even if code had a functional aspect it would not be analogous to the regulation of a nonspeech component.

2. Regulation of the Code vs. Regulation of Corley's Speech

The court should not have considered what level of scrutiny applied to computer code. Whether code can be prohibited, consistent with the First Amendment, is relevant only to the prohibitions against creating it, manufacturing it, or marketing it, none of which were at issue in this case.[134] Judge Kaplan held that Corley violated the

---

> The plaintiff disputes this characterization of the law, arguing that the nature of the matter regulated, (*e.g.*, whether "conduct" or "pure speech"), as opposed to the rationale for the regulation, actually dictates the level of scrutiny to be applied . . . . The Court disagrees, as the plaintiff's argument places form over substance. Pursuant to extensive First Amendment jurisprudence, the government's rationale for the regulation controls, regardless of the "form of the speech or expression" regulated.

Id. (discussing the application of *O'Brien* standard to a computer program).

130   *See supra* note 101 and accompanying text (discussing cases finding that source code is expressive).

131   The "harm is done by dissemination." Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 342–43 & n.267 (S.D.N.Y. 2000), *aff'd sub nom.* Universal City Studios, Inc. v. Corley, 273 F.3d 429 (2d Cir. 2001). The court "would uphold the application of the DMCA now before it on the ground that this record establishes an imminent threat of danger flowing from dissemination of DeCSS." *Id.* at 333 n.216. "[D]issemination itself carries very substantial risk of imminent harm." *Id.* at 332 (analogizing communication over the Internet to spread of contagious disease). The government has a legitimate right to prevent harm from dissemination. *Id.* at 333.

132   *Id.* at 340.

133   *O'Brien*, 391 U.S. at 382.

134   *Reimerdes*, 111 F. Supp. 2d at 317, 319. The manufacture, import, and use of the code after acquiring it, by any means, is already prohibited by the DMCA. *See supra* notes 20–24 and accompanying text. One reporter noted that

DMCA by *posting* and *linking* to the code[135] and that Corley could not avail himself of the statutory exemptions because he did not author the code.[136] Once the Second Circuit determined that the expressive aspect of the code was protected speech, it should have considered only what level of scrutiny applied to Corley's speech. Corley's speech was disclosing the code by posting and linking to it, *not* the code itself.

The failure to distinguish between the code and Corley's speech is important because the Supreme Court has instructed that a "naked prohibition against disclosures is fairly characterized as regulation of pure speech."[137] As applied by the Second Circuit, the trafficking provision is a naked prohibition of any disclosure. Therefore, it should be characterized as a regulation of pure speech. This characterization is significant because, in *Brandenburg v. Ohio*, the Supreme Court held that "the constitutional guarantees of free speech and free press do not permit . . . forbid[ding] or proscrib[ing] advocacy . . . of law violation except where such advocacy is directed to inciting or producing imminent lawless action and is likely to incite or produce such action."[138] Yet Judge Kaplan found that the defendants "offered and provided DeCSS by posting it on their web site" and stated that "[w]hether defendants did so in order to infringe, or to permit or encourage others to infringe, copyrighted works in violation of other provisions of the Copyright Act *simply does not matter* for purposes of § 1201(a)(2)."[139] If the courts had treated code as pure speech, then *Brandenburg* would have required finding both an intent to incite or produce imminent lawless action and that it was likely to produce such action. It would not have mattered even if Corley had intended to incite violations of the DMCA's trafficking prohibition (assuming that it was even possible for him to know that the trafficking provision would apply to posting or linking), because it would be a very circular

---

[a]lthough it makes sense to prosecute wholesale piracy, it makes no sense whatsoever to refuse to produce software to allow people to play legally acquired discs on devices they own and then prosecute them if they write their own software. It makes even less sense to prosecute people for doing what the Web was built for: posting and linking to useful information.

Wendy Grossman, *DVDs! Cease and DeCSS?*, SCIENTIFIC AM. (May 16, 2000), *at* http://www.sciam.com/2000/0500issue/0500cyber.html.

135   *Reimerdes*, 111 F. Supp. 2d at 317, 319, 325.
136   *Id.* at 320.
137   Bartnicki v. Vopper, 532 U.S. 514, 526 (2001).
138   Brandenburg v. Ohio, 395 U.S. 444, 447 (1969).
139   *Reimerdes*, 111 F. Supp. 2d at 319 (emphasis added). The Second Circuit also rejected Corley's argument that Judge Kaplan's linking test "was deficient for not requiring proof of intent to cause, or aid or abet, harm." Universal City Studios, Inc. v. Corley, 273 F.3d 429, 456–57 (2d Cir. 2001).

reasoning to hold that he intended to cause a violation and is likely to cause a violation of the very law that forbids his speech.

The Second Circuit cited *Red Lion Broadcasting Co. v. FCC* to justify the application of a lesser First Amendment standard to code because of its functional characteristics.[140] In *Red Lion*, the Court stated that "differences in the characteristics of new media justify differences in the First Amendment standards applied to them."[141] However, the Court also noted that "it is the purpose of the First Amendment to preserve an uninhibited marketplace of ideas ... rather than to countenance monopolization of that market, whether it be by the Government itself or a private licensee."[142]

The Second Circuit found that "[l]imiting First Amendment protection ... to descriptions of computer code (but not the code itself) would impede discourse among computer scholars."[143] Yet by finding that the DMCA reaches and prohibits dissemination of both object and source code, the Second Circuit restricts *any access* to computer code that is capable of circumvention, even non-functional source code. This is contradictory to the Supreme Court's instruction that "it is the right of the public to receive suitable access to social, political, esthetic, moral, and other ideas and experiences .... That right may

---

140   *Corley*, 273 F.3d at 451 (citing Red Lion Broad. Co. v. FCC, 395 U.S. 367, 386 (1969)).

141   Red Lion Broad. Co. v. FCC, 395 U.S. 367, 386 (1969).

142   *Id.* at 390; *see also* Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 545, 559 (1985) (finding that "copyright is intended to increase and not to impede the harvest of knowledge" and stating that the "right not to speak would [not] sanction abuse of the copyright owner's monopoly as an instrument to suppress facts"). The president of the MPAA, Jack Valenti, "vowed patriotically to keep filing lawsuits until every Web site carrying the dangerous DeCSS program has been completely suppressed." C. Scott Ananian, *Criminal Code?*, Salon.com (Feb. 9, 2000), *at* http://www.salon.com/tech/feature/2000/02/09/linuxdvd/index1.html. One reporter, who is also a "hacker," noted that "whether DeCSS promotes piracy isn't even the real issue. To the hackers hard at work coding the world of tomorrow the real problem is the criminalization of source code .... Traditionally our activism has been through writing code." *Id. See generally* Damien Cave, *Can Hyperlinks Be Outlawed*, Salon.com (Apr. 6, 2000), *at* http://www.salon.com/tech/log/2000/04/06/decss/index.html (discussing Mark Litvack, the MPAA's vice president and director of legal affairs for worldwide anti-piracy, position on hyperlinks); Deborah Durham-Vichr, *Protest Draws Attention to DMCA*, Linuxworld.com (Mar. 30, 2000), *at* http://www.linuxworld.com/linuxworld/lw-2000-03/lw-03-dmca.html (reporting that "[n]ot only could the broadness of the new law affect Linux development of DVD software, say protesters—citing threats by the MPAA to go after the DVD driver for Linux—it could also discourage software advances, such as those made by reverse engineering").

143   *Corley*, 273 F.3d at 447.

not constitutionally be abridged."[144] Because the "prohibition on posting prevents . . . conveying to others the speech component of DeCSS,"[145] and the "prohibition on linking restricts . . . [the] ability to facilitate access to whatever protected speech is available on those sites,"[146] if a court applies the anti-trafficking provisions to source code at all, then it should apply strict scrutiny to ensure that it is the least restrictive means of preventing a violation.

Red Lion cannot support a lesser First Amendment standard because the Supreme Court has limited its application to the broadcast medium.[147] The Court instructed that "the unique physical characteristics of cable transmission" should not be ignored in "determining the constitutionality of regulations affecting cable speech. . . . But whatever relevance these physical characteristics may have in the evaluation of particular cable regulations, they *do not require* the alteration of settled principles of our First Amendment jurisprudence."[148]

The Second Circuit also used the isolated statement in Red Lion to justify the application of a lesser First Amendment standard to the Internet, because of its unique characteristics, as a medium for dissemination.[149] This was an inappropriate extension because the Supreme Court has explicitly stated that the Red Lion principle does not extend to cyberspace. In *Reno v. ACLU,* the Court held that the broadcast "cases provide no basis for qualifying the level of First Amendment scrutiny that should be applied to this medium."[150] It explained that some cases have "recognized special justifications for regulation of the broadcast media *that are not applicable to other speakers* . . . the Court relied on the history of extensive Government regulation of the broadcast medium, the scarcity of available frequencies at

---

144   *See Red Lion,* 395 U.S. at 390.

145   *Corley,* 273 F.3d at 454.

146   *Id.* at 457 n.32.

147   Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622, 638–39 (1994) ("[T]he inherent physical limitation on the number of speakers who may use the broadcast medium has been thought to require some adjustment in traditional First Amendment analysis . . . . [The] cases are inapposite in the present context because cable television does not suffer from the inherent limitations . . . .").

148   *Id.* at 639 (emphasis added) (discussing a statute that required cable operators "to carry" broadcast programming).

149   *See Corley,* 273 F.3d at 451–52.

150   Reno v. ACLU, 521 U.S. 844, 870 (1997) (citations omitted); *see also Turner,* 512 U.S. at 639 ("In light of these fundamental technological differences between broadcast and cable transmission, application of the more relaxed standard of scrutiny adopted in *Red Lion* and the other broadcast cases is inapt when determining the First Amendment validity of cable regulation.").

its inception, and its 'invasive' nature," and "[t]hose factors are not present in cyberspace."[151]

In *Reno v. ACLU*, the Supreme Court struck down certain portions of the Communications Decency Act (CDA) that regulated "speech" on the Internet, as unconstitutionally overbroad content-based regulation of speech.[152] The DMCA's trafficking provision suffers from many of the same flaws identified by the Court in *Reno*. First, the DMCA is not limited to "commercial speech or commercial entities."[153] Its prohibition against "providing" or "offering" has the potential to reach any and all dissemination of circumvention technologies, regardless of whether there is a commercial motive or even an intent to cause, aid, or abet circumvention or infringement.[154] The

---

151 *Reno*, 521 U.S. at 868 (emphasis added). *Compare Corley*, 273 F.3d at 451, 454–56, *with* ACLU v. Johnson, 194 F.3d 1149, 1156 (10th Cir. 1999) (discussing *Reno*, 521 U.S. at 870).

> The Court has determined which level of scrutiny to apply to particular types of speech, depending in part on the particular speech medium involved. Thus, for example, attempts to regulate the print media have been subjected to strict scrutiny, while the broadcast media have been afforded less First Amendment protection. After examining the nature of the Internet, and concluding that it is more similar to the telephone as a communication medium than to the broadcast media, the Court in *Reno* determined that the Internet deserved the highest level of First Amendment protection.

Johnson, 194 F.3d at 1156 n.4; *see also* Todd G. Hartman, *The Marketplace vs. the Ideas: The First Amendment Challenges to Internet Commerce*, 12 HARV. J.L. & TECH. 419, 426 (1999) (stating that the only decisive issue in *Reno* was that the Internet is not a medium subject to exceptions from the normal application of First Amendment protections).

152 *Reno*, 521 U.S. at 874.

153 *Id.* at 877. The DMCA does create some exemptions but they are very narrow. For example, factors for determining if the encryption research exemption applies include: whether the information obtained "was disseminated, and if so, whether it was disseminated in a manner reasonably calculated to advance the state of knowledge or development of encryption technology," 17 U.S.C. § 1201(g)(3)(A) (Supp. V 1999), if "the person is engaged in a legitimate course of study, is employed, or is appropriately trained or experienced, in the field of encryption technology," *id.* § 1201(g)(3)(B), and "whether the person provides the copyright owner of the work to which the technological measure is applied with notice of the findings and documentation of the research." *Id.* § 1201(g)(3)(C). It also exempts certain non-profit organizations from civil liability for the act of circumvention, *Id.* § 1201(d)(3)(A), (B), but not from the anti-trafficking provision. *Id.* § 1201(d)(4). These organizations are exempted from criminal liability for violation of § 1201 or § 1202. *Id.* § 1204(b); *see also supra* note 7 (listing statutory exemptions).

154 *See supra* note 139 and accompanying text.

statute is vague[155] because it does not define "trafficking," "offering," or "providing," which are the elements of both the civil and criminal offense.[156] By allowing courts to define those terms, the statute creates the possibility of discriminatory enforcement (both civilly and criminally), and that creates a significant chilling effect.[157] The Supreme Court noted that "[a]s a practical matter, this increased deterrent effect [of criminal sanctions], coupled with the 'risk of discriminatory enforcement' of vague regulations, poses greater First Amendment concerns."[158] This does not mean that the statute is

---

155   *See Reno,* 521 U.S. at 872–74 (finding that vagueness is a factor leading to determination that the statute was unconstitutionally overbroad). The Court found that the CDA

> lacks the precision that the First Amendment requires when a statute regulates the content of speech . . . [it] presents a greater threat of censoring speech that, in fact, falls outside the statute's scope. Given the vague contours of the coverage of the statute, it unquestionably silences some speakers whose messages would be entitled to constitutional protection.

Id. at 874. Judge Kaplan considered the applicability of the overbreadth. Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 337–39 (S.D.N.Y. 2000), *aff'd sub nom.* Universal City Studios, Inc. v. Corley, 273 F.3d 429 (2d Cir. 2001). He held that because several factors weighed against "permitting defendant to mount an overbreadth challenge," *id.* at 338, the "*defendants will not be heard* to mount an overbreadth challenge in this context." *Id.* at 339 (emphasis added). *But see* Forsyth County v. Nationalist Movement, 505 U.S. 123, 129 (1992) ("It is well established that in the area of freedom of expression an overbroad regulation may be subject to facial review and invalidation, even though its application in the case under consideration may be constitutionally unobjectionable."). Judge Kaplan also held that because the defendants "engaged in conduct clearly proscribed by the DMCA," they· *could not* be heard to complain of vagueness and that "*they will not be heard* to complain of any vagueness as applied to others." *Reimerdes,* 111 F. Supp. 2d at 339 (emphasis added).

156   *See supra* notes 21, 68 and accompanying text.

157   *See Reno,* 521 U.S. at 872–74.

158   *Id.* at 872.

> In addition to the opprobrium and stigma of a criminal conviction, the CDA threatens violators with penalties including up to two years in prison for each act of violation. The severity of criminal sanctions may well cause speakers to remain silent rather than communicate even arguably unlawful words, ideas, and images.

Id. The DMCA provides for more severe sanctions. 17 U.S.C. § 1204 (Supp. V 1999). It provides as follows:

> (a) In general. Any person who violates section 1201 or 1202 willfully and for purposes of commercial advantage or private financial gain—
>
>   (1) shall be fined not more than $ 500,000 or imprisoned for not more than 5 years, or both, for the first offense; and
>
>   (2) shall be fined not more than $ 1,000,000 or imprisoned for not more than 10 years, or both, for any subsequent offense.

wholly unconstitutional[159] because, unlike the CDA, it is not on its face directed at speech or, more particularly, to Internet speech. However, as applied by the Second Circuit, the DMCA regulates speech, particularly when the Internet is used as a medium. Even that does not necessarily mean that the DMCA is unconstitutional on its face or as applied, but it does strongly suggest that if a court applies the DMCA to "speech" at all, it should apply strict scrutiny.

While the Second Circuit raises legitimate concerns about the Internet's capability of wider dissemination, such concerns cannot justify the suppression of speech in one medium (but not in more traditional mediums). The court discusses whether Congress's "undoubted power" to prohibit distribution of obscene materials could justify enjoining a magazine from printing the addresses of bookstores that sell obscene materials, and distinguishes this from providing hyperlinks on the Internet.[160] It reasons that

> the evil of distributing such materials can be prevented by injunctive relief against the unlawful distribution (and similar distribution by others can be deterred by punishment of the distributor). And if others publish the location of the bookstore, preventive relief against a distributor can be effective before any significant distribution of the prohibited materials has occurred. The digital world, however, creates a very different problem. If obscene materials are posted on one web site and other sites post hyperlinks to the first site, the materials are available for instantaneous worldwide distribution before any preventive measures can be effectively taken.[161]

(b) LIMITATION FOR NONPROFIT LIBRARY, ARCHIVES, EDUCATIONAL INSTITUTION, OR PUBLIC BROADCASTING ENTITY.—Subsection (a) shall not apply to a nonprofit library, archives, educational institution, or public broadcasting entity (as defined under section 118(g).

(c) STATUTE OF LIMITATIONS.—No criminal proceeding shall be brought under this section unless such proceeding is commenced within 5 years after the cause of action arose.

Id.

159   *See generally Reno,* 521 U.S. at 874 (finding that the statute's vagueness "provides further reason for insisting that the statute not be overly broad. The CDA's burden on protected speech cannot be justified if it could be avoided by a more carefully drafted statute").

160   *Corley,* 273 F.3d at 457. *But see* Reno v. ACLU, 521 U.S. 844, 877 (1997) (finding Congress's attempt to regulate obscenity on the Internet unconstitutionally overbroad). *See generally* Forsyth County v. Nationalist Movement, 505 U.S. 123, 129 (1992) ("It is well established that in the area of freedom of expression an overbroad regulation may be subject to facial review and invalidation, even though its application in the case under consideration may be constitutionally unobjectionable.").

161   *Corley,* 273 F.3d at 457.

The Second Circuit clarified that the district court's injunction applies only to hyperlinks[162] because "a hyperlink has both a speech and a nonspeech component," it "conveys information," but also "has the functional capacity to bring the content of the linked web page to the user's computer screen."[163] Under this reasoning, it is acceptable to post the address of a website containing the code, as long as the address is not a functional hyperlink.[164] This illustrates the fallacy of the functionality justification because a user simply has to cut and paste or type the address into the browser to accomplish the same result as using a hyperlink, with only a little more effort expended (typing or four clicks of the mouse instead of one click).[165]

3. Content-Based vs. Content-Neutral

In the Supreme Court's words, "[t]he principal inquiry in determining content-neutrality, in speech cases generally . . . is whether the government has adopted a regulation of speech because of disagreement with the message it conveys."[166] The Second Circuit found that the interest in preventing the dissemination of code was content-neutral because Congress's interest was in regulating the functional (nonspeech) element, not the information the code conveys.[167] However, regulating the posting of the code because of its subject matter (circumvention)[168] does not make the regulation content-neu-

---

162   "A hyperlink is a cross-reference (in a distinctive font or color) appearing on one web page that, when activated by the point-and-click of a mouse, brings onto the computer screen another web page." *Id.* at 455. It can appear as text (either the address of the linked website, a descriptive word, or phrase) or as an icon (picture). *Id.* at 455.

163   *Id.* at 456. It clarifies that the injunction only applies to active links. *Id.* An active link is functional in that it brings the content to the user's computer screen when it is clicked while an inactive link is not functional because it only provides the website address. *Id. See generally* Cameron Pope, Comment, *Missing Links(s): Protecting Public Image and Corporate Profits in Cyberspace,* 38 Hous. L. Rev. 651 (2001) (examining the practice of linking and ensuing litigation).

164   *Corley,* 273 F.3d. at 256.

165   *See id.* at 455–56 n.31 (explaining that "inactive links" can be cut and pasted into browser).

166   Ward v. Rock Against Racism, 491 U.S. 781, 791 (1989).

167   *Corley,* 273 F.3d at 454–55.

168   *Id.* at 453. The court held that

   just as the realities of what any computer code can accomplish must inform the scope of its constitutional protection, so the capacity of a decryption program like DeCSS to accomplish unauthorized—indeed, unlawful—access to materials in which the Plaintiffs have intellectual property rights must inform and limit the scope of its First Amendment protection.

Id.

tral.[169] The Supreme Court has instructed that the "[r]egulation of the subject matter of messages, though not as obnoxious as viewpoint-based regulation, is also an objectionable form of content-based regulation."[170]

The anti-trafficking provision, when applied to source code, differs significantly from regulations that the Supreme Court has found are content-neutral.[171] In *Hill v. Colorado*, the Supreme Court found that the regulation was content-neutral because "[i]t places no restrictions on—and clearly does not prohibit—either a particular viewpoint or any subject matter that may be discussed by a speaker. Rather, it simply establishes a minor place restriction on an extremely broad category of communications with unwilling listeners."[172] In *Turner*, the Court found that the provisions were content-neutral because they did not "prohibit particular ideas," did not "penalize cable operators or programmers because of the content of their programming," and did "not produce any net decrease in the amount of available speech."[173] As interpreted by the Second Circuit, the prohibition against posting source code will result in a "net decrease" in speech because it "prevents the Appellants from conveying to others the speech component of DeCSS."[174] The prohibition also penalizes website operators for the content of their sites, not just in the form of suppressing their speech by an injunction but also by subjecting them to civil liability or criminal liability for violating the anti-trafficking provision. The linking prohibition penalizes site operators who are not even subject to the DMCA; the court notes that it

> restricts more than Corley's ability to facilitate instant access to DeCSS on linked web sites; it also restricts his ability to facilitate access to whatever protected speech is available on those sites. However, those who maintain the linked sites can instantly make their protected material available for linking by Corley by the simple expedient of deleting DeCSS from their web sites.[175]

---

169   *See* Hill v. Colorado, 530 U.S. 703, 723 (2000).

170   *Id.*

171   *See id.*; Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622 (1994); *Ward*, 491 U.S. at 791; Renton v. Playtime Theatres, Inc., 475 U.S. 41 (1986).

172   *Hill*, 530 U.S. at 723 (reviewing a statute that regulated speech-related conduct within 100 feet of the entrance to any health care facility).

173   *Turner*, 512 U.S. at 647.

174   Universal City Studios, Inc. v. Corley, 273 F.3d 454 (2d Cir. 2001).

175   *Id.* at 457 n.32. Another notable distinction is that the *Turner* Court found that Congress's objective was to preserve access to free television programming for the 40% of Americans who did not have access to cable. *Turner*, 512 U.S. at 646. It found that Congress designed the provisions "to prevent cable operators from exploiting their economic power . . . and thereby ensure that all Americans, especially those

Thus, website operators must either censor content or risk that other website operators subject to the DMCA will not be able to link to their page.

The Second Circuit's reasoning for finding that the application of the anti-trafficking provision to linking is content-neutral is seriously flawed. It found that the prohibition is content-neutral because it applies regardless of whether the link contains or displays any information that is comprehensible to a human.[176] For example, a link that displays a picture of flowers but leads to a website with DeCSS is prohibited, as well a link that displays only the web address or text. However, a link that promotes DeCSS and provides the address (but does not take the user directly to the other website) is not prohibited.[177] This reasoning ignores the fact that *the link is prohibited because of the content (making DeCSS available) of the linked-to-site*; the link's format is irrelevant to the essential purpose of the prohibition, which is to prevent facilitating access to the code.[178] As the Second Circuit noted, links are prohibited because they have the "functional capacity to *bring the content of the linked web page* to the user's computer screen."[179] The district court's formulation of a test to avoid the chilling effect of strict liability does not change the fact that the link is enjoined because of the content on the linked-to sites.[180]

4. Secondary Effects

In *Renton v. Playtime Theaters, Inc.*, the Supreme Court found that some content-based restrictions are treated as content-neutral when the government desires to eliminate "secondary effects" that are only indirectly related to the content or communicative impact of the

---

unable to subscribe to cable, have access to free television programming—whatever its content." *Id.* at 649. The anti-circumvention and trafficking provision alters traditional copyright law by allowing copyright owners "to control *access* to content, not just *uses* of content" because it regulates technology not infringing acts. Neil Weinstock Netanel, *From the Dead Sea Scrolls to the Digital Millennium; Recent Developments in Copyright*, 9 Tex. Intell. Prop. L.J. 19, 20 (2000) (emphasis added). The district court noted that "Congress elected to leave technologically unsophisticated persons who wish to make fair use of encrypted copyrighted works without the technical means of doing so." *See* Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 324 (S.D.N.Y. 2000), *aff'd sub nom. Corley*, 273 F.3d 429.

176 *Corley*, 273 F.3d at 456.
177 *See id.* at 455.
178 *See id.*
179 *Id.* at 456 (emphasis added).
180 *See id.* Additionally, the Second Circuit stated "we see no need on this appeal to determine whether a test as rigorous as Judge Kaplan's is required to respond to First Amendment objections." *Id.* at 457.

speech.[181] However, this cannot support the finding that these provisions of the DMCA, as applied, are content-neutral because the government's interest is in the functional aspects of the code.[182] The Supreme Court has clarified that "secondary effects" do not justify regulations that are aimed at the "direct impact" of the speech.[183] It has also held that when a law "regulates speech due to its *potential primary impact* . . . it must be considered content-based."[184]

In *Boos v. Barry*, the Court clarified the applicability of *Renton*.[185] It found that "secondary effects" referred to "regulations that apply to a particular category of speech because the regulatory targets happen to be associated with that type of speech. . . . *[s]o long as the justifications have nothing to do with content.*"[186] The *Boos* Court distinguished this regulation at issue, because in *Renton*, the "desire to suppress crime ha[d] nothing to do with the actual films being shown," while in *Boos*, regulating the location of picket signs was justified "*only* by reference to the content of speech."[187]

Like the regulation in *Boos*, the DMCA as applied is not "viewpoint based," but rather prohibits "an entire category of speech."[188] The DMCA, as interpreted, prohibits the provision of code that is capable of circumventing access-control measures. While the regulatory target may well be the functional aspect of code, the justification for prohibiting all circumvention code has everything to do with its actual content, that is, its ability to decrypt encryption measures designed to prevent access to a copyrighted work, not just to decrypt encryption measures or to perform a function. For example, a website can contain code that circumvents access-control measures of works not protected by copyright. Judge Kaplan points out numerous times that it is the dissemination of DeCSS that causes the harm and violates the statute,[189] a point that the Second Circuit affirms.[190] Therefore, it does

---

181   *See* Renton v. Playtime Theatres, Inc., 475 U.S. 41, 47 (1986) (finding that an ordinance regulating the location of adult movie theaters was content-neutral).

182   *See Corley*, 273 F.3d at 455–56.

183   Boos v. Barry, 485 U.S. 312, 321 (1988) ("Regulations that focus on the direct impact of speech . . . . are not the type of 'secondary effects' we referred to in *Renton*."); *see* Reno v. ACLU, 521 U.S. 844, 868 (1997); Crawford v. Lungren, 96 F.3d 380, 385 (9th Cir. 1996) ("The Supreme Court has defined secondary effects as being correlated with, but not directly a consequence of, the impact of the speech.") (discussing several Supreme Court cases regarding secondary effects).

184   *Boos*, 485 U.S. at 321 (emphasis added).

185   *See id.* at 320–21.

186   *Id.* at 320 (emphasis added).

187   *Id.* at 320–21.

188   *Id.* at 319.

189   *See supra* note 131.

not meet the definition of a secondary effect. Furthermore, these cases deal with time, place, and manner restrictions, not bans on certain types of speech.[191] The DMCA as applied is not regulating when or where speech can take place but rather permanently enjoins Corley from engaging in the prohibited speech.[192]

As applied by the Second Circuit, the DMCA's anti-trafficking provision is a content-based regulation. It is not prohibiting the conduct (posting and linking) in all circumstances without reference to content, but rather it is prohibiting the conduct when the content is circumvention computer code.[193] The court considered separately "the scope of First Amendment protection for *computer code*, and the scope of First Amendment protection for *decryption code*."[194] It found that the fact that decryption programs can "accomplish unauthorized—indeed, unlawful—access to materials in which the Plaintiffs have intellectual property rights must inform and limit the scope of its First Amendment protection."[195] This is not to suggest that the DMCA must prohibit all code or all posting to be considered content-neutral. It would be content-neutral if the application extended to all expressions of the code that could be compiled into object code, or if the prohibition extended to publication in the print medium as well as posting.[196] However, the Second Circuit's application of the DMCA, by applying a different standard to source code and dissemination thereof on the Internet than is applied to other types of speech or media, renders the application content-based.

---

190   *See* Universal City Studios, Inc. v. Corley, 273 F.3d 429, 459–60 (2d Cir. 2001). "The advent of the Internet creates the potential for instantaneous worldwide distribution of the copied material." *Id.* at 453.

191   *See* Reno v. ACLU, 521 U.S. 844, 868 (1997). The *Reno* Court held that the purpose of the CDA is to protect children from the primary effects of "indecent" and "patently offensive" speech, rather than any "secondary" effect of such speech. Thus, the CDA is a content-based blanket restriction on speech, and, as such, cannot be "properly analyzed as a form of time, place, and manner regulation."

Id.

192   *Compare Corley*, 273 F.3d at 445–53 (interpreting statutory provision as being applicable to computer code and applying intermediate scrutiny to a permanent injunction forbidding posting or linking to certain types of computer code), *with Reno*, 521 U.S. at 868 (applying strict scrutiny to statutory provisions that impose a "content-based blanket restriction on speech")

193   *See Corley*, 273 F.3d at 445.

194   *Id.* (emphasis added).

195   *Id.* at 453.

196   *See supra* notes 149–65 and accompanying text (discussing the Second Circuit's application of a lesser First Amendment standard).

III.   FREEDOM OF THE PRESS

The First Amendment prohibits Congress from making a law that abridges the freedom of the press.[197] If the Second Circuit had treated posting a news article on the Internet as analogous to printing the same article in a traditional medium, two recent Supreme Court cases strongly suggest that strict scrutiny is the proper First Amendment test.[198] In *Florida Star v. B.J.F.*, the Court set out the test for "punishing" the media for dissemination of truthful information.[199] State officials cannot constitutionally punish a newspaper for publishing truthful information, about a matter of public significance, which it lawfully obtained, unless the punishment furthers a state interest of the highest order.[200] Even then, the punishment must be narrowly tailored to further that need.[201] The Court noted that punishing the press for dissemination of information that is already publicly available is unlikely to further the government's interest.[202]

Corley was acting as a member of the press. He wrote a news article and posted it on the magazine's website.[203] It described the rapid appearance of DeCSS on hundreds of websites and the movie industry's efforts to shut down those sites, which is truthful informa-

---

197   U.S. CONST. amend. I.

198   *See* Bartnicki v. Vopper, 532 U.S. 514 (2001); Fla. Star v. B.J.F., 491 U.S. 524 (1989). Indeed, the Supreme Court's holding in *Brandenburg* mandates that a law require intent to incite or produce imminent lawless action when it forbids or proscribes speech. Brandenburg v. Ohio, 395 U.S. 444, 447 (1969); *see also supra* text accompanying notes 138–39 (comparing holdings in *Brandenburg* and *Reimerdes*). In *Bunner,* a California appellate court found that the application of the First Amendment did not depend on whether publication occurred on the Internet or by traditional means. DVD Copy Control Ass'n v. Bunner, 113 Cal. Rptr. 2d 338, 347 (Ct. App. 2001) (reviewing preliminary injunction against posting DeCSS on websites), *review granted,* No. S102588, 2002 Cal. LEXIS 614 (Cal. filed Feb. 20, 2002). The court discussed *Bartnicki* but found it was not controlling because the defendant posted it on his personal website. *See id.* at 347 & n.7 (finding also that *Bartnicki* did not involve trade secrets or prior restraints). It also found that the level of scrutiny did not depend on whether an individual posted the code on a website rather than printing it as a media publication in a newspaper. *Id.* The Court applied strict scrutiny because it found that posting DeCSS on a website is pure speech, the preliminary injunction prohibiting posting DeCSS was a prior restraint on pure speech, and that it could not be upheld under strict scrutiny. *See id.* at 350–52.

199   *Fla. Star,* 491 U.S. at 533, 541 (discussing this test where publication revealed name of rape victim).

200   *Id.* at 541.

201   *Id.*

202   *Id.* at 535.

203   *See supra* text accompanying notes 58–63.

tion.[204] The newspaper and website coverage in the same time period,[205] the continuing coverage,[206] and widespread support in amici briefs[207] demonstrates that it was and is a matter of public signifi-

204   *See supra* notes 61–63 and accompanying text.

205   Borland, *supra* note 36; Macavinta, *supra* note 57; Andy Patrizo, *The DVD Hack: What Next?*, Wired News (Nov. 4, 1999), *at* http://www.wired.com/news/technology/ 0,1282,32265,00.html (discussing motivation of DeCSS developers, the studio's actions and website operator's responses); Patrizo, *supra* note 39; Patrizo, *supra* note 44; Schwartz, *supra* note 60, *at* http://www.cnn.com/TECH/computing/9911/05/dvd. hack.idg/index.html (discussing the appearance of DeCSS). *See generally* News in 1999, OpenDVD Group, *at* http://opendvd.org/news1999.php3 (last visited Apr. 26, 2002) (providing links to news coverage of DeCSS in 1999). Corley was not the only reporter who included links to the code, "reporters and editors at sites like Wired News, Slashdot, and CNET's News.com, who have included links to DeCSS in news stories [and] as part of their coverage of the lawsuit." John Borland, *Hollywood Looks To Kill Hyperlinks in Copyright Fights*, CNET News.com (July 25, 2000), *at* http:// news.com.com/2100-1023-243607.html?tag=bplst ("The New York Times Co. has supported 2600 Enterprises' right to link to the contested DeCSS software, noting that it, too, provided links to the controversial code."); Macavinta, *supra* note 57 (reporting that "CNET Download.com also published the program. Almost 5,000 copies were downloaded before the site removed DeCSS yesterday in response to the MPAA's letter."); Declan McCullagh, *Only News That's Fit To Link*, Wired.com (Aug. 23, 2000), *at* http://www.wired.com/news/politics/0%2C1283%2C38360%2C00.html. Corley presented papers to the court showing

> that many other news organizations, including the Web sites of The New
> York Times, The San Jose Mercury News, the Associated Press and the Village Voice, have in the course of news articles about the case linked to sites
> that contain DeCSS or to sites that contain a catalog of links to DeCSS sites.

Kaplan, *supra* note 64 (stating also that "[a] crucial aspect of online journalism is the ability to garnish articles with hyperlinks that instantly refer readers to Web sites related to newsworthy issues").

206   Ananian, *supra* note 142 (discussing protests in seventy-four North American and twenty-six other cities worldwide); Scott Bradner, *DVD and the Digital Copyright Act*, CNN.com (Feb. 4, 2000), *at* http://www.cnn.com/2000/TECH/computing/02/04/ dvd.law.idg/index.html; Cave, *supra* note 142; Durham-Vichr, *supra* note 142; Amy Harmon, *Free Speech Rights for Computer Code?*, N.Y. TIMES ON THE WEB (July 31, 2000), *at* http://www.nytimes.com/library/tech/00/07/biztech/articles/31rite.html; Kaplan, *supra* note 64. *See generally* News in 2000, OpenDVD Group, *at* http://www. opendvd.org/news2000.php3 (last visited Mar. 25, 2002) (providing links to news coverage of DeCSS in 2000); News in 2001, OpenDVD Group, *at* http://www.opendvd. org/news.php3 (last visited Apr. 26, 2002) (providing links to news coverage of DeCSS in 2001.)

207   The amici briefs are available at Electronic Frontier Foundation, http://www. eff.org/IP/Video/MPAA_DVD_cases/20010126_ny_eff_pressrel.html (last visited Apr. 26, 2002); EFF "Intellectual Property: DVD CCA (DVD Content Copy Control Association) Case" Archive, *at* http://www.eff.org/IP/Video/DVDCCA_case/ (last visited Apr. 26, 2002) (including trial transcripts, depositions, affidavits and supplemental letters); The Berkman Center for Internet and Society, *Openlaw: Open DVD*, *at* http://eon.law.harvard.edu/openlaw/DVD/ (last visited Apr. 26, 2002) (including

cance. Corley lawfully obtained the code because it was freely available on the Internet.[208]

> In Corley's words, he added the code to the story because "in a journalistic world, . . . [y]ou have to show your evidence . . . and particularly in the magazine that I work for, people want to see specifically what it is that we are referring to," including "what evidence . . . we have" that there is in fact technology that circumvents CSS. Writing about DeCSS without including the DeCSS code would have been, to Corley, "analogous to printing a story about a picture and not printing the picture." Corley also added to the article links that he explained would take the reader to other web sites where DeCSS could be found.[209]

Even if the trafficking provision is correctly interpreted as prohibiting the posting of the code and Corley had obtained it from a site subject to U.S. law, that should not affect the level of scrutiny applied to Corley's posting of the code.[210] The Supreme Court recently reaf-

---

links to news articles, discussion forums, working papers, and various background sources); and DVD Lawsuit Archive, *at* http://www.2600.com/dvd/docs/ (last visited Apr. 24, 2002). Amicus briefs were filed by Online News Association; Reporters' Committee for Freedom of the Press; Newspaper Association of America; Student Press Law Center; Wired; Pew Center on the States; Silha Center for Media Ethics and Law; College of Communications - CSU, Fullerton (arguing that linking prohibition creates a chilling effect that threatens freedom of the press); Stanford Law professor Lawrence Lessig, who co-sponsored a brief with NYU professor Yochai Benkler (arguing that the application of the DMCA is unconstitutional under the first amendment); Julie Cohen, Georgetown University professor, filed on behalf of numerous law school professors (arguing that the DMCA is unconstitutional because it exceeds the scope of Congress's power); James Tyre, Esq. on behalf of computer programmers and scholars (arguing that source code is entitled to full First Amendment protection); ACM Law Committee Chair Andrew Grosso with Eddan Katz (arguing that narrow reverse engineering exemption threatens innovation, science and free expression); Jennifer Granick, of Stanford Law School's Center for Internet and Society, on behalf of cryptographers (arguing that this science is threatened because it relies on the open exchange of information); American Civil Liberties Union (ACLU); Digital Future Coalition (DFC); American Library Association (ALA); American Research Libraries (ARL); Music Library Association (MLA) (arguing that fair use requires availability of fair use tools); and Edward Cavazos and Gavino Morin from Cavazos, Morin, Langenkamp & Ferraro L.L.P. on behalf of educators who rely on fair use rights (arguing that elimination of fair use impedes the educational use of intellectual property). *See generally* Declan McCullagh, *DeCSS Allies Ganging Up*, Wired.com (Aug. 23, 2000), *at* http://wired.com/news/print/0,1294,41441,00.html (discussing the diverse groups that filed an amicus brief).

208   *See* Universal City Studios, Inc. v. Corley, 273 F.3d 429, 439 (2d Cir. 2001).

209   *Id.* at 439 (citations omitted).

210   *See* Bartnicki v. Vopper, 532 U.S. 514, 526–28 (2001).

firmed and broadened the *Florida Star* rule.[211] In *Bartnicki v. Vopper*, the question was whether the government could punish a publisher who lawfully obtained information from a source who obtained it illegally.[212] A radio station broadcasted tapes received from a source that had illegally intercepted calls, the content of which was subsequently reported by other media.[213] The Court held that the government could not punish the publisher, even if it knew or should have known that the source obtained the information illegally.[214] The government had argued that prohibiting disclosure by the newspaper removed the incentive for others to intercept calls and minimized the harm to the private parties whose calls were intercepted.[215] The Court explained that the "normal method of deterring unlawful conduct is to impose an appropriate punishment on the person who engages in it."[216] It was unmoved by the incentive argument, suggesting instead increased sanctions on the illegal interception.[217] The Court stated "it would be quite remarkable to hold that speech by a law-abiding possessor of information can be suppressed in order to deter conduct by a non-law-abiding third party."[218]

The conduct that Congress sought to deter through the anti-trafficking provision (piracy) is more attenuated than the conduct in *Bartnicki* (illegal interception of communications). The Second Circuit found that the injunction furthers the goal of preventing circumvention.[219] Congress enacted the DMCA to provide protection against piracy,[220] which is what arguably legitimizes the prohibition on circumventing access-control measures. As interpreted, the anti-trafficking provision prohibits *any disclosure* of DeCSS code because someone else *might* use it to circumvent access-control measures.[221] Even using

---

211   *Id.* at 525, 528–30.

212   *Id.* at 525.

213   *Id.* at 517–19.

214   *See id.* at 529–30, 535.

215   *Id.* at 529.

216   *Id.*

217   *Id.*

218   *Id.* at 529–30.

219   *See* Universal City Studios, Inc. v. Corley, 273 F.3d 429, 454, 457 (2d Cir. 2001). *But cf.* Religious Tech. Ctr. v. Netcom On-Line Commun. Servs., Inc., 907 F. Supp. 1361, 1372 (N.D. Cal. 1995) ("The court does not find workable a theory of infringement that would hold the entire Internet liable for activities that cannot reasonably be deterred.").

220   *See* sources cited *supra* note 13.

221   *See* Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 325, 331 (S.D.N.Y. 2000), *aff'd sub nom. Corley*, 273 F.3d 429. One journalist explained the issue as follows:

the code does not violate any of the copyright holders exclusive rights[222] or cause any loss to the studios because *all the code does is provide access to the work.*[223] Now having access to the files, the user can choose to make fair use[224] of the work or to make infringing copies,[225] just as the user of a book can choose to read it or choose to infringe by copying and distributing it.[226]

IV. THE ENDS DO NOT JUSTIFY THE MEANS

In *Turner Broadcasting v. FCC,* the Supreme Court instructed that when speech is regulated "as a means to redress past harms or prevent anticipated harms," the government[227] must "demonstrate that the re-

---

> In essence, the DVD case does not center on traditional copyright issues, like how much of a given work may be freely copied, or how many copies may be legally made, or even . . . who can be held liable for enabling someone else to make illegal copies. . . . [S]ome people in the debate see it as a fundamental change—as if the law now made it illegal not only to photocopy and sell a copyrighted book, but also to simply tell someone how to open and read that book without the publisher's authorization.

Harmon, *supra* note 206.

222   *See supra* note 10 (listing exclusive rights). DeCSS does not infringe on these rights because it does not produce copies; it simply decrypts CSS, thereby allowing users access to the digital files. *See Corley,* 273 F.3d at 437–38, 453.

223   The Second Circuit notes that "the use of DeCSS to gain access to a DVD movie creates no loss to movie producers because the initial user must purchase the DVD." *Corley,* 273 F.3d at 453.

224   17 U.S.C. § 107 (1994). The statute provides as follows:

> Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), 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.

Id. See generally Netanel, *supra* note 175, 45–47 (discussing the development of the fair use doctrine).

225   17 U.S.C. § 105(a) (defining infringement as violation of exclusive rights or importing copies in violation of § 602).

226   *See supra* note 221.

227   The United States intervened to support the constitutionality of the DMCA. *Corley,* 273 F.3d at 443.

cited harms are real, not merely conjectural, and that the regulation will in fact alleviate these harms in a direct and material way."[228] As applied, the DMCA is regulating speech, even if it is aimed at the functional aspects of code. It regulates Corley's speech regarding the code because "the fundamental choice between impairing some communication and tolerating decryption cannot be entirely avoided"[229] or, in Judge Kaplan's words, because "harm is done by dissemination."[230] In *Turner*, the Court also states "[t]hat Congress's predictive judgments are entitled to substantial deference does not mean, however, that they are insulated from meaningful judicial review altogether."[231] Unlike Congress's predictive judgments, the plaintiff's predictions are not entitled to substantial deference, and yet in this case, they are accepted with very little judicial review.[232] Judge Kaplan found that plaintiffs have no adequate remedy at law[233] because proof of actual

---

228   Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622, 664 (1994).

229   *Corley*, 273 F.3d at 458.

230   Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 342 n.267, 343 (S.D.N.Y. 2000), *aff'd sub nom. Corley*, 273 F.3d 429; *see also infra* note 131 (citing numerous instances where Judge Kaplan made this assertion).

231   *Turner*, 512 U.S. at 666.

232   An example is that the "record leaves largely unclear how CSS protects against the *copying of a DVD*, as contrasted with the *playing of a DVD on an unlicensed player.*" *Corley*, 273 F.3d at 438 n.5. The defense presented experts who testified that CSS does not in its operation prevent copying of the files and that copying the files bit for bit (without decryption) also results in fully playable movies. *Id.* "Some of the Plaintiffs' experts countered simply that 'copying to a hard drive is something that compliant DVD players are not allowed to do,' without explaining why." *Id.* (quoting Dr. Michael I. Shamos, Trial Tr. 37). Another asserted that even if DVDs can be copied, they cannot be played unless the DVD is in the drive. *Id.* However, the Second Circuit found that "none of this detracts from these *undisputed* findings: some feature of either CSS itself, or another (unidentified) safeguard implemented by DVD manufacturers . . . makes it difficult to copy a CSS-encrypted DVD to a hard drive and then compress that DVD to the point where transmission over the Internet is practical." *Id.* (emphasis added). However, these findings were disputed as the court itself notes at the beginning of the same footnote, "[a]n item of some controversy, both in this litigation and elsewhere, is the extent to which CSS-encrypted DVDs can be copied even without DeCSS." *Id.*; *see also* Sean M. Dugan, *R.I.P. DVD: The Still-Young Age of Digital Video Disks Is Coming to an Inevitable End,* Info World, *at* http://www.info world.com/articles/op/xml/00/02/14/000214opprophet.xml (Feb. 4, 2002) ("Bizarrely, the MPAA doesn't seem to understand its own technology. It is touting the DeCSS case as an anti-piracy issue, which isn't exactly right. The CSS on DVDs only prevents playback."); Grossman, *supra* note 134 ("DeCSS supporters are right to argue that CSS doesn't prevent wholesale commercial piracy. Bit-by-bit professional copies of DVDs include CSS in all its glory, so pirated discs will play perfectly.").

233   *Reimerdes*, 111 F. Supp. 2d at 343 (discussing authority to grant an injunction under the DMCA).

damages "would be difficult if not virtually impossible"[234] and that it would require proof of the extent that movie attendance, sales and rentals of DVDs, and sale of broadcast and other rights "were and will be impacted by the availability of DVD decryption technology."[235] While proof of the extent may be impossible, the court should at least have required the plaintiffs to prove that DeCSS will affect these rights,[236] especially considering that the studios could not point to an instance where DeCSS was used to infringe.[237]

There are legitimate concerns regarding the possibility of increased piracy because digital files can be copied without degradation. However, the fact that harm is possible does not establish that the harm is real. Judge Kaplan found that "[t]here is little room for doubting that the broad dissemination of DeCSS threatens ultimately to injure or destroy plaintiff's ability to distribute their copyrights works on DVDs."[238] The Second Circuit found that "DeCSS enables the initial user to copy the movie in digital form and transmit it instantly in virtually limitless quantity, thereby depriving the movie producer of sales."[239] Even accepting that the "only rational assumption is that once a computer program capable of bypassing such an access-control system is disseminated, it will be used"[240] does not establish that the threat is real because DeCSS does not produce infringing copies; it simply decrypts CSS, allowing the user access to the digital files.[241]

Using DeCSS to decrypt a DVD is a "computationally intensive" process that took the plaintiff's expert twenty to forty-five minutes to complete.[242] As Judge Kaplan noted "decryption . . . is only the beginning of the tale," now having access to the unencrypted files, the user can copy them to the computer hard drive.[243] However, the resulting computer file is very large, which makes it "extremely cumbersome to

---

234   *Id.* at 343–44.

235   *Id.* at 344.

236   *See Turner,* 512 U.S. at 664 (stating that the "recited harms" must be shown to be "real"); *see also supra* notes 227–28 and accompanying text.

237   *Reimerdes,* 111 F. Supp. 2d at 314. The plaintiffs stipulated that there was no direct evidence of any person decrypting a copyright protected movie and transmitting it over the Internet. *Id.* However, the plaintiffs' expert "pursued" and was able to obtain a pirated movie. *Id.* at 342.

238   *Id.* at 335.

239   Universal City Studios, Inc. v. Corley, 273 F.3d 429, 453 (2d Cir. 2001).

240   *Reimerdes,* 111 F. Supp. 2d at 331.

241   *See Corley,* 273 F.3d at 437.

242   *Reimerdes,* 111 F. Supp. 2d at 313.

243   *Id.*

transfer or to store on portable storage media."[244] The user could use a separate program[245] to compress the file, but then she must synchronize the sound and graphics files, which is a "tedious process" that took the plaintiffs' expert between ten and twenty hours to complete.[246] The compressed file can fit on a CD-ROM, in some cases with little loss of quality.[247] DeCSS is only the first step of many needed to create infringing copies, a process that would take a significant amount of time and computer skills. This makes it hard to accept that the plaintiffs "overwhelmingly . . . established" a "clear threat" from DeCSS itself.[248] The real threat comes from the compression software, because "[t]he ease of making perfect copies of digital information would not, in itself, pose a serious threat to copyright holders if those copies could not be so easily distributed, but compression makes wide distribution a reality."[249]

However, Judge Kaplan noted that the possibility of producing pirated CDs was not the plaintiff's principal concern.[250] The principal concern was the possibility that pirated copies could be transmitted over the Internet or other networks.[251] He noted that this raises "more difficult" issues because even a *compressed* file can "take a good deal of time to transmit."[252] Transmission times vary depending on

---

244   *Id.* DVDs are capable of storing more than 4.7 GB of data. *Id.* at 307. The decrypted file is between 4.3 GB to 6 GB or more depending on the length of the film. *Id.* at 313. A CD-ROM is an optical disk that can store approximately 650 MB of data. *Id.* at 307. One GB of data is equal to 1000 MB of data, so the decrypted file would be 4300 MB to 6000 MB.

245   *Id.* at 313. DivX is the compression utility program that many Internet sites promote for compression of movie files to a manageable size. *Id.*

246   *Id.* *See generally* Kramarsky, *supra* note 40, at 5–6 (explaining that "[c]ompression is the reduction of a digital file's size using a compression algorithm—a mathematical 'recipe' that permits the removal of redundant or non-essential information").

247   *See Reimerdes,* 111 F. Supp. 2d at 307.

248   *Id.* at 342. Judge Kaplan held that the plaintiffs did not have to prove an actual injury because the DMCA authorizes injunctions when plaintiffs "show only a threat of injury by reason of violation of the statute." *Id.* at 342 & n.261 (citing 17 U.S.C. § 1201(b)(1) (1994)).

249   Kramarsky, *supra* note 40, at 6. Judge Kaplan recognized this when he noted that "DivX . . . permits compression of the decrypted files to sizes that readily fit on a writeable CD-ROM. Copies of such CD-ROMs can be produced very cheaply and distributed as easily as other pirated intellectual property." *Reimerdes,* 111 F. Supp. 2d at 315.

250   *Reimerdes,* 111 F. Supp. 2d at 314.

251   *Id.*

252   *Id.* (emphasis added); Kramarsky, *supra* note 40, at 6–7 (noting that downloading uncompressed files on a standard modem "simply is not practical" and that even a "DVD compressed with DivX would still take a few hours to download over a fast

the type of Internet connection and its bandwidth.[253] The plaintiff's expert recorded a transmission time of six hours.[254] However, the expert's transmission times were skewed because the transmission was done late at night, on a university system, after it had closed for the year.[255] These conditions are highly favorable to high effective transmission rates due to low traffic on the system.[256]

The Second Circuit acknowledged the lack of evidence when discussing Judge Kaplan's findings:

> DeCSS was harming the Plaintiffs, not only because they were now exposed to the *possibility* of piracy and therefore were obliged to develop costly new safeguards for DVDs, but also because, even if there was only *indirect evidence* that DeCSS availability actually facilitated DVD piracy, the threat of piracy was very real, particularly as Internet transmission speeds continue to increase.[257]

It acknowledged "that there may be alternative means of extracting a non-encrypted, copyable movie from a DVD," but noted Judge Kaplan's findings that "DeCSS is the superior means of acquiring easily copyable movies, and . . . recommended by a *DVD compression web site* as the preferred tool for obtaining a decrypted DVD *suitable for compression.*"[258] The Second Circuit found that Corley did not present "evidence to refute any of these carefully considered findings."[259] However, he could not refute the findings because they are

---

home connection"). *But see* Grossman, *supra* note 134 ("It is time-consuming and most likely more expensive than buying the disc. On today's dial-up connections, one side of a DVD, containing roughly three gigabytes, would take more than 14 hours to download, not to mention all that storage space needed on your computer.").

253   *Reimerdes*, 111 F. Supp. 2d at 314. "Large institutions such as universities . . . often have networks . . . rated at 100 megabits per second." *Id.* In comparison, many personal computers have modems that have a rated capacity of 56 kilobits per second, DSL lines can have transfer rates of 7 megabits per second and network connections in many college dorm rooms are capable of transfer rates of 10 megabits per second. *Id.* A kilobit is 1000 bits, a megabit is 1,000,000 bits, and a gigabit is 1,000,000,000 bits. Additionally, "effective transmission times generally are much lower than rated maximum capacities in consequence of traffic volume and other considerations." *Id.* See *supra* note 244 for the amount of data storage capabilities for DVDs and the decrypted files, however, note that transmission speeds are rated in bits per seconds while file sizes refer to bytes (one byte is composed of eight bits).

254   *Reimerdes*, 111 F. Supp. 2d at 315.

255   *Id.* at 314 n.119.

256   *Id.*

257   Universal City Studios, Inc. v. Corley, 273 F.3d 429, 442 (2d Cir. 2001) (emphasis added).

258   *Id.* at 438 n.5 (citations omitted) (emphasis added).

259   *Id.* See *Reimerdes*, 111 F. Supp. 2d at 313–15, 342, for a full discussion of findings. Judge Kaplan summarized the issue as follows:

based on general predictions regarding the capability of producing perfect copies.[260] Moreover, he should not have been required to refute the findings because *Turner* requires the government to prove the "anticipated harms" are "not merely conjectural."[261]

However, the Second Circuit found that

> the Appellants have not suggested, much less shown, any technique for barring them from making this instantaneous worldwide distribution of a decryption code that makes a lesser restriction on the code's speech component . . . . Even if the Government, in defending the DMCA, must sustain a burden of proof in order to satisfy the standards for content-neutral regulation, the Defendants must adduce enough evidence to create fact issues concerning the current availability of less intrusive technological solutions.[262]

The court was referring to the test set out in *Turner* for a "content-neutral regulation with an incidental effect on a speech component"[263] However, before reaching that test, it should have required the government to prove that the harm was not "merely conjectural,"[264] and not only that "the regulation of DeCSS by the posting prohibition plainly serves that interest,"[265] but also that the regulation will "alleviate [the] harms in a direct and material way."[266] The court

---

> The net of all this is reasonably plain. DeCSS is a free, effective, and fast means of decrypting plaintiffs' DVDs and copying them to computer hard drives. DivX, which is available over the Internet for nothing, with the investment of some time and effort, permits compression of the decrypted files to sizes that readily fit on a writeable CD-ROM. Copies of such CD-ROMs can be produced very cheaply and distributed as easily as other pirated intellectual property. While not everyone with Internet access now will find it convenient to send or receive DivX'd copies of pirated motion pictures over the Internet, the availability of high speed network connections in many businesses and institutions, and their growing availability in homes, make Internet and other network traffic in pirated copies a growing threat.

Id. at 315. This "threatens to reduce the studios' revenue from the sale and rental of DVDs. It threatens also to impede new, potentially lucrative initiatives . . . ." *Id.*

260   *See Corley,* 273 F.3d at 438 n.5; *see also supra* note 232 (discussing expert testimony).

261   Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622, 664 (1994).

262   *Corley,* 273 F.3d at 454 & n.28.

263   *Id.* at 454. "[T]he regulation must serve a substantial governmental interest, the interest must be unrelated to the suppression of free expression, and the incidental restriction on speech must not burden substantially more speech than is necessary to further that interest." *Id.* (citing *Turner,* 512 U.S. at 662); *see also* Ward v. Rock Against Racism, 491 U.S. 781, 799 (1989); United States v. O'Brien, 391 U.S. 367, 377 (1968).

264   *See supra* notes 227–28 and accompanying text.

265   *Corley,* 273 F.3d at 454.

266   *Turner,* 512 U.S. at 664; *see also supra* notes 227–28 and accompanying text.

found that the "interest in preventing unauthorized access to en-
crypted copyrighted material is unquestionably substantial, and . . . .
that interest is unrelated to the suppression of free expression."[267]
However, what arguably legitimizes the government's interest in
preventing circumvention of access-control measures is the underly-
ing purpose of preventing piracy. The substantial amount of
processes beyond the use of DeCSS required to produce a pirated
copy indicates that enjoining posting or linking of source code is
neither a direct nor a material regulation.[268]

    Additionally, the anti-circumvention provision already prohibits
use of the code to circumvent access-control measuress, and the
DMCA authorizes damages and criminal liability,[269] which can deter
using source code to create executable programs. If executable code
is created and used to infringe, the Copyright Act provides remedies,
including injunctions,[270] impounding or destruction,[271] and dam-
ages.[272] It also provides for criminal liability when infringement is
willful, for purpose of financial gain.[273] The Copyright Act defines
"financial gain" as including "receipt, or expectation of receipt, of an-
ything of value, *including the receipt of other copyrighted works.*"[274] There-
fore, it will cover "swapping" pirated copies. Thus, Congress has
already provided the sanctions to deter the use of DeCSS, and to com-
pensate losses, if a person were to use it to pirate digital works. If the

---

267   *Corley*, 273 F.3d at 454.

268   *See supra* note 52 and accompanying text (discussing the steps necessary to
make source code functional); *see also supra* notes 242–56 (discussing substantial steps
necessary to create infringing copies after using DeCSS).

269   *See* discussion *supra* Part I.A

270   17 U.S.C. § 502 (1994). The statute provides: "Any court having jurisdiction of
a civil action arising under this title may, subject to the provisions of 1498 of title 28,
grant temporary and final injunctions on such terms as it may deem reasonable to
prevent or restrain infringement of a copyright." *Id.* § 502(a) (emphasis added).

271   *Id.* § 503.

272   *Id.* § 504 (providing for either actual or statutory damages).

273   *Id.* § 506. The provision provides as follows:

    (a) CRIMINAL INFRINGEMENT—Any person who infringes a copyright willfully
    either-

        (1) for purposes of commercial advantage or private financial gain, or

        (2) by the reproduction or distribution, including by electronic means,
    during any 180-day period, of 1 or more copies or phonorecords of 1 or
    more copyrighted works, which have a total retail value of more than
    $ 1,000, shall be punished . . . .

Id.

274   *Id.* § 101 (emphasis added). *See generally* Ravn, *supra* note 8, at 762–77 (dis-
cussing statutory and common-law doctrines of copyright infringement).

Second Circuit is correct that these are not effective deterrents,[275] the *Bartnicki* Court instructs increased sanctions, not the suppression of speech to deter the conduct of third parties.[276] This is not to suggest that injunctions prohibiting posting or linking to source code would never be appropriate, but rather that when granting or reviewing them, a court should apply strict scrutiny because such regulations inevitably suppress the communicative aspect as well.[277]

CONCLUSION

It is the Second Circuit's interpretation of the DMCA, that the anti-trafficking provision reaches dissemination of computer source code that implicates the First Amendment. If the DMCA is intended to reach source code through the trafficking provision, then for the reasons discussed in this Note, it should be analyzed under strict scrutiny when injunctions are sought, because it is a content-based suppression of pure speech.

It may be prudent to apply these provisions only to object code, not solely because it is functional, but rather because it potentially lacks the capacity for expression. However, if a court finds that object code is expressive, then it should also be analyzed under strict scrutiny. This is especially true in cases where a member of the press publishes the code as part of a news story, because its functionality is not relevant to its dissemination when that dissemination is for purposes other than to cause or aid circumvention.

The rights protection provision already prohibits trafficking in technology that circumvents measures that protect copyright owner's rights, and that same provision is also enforceable by injunctions as well as civil and criminal liability. Granted the copyright owner's rights cannot be violated unless the user has access, but copyright owners already have remedies for infringement of their rights. It is questionable whether Congress needed to or should have extended these rights by protecting access-control measures, thus allowing copyright owners to prevent access to copyrighted works. But it is unquestionably going too far to allow an interpretation of the DMCA that also grants copyright owners the right to censor speech regarding access-control measures.

---

275   *See* Universal City Studios, Inc. v. Corley, 273 F.3d 429, 443, 451–52 (2d Cir. 2001); *see also* Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 331–33, 341–44 (S.D.N.Y. 2000), *aff'd sub nom. Corley*, 273 F.3d 429.

276   *See* Bartnicki v. Vopper, 532 U.S. 514, 529 (2001); *see also supra* text accompanying notes 215–18 (discussing the *Bartnicki* Court's reasoning).

277   *See supra* notes 145–46 and accompanying text.