

MORE BREAKING, LESS RULEMAKING: WHY CONGRESS SHOULD GO BEYOND THE COPYRIGHT OFFICE’S 1201 REPORT AND AMEND THE DMCA TO REQUIRE A NEXUS TO INFRINGEMENT

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I. INTRODUCTION

Access. A word at the heart of the digital world, fueling debates about how to reconcile education, historical preservation, and personal autonomy with intellectual property protections of copyrighted works. “Freedom or ability to obtain or make use of something” is one definition of access.¹ It demonstrates the importance and power of this six-letter word. Much like super computer HAL 9000’s refusal to open the pod bay doors for astronaut David Bowman,² we now live in a world where the products we buy deny us full access. Our long-held collective assumption that we can tinker with our property is under assault.³ The reason for this loss of access? Section 1201, the anti-circumvention provision of a flawed piece of legislation passed by Congress in 1998, named the Digital Millennium Copyright Act.⁴ These flaws harm the public in many ways and include the erosion of fair use, unfairly allowing companies to restrict the repair market, chilling free speech, and bottlenecking of innovation.

These harms prompted the Copyright Office to conduct two studies published within the last year. One is a comprehensive review of § 1201 requested by Representative John Conyers, Jr.,⁵ and the other a report on

DOI: <https://doi.org/10.15779/Z38M03XX4P>

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1. *Access*, MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 7 (11th ed. 2009).

2. *See* 2001: A SPACE ODYSSEY (MGM 1968).

3. *See* Pamela Samuelson, *Freedom to Tinker*, 17 THEORETICAL INQUIRIES LAW 563, 566 (2016) (“Freedom to tinker has existed for millennia . . . [as] an unregulated zone within which people were at liberty to act unobstructed . . . so long as they did not harm others.”).

4. Digital Millennium Copyright Act of 1998, Pub. L. No. 105-304, 112 Stat. 2860 (codified as amended in scattered sections of Title 17 of the U.S. Code, and 28 U.S.C. § 4001).

5. Representative Conyers requested the report during the Register of Copyright’s testimony at a hearing on § 1201. *See Register’s Perspective on Copyright Review: Hearing Before the H.*

software-enabled consumer products requested by Senators Chuck Grassley and Patrick Leahy.⁶ This Note focuses on the Copyright Office's § 1201 report and argues that the recommendations for reform reached by the Copyright Office in their report on § 1201 are insufficient to curb the harms to the public caused by the anti-circumvention prohibition. By exploring the history of the DMCA to determine Congress's intent and comparing this to the present application of § 1201 by copyright holders, this Note concludes that the Copyright Office's proposed reforms offer only incremental band-aids to remedy these harms. Instead, Congress should amend § 1201 to require a nexus to copyright infringement for liability, which means that circumventing an access control must be linked to copyright infringement. This simple solution is rejected in the Office's Report. By linking § 1201 to copyright infringement, Congress can correct these unintended harms in a very simple way.. Such an amendment would clear the confusion caused by a split among the circuits on this issue. The DMCA "arguably represents the most dramatic change in the history of U.S. copyright law."⁷ It was enacted in 1998 with the hope of "bringing U.S. Copyright law squarely into the digital age," to balance the emerging power of the Internet as a global digital marketplace with the protection of copyrighted works in the face of unparalleled access and distribution.⁸ Congress hoped § 1201 of the DMCA would alleviate copyright holders' piracy concerns about putting their works online.⁹ The basis of these fears was the power to instantaneously copy and transmit files that the information age had recently given to the public. Congress wanted § 1201 to not only protect copyright holders, but also foster a digital marketplace for a variety of digital formats available for consumers.¹⁰

Section 1201 states that "[n]o person shall circumvent a technological measure that effectively controls access to a work protected under this title."¹¹

Comm. on the Judiciary, 114th Cong. 49 (2015); U.S. COPYRIGHT OFFICE, SECTION 1201 OF TITLE 17: A REPORT OF THE REGISTER OF COPYRIGHTS 3 & n.23 (2017), <https://www.copyright.gov/policy/1201/section-1201-full-report.pdf> [<https://perma.cc/57NP-E9MS>] [hereinafter SECTION 1201 REPORT].

6. U.S. COPYRIGHT OFFICE, SOFTWARE-ENABLED CONSUMER PRODUCTS: A REPORT OF THE REGISTER OF COPYRIGHTS i & n.2 (2016), <https://www.copyright.gov/policy/software/software-full-report.pdf> [<https://perma.cc/G59U-AUC5>] [hereinafter SOFTWARE REPORT]. This report does not directly deal with the DMCA, but instead analyzes the problems of software-enabled products under the Copyright Act.

7. TARLETON GILLESPIE, WIRED SHUT: COPYRIGHT AND THE SHAPE OF DIGITAL CULTURE 177 (2007).

8. S. REP. NO. 105-190, at 2 (1998).

9. See SECTION 1201 REPORT, *supra* note 5, at i.

10. See *id.*

11. 17 U.S.C. § 1201(a)(1)(A) (2012).

Technological Protection Measures (TPMs) can be thought of as digital locks and include, for example, the use of encryption to protect a digital work.¹² Content producers encrypted their digital offerings prior to the passage of the DMCA, but this protection was a “speed bump” rather than a true obstacle because many users possessed the expertise to decrypt and thus copy freely without repercussion.¹³ This decryption led media companies to lobby for the inclusion of an anti-circumvention provision that made the act of accessing a protected work, without the permission of the copyright holder, illegal.¹⁴

The anti-circumvention provision found in § 1201 goes beyond the historical scope of copyright law,¹⁵ which grants copyright holders specific rights such as the exclusive right to reproduce and distribute their works.¹⁶ The Copyright Office credits § 1201 as “[having] played a pivotal role in the development of the modern digital economy,”¹⁷ but leading copyright scholars have been less enthusiastic in their assessments. For example, David Nimmer states that “nothing compares for sheer formal defects to the [DMCA].”¹⁸ Not to be outdone, William Patry says the DMCA has caused “the copyright market . . . to resemble the planned Soviet economies of the early twentieth century, but the market planning is done by corporations. . . .”¹⁹ Finally, Paul Goldstein writes that “the anti-circumvention proposals might more accurately be called anti-copyright law, for they challeng[e] the principle that has been at the center of copyright from its beginning—that the rule of law is a fairer and more efficient means for protecting literary and artistic works than are physical

12. See 17 U.S.C. § 1201(a)(3)(A) (2012) (defining circumvention as “decrypt[ing] an encrypted work”).

13. PAUL GOLDSTEIN, *INTELLECTUAL PROPERTY* 157 (2007).

14. See *id.*

15. See Peter S. Menell, *Envisioning Copyright's Digital Future*, 46 N.Y.L. SCHL. L. REV. 63, 135 (2003) (“[T]he DMCA goes beyond traditional Copyright approaches in order to address the threat of unauthorized reproduction and distribution . . . in the Digital Age.”).

16. These rights are codified in the Copyright Act of 1976, 17 U.S.C. § 106 (2012), and include the exclusive rights of reproduction, the preparation of derivative works, distribution, public performance, and the right to perform sound recordings publicly via digital audio transmission.

17. SECTION 1201 REPORT, *supra* note 5, at 1.

18. DAVID NIMMER, *COPYRIGHT ILLUMINATED: REFOCUSING THE DIFFUSE U.S. STATUTE* 114 (2008).

19. WILLIAM PATRY, *MORAL PANICS AND THE COPYRIGHT WARS* 164 (2009). A leading copyright scholar and treatise author, Patry is also a Senior Copyright Counsel to Google which makes his colorful opinions all the more enjoyable. See *id.* at xii. This background adds a layer of irony when reading quotes like “Corporatism was previously thought to have reached its zenith during Mussolini’s Fascist Italy, but with the DMCA it is enjoying a healthy resurgence.” *Id.* at 164.

barriers.”²⁰

Despite these poor reviews, the DMCA has had no substantive revisions since its enactment.²¹ TPMs are now used by companies in a variety of consumer products beyond what Congress could have envisioned twenty years ago. More and more consumer products contain software and are often networked together, forming an Internet of Things (IoT) that permeates everyday life. From coffee makers to printers, to tractors, a growing number of consumer products have embedded software.²² This embedded software often functions as a TPM, restricting user access in order for the manufacturer to dictate the terms of the product’s use.²³ These products are thus brought within the reach of the DMCA, something Congress did not intend. This allows manufacturers to sue when TPMs are circumvented, even for diagnosis or repair, allowing companies to limit consumer access to repair options.

This Note is organized into four parts. Part II discusses the key elements of § 1201, then goes on to describe an early attempt at codifying anti-circumvention laws in the early 1990s. The Section continues by detailing the DMCA’s legislative history before ending with a brief summary of the rulemaking process. Part III provides an overview of harms and concerns raised following § 1201’s enactment and the rise of Napster. Part IV critiques the report, focusing on why a statutory nexus is needed, and considers the harms faced by the public due to the DMCA. Part V concludes this Note with a call for Congress to act now and amend the DMCA to require a nexus to copyright infringement for anti-circumvention liability under § 1201.

II. BACKGROUND

The DMCA has a colorful history, from its origins in an influential task force, to the hard-fought lobbying efforts and compromises of its passage. It came into existence at a time when technological revolution made both copying and distribution infinitely easier, disrupting the intellectual property landscape. This Part begins with a statutory breakdown of 1201. It then

20. PAUL GOLDSTEIN, *COPYRIGHT’S HIGHWAY: FROM GUTENBERG TO THE CELESTIAL JUKEBOX* 175 (rev. ed. 2003).

21. See SECTION 1201 REPORT, *supra* note 5, at 6.

22. See SOFTWARE REPORT, *supra* note 6, at i (“One result of the spread of software is that consumers now routinely use software-enabled products for everything from adjusting the thermostats in their homes, to driving to work, to getting a midnight snack from the fridge.”).

23. See Cory Doctorow, *A Clinton-era Tech Law Has Quietly, Profoundly Redefined the Very Nature of Property in the IoT Age*, BOING BOING (Feb. 21, 2017), <https://boingboing.net/2017/02/21/a-clinton-era-tech-law-has-qui.html> [<https://perma.cc/6NXE-8GC6>].

explores its early origins as part of the National Information Infrastructure initiative; discusses the DMCA's legislative history; and traces § 1201's impact from its passage to the present. Far from being "a well-balanced package of proposals that address the needs of creators, consumers, and commerce in the digital age and well into the next century,"²⁴ the DMCA has proven to be unfairly biased in favor of content owners, at the expense of the public.

A. STATUTORY BREAKDOWN OF § 1201

Section 1201 is dense and jargon-heavy. But understanding some of its intricacies is necessary to comprehend the breadth of its reach. This Section focuses on three areas of § 1201: (1) the "tri-partite" anti-circumvention ban,²⁵ (2) the permanent exemptions, and (3) the rulemaking process for temporary exemptions. These three components help to illuminate the underlying policy goals of the DMCA and Congress's intent in passing the law.

1. *The Tripartite Anti-Circumvention Ban*

The tripartite anti-circumvention ban prohibits the unauthorized access of a copyrighted work by bypassing a TPM or providing assistance to others who do so. The first of § 1201's three prohibitions states that, "[n]o person shall circumvent a technological measure that effectively controls access to a work protected under this title."²⁶ As Nimmer explains, "[t]he statute bars one whom technology 'locks out' of a copyrighted work from 'breaking into' it."²⁷ Access controls are like digital locks: TPMs designed to control access to copyrighted works, for example, a paywall requiring a password on a news website or an authentication code in a video game console to prevent the use of pirated software.²⁸ Circumvention is the act of breaking or bypassing these digital locks, with the important limitation that the lock be "effective." Effective does not mean infallible. Simply because a digital lock can be broken does not render it outside the scope of protection.²⁹

The second and third prohibitions within the tripartite anti-circumvention ban are known as the anti-trafficking provisions and apply to third parties who assist the act of circumvention. Section 1201(a)(2) bans the manufacture and trafficking of devices, services, and other similar technology for which the

24. S. REP. NO. 105-190, at 69 (1998).

25. I borrow this term from DAVID NIMMER, COPYRIGHT ILLUMINATED: REFOCUSING THE DIFFUSE U.S. STATUTE 321 (2008).

26. 17 U.S.C. § 1201(a)(1)(A) (2012).

27. MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 12A.03[1][A] (2017).

28. See, e.g., SECTION 1201 REPORT, *supra* note 5, at 6.

29. See NIMMER & NIMMER, *supra* note 27, at § 12A.03[1][A] (2017).

primary purpose is to bypass access controls.³⁰ Similarly, § 1201(b)(1) bans the manufacture and trafficking of devices and technologies that circumvent a TPM that “effectively protects a right of a copyright owner under this title.”³¹ The rights this section refers to are the rights traditionally granted to copyright holders, such as the exclusive right to reproduce copies of the copyrighted work.³² Thus, both sections have become known as the anti-trafficking provisions.³³

2. *Permanent Exemptions*

The DMCA contains seven permanent exemptions from § 1201 liability as codified in §§ 1201(d)–(j).³⁴ These cover non-profit libraries, archives, and educational institutions,³⁵ law enforcement, intelligence, and other government activities.³⁶ Congress also included exemptions for reverse engineering,³⁷ encryption research,³⁸ minors,³⁹ the protection of personal information,⁴⁰ and security testing⁴¹ due to concerns about fair use, privacy, security, etc.

3. *Rulemaking*

The DMCA also sets forth a triennial rulemaking proceeding in § 1201(a)(1)(c) that allows the public to petition the Copyright Office for three-year temporary exemptions from liability. However, this rulemaking proceeding only grants temporary exemptions from the anti-circumvention provision and does not cover the anti-trafficking provisions.⁴² The Librarian

30. This is interesting because this shifted “the focus of the Copyright Act . . . from its traditional role regulating conduct into a stance that . . . control[s] the manufacture of devices.” *Id.* § 12A.03; see also PATRY, *supra* note 19, at 161–62 (noting that § 1201 upset the former technological neutrality of copyright law in favor of copyright holders, equating the DMCA’s passage to Caesar’s crossing of the Rubicon and colorfully calling the DMCA “the twenty first century equivalent of letting copyright owners put a chastity belt on someone else’s wife”).

31. 17 U.S.C. § 1201 (b)(1) (2012).

32. See 17 U.S.C. § 106(1) (2012).

33. See SECTION 1201 REPORT, *supra* note 5, at 10–14.

34. For an overview of these exemptions, see the table titled “§ 1201 Permanent Exemptions” in SECTION 1201 REPORT, *supra* note 5, at 7.

35. See 17 U.S.C. § 1201(d) (2012).

36. See § 1201(e).

37. See § 1201(f).

38. See § 1201(g).

39. See § 1201(h).

40. See § 1201(i).

41. See § 1201(j).

42. See § 1201(a)(1)(E) (“Neither the exception under subparagraph (B) from the applicability of the prohibition contained in subparagraph (A), nor any determination made in a rulemaking conducted under subparagraph (C), may be used as a defense in any action to

of Congress may grant the temporary exemptions after the Register of Copyrights makes recommendations based on public petitions. This process begins with an announcement published in the Federal Register welcoming petitions.⁴³ Once the petitions are submitted, they are reviewed and posted for public comment. The Copyright Office then groups selected petitions into proposed classes that undergo three rounds of public comments: (1) proponents' public comments in support of petition, (2) opponents' comments in opposition, and (3) a reply comment by proponents.⁴⁴

B. ORIGINS: THE NII COPYRIGHT PROTECTION ACT & WIPO

To understand the reasoning behind the DMCA, it helps to understand how it came about. We must first travel to that distant time before Facebook, before Google, even before Tom Hank's star turn in *Sleepless in Seattle*, to 1992 when the "Information Superhighway" was still used to discuss the world wide web. Promised by the Clinton campaign as a job creator ushering in a new era of American economic competitiveness,⁴⁵ the Information Superhighway also fit the long-held agenda of information infrastructure improvements advanced by Vice President Al Gore during his tenure as a Senator.⁴⁶ After winning the Presidential election, the Clinton administration moved quickly to make good on its promise with enthusiastic Congressional support. The creatively titled "Information Infrastructure Taskforce" (IITF)⁴⁷ was established to formulate and implement policies for the development of the necessary information infrastructure, in order to make the concept of a digital marketplace a reality.⁴⁸

The Information Policy Committee was tasked to formulate policy regarding copyrighted content and housed within the IITF. Bruce Lehman, a

enforce any provision of this title other than this paragraph."); SECTION 1201 REPORT, *supra* note 5, at 20–21.

43. For the current rulemaking announcement, see Exemptions to Permit Circumvention of Access Controls on Copyrighted Works, 82 Fed Reg. 49,550 (Oct. 26, 2017) (to be codified at 37 C.F.R. pt. 201).

44. See SECTION 1201 REPORT, *supra* note 5, at 24–25. See also *Rulemaking Proceedings Under Section 1201 of Title 17*, U.S. COPYRIGHT OFFICE, <https://www.copyright.gov/1201> [<https://perma.cc/WK32-T646>].

45. JESSICA LITMAN, DIGITAL COPYRIGHT 89 (2006); William J. Broad, *Clinton to Promote High Technology, with Gore in Charge*, N.Y. TIMES (Nov. 10, 1992), <https://www.nytimes.com/1992/11/10/science/clinton-to-promote-high-technology-with-gore-in-charge.html> [<https://perma.cc/2KT9-PMTG>].

46. Thomas C. Greene, *Net Builders Khan, Cerf Recognize Al Gore: Grateful for the Inventor's Genius*, REGISTER (Oct. 2, 2000, 4:19 PM), https://www.theregister.co.uk/2000/10/02/net_builders_kahn_cerf_recognise [<https://perma.cc/LF4F-VFUR>].

47. For more information about the group, see generally RONALD H. BROWN ET AL., THE NATIONAL INFORMATION INFRASTRUCTURE: AGENDA FOR ACTION (1993).

48. See LITMAN, *supra* note 45, at 89–90.

former media industry lobbyist and then Commissioner of Patents and Trademarks, led the Committee.⁴⁹ While composed of governmental officials from a variety of executive agencies, Lehman's senior staff consisted of former copyright lobbyists from the computer and music industry with close contacts to private sector lobbyists. Members of the Committee complained in private that they were merely figureheads while Lehman and his senior staff truly called the shots.⁵⁰

In 1995 the Lehman Group delivered their report to Congress, which served as the basis for the National Information Infrastructure (NII) Copyright Protection Act.⁵¹ The proposed Act contained similar bans on trafficking to the current provisions found in the DMCA, but was much broader with no permanent exemptions.⁵² However, the effort stalled in both houses of Congress due to concerns about fair use from a coalition of law professors, technologists, and libraries.⁵³ The software industry and Online Service Providers (OSPs) also opposed the bill due to fears of vicarious liability from users' activities.⁵⁴

Undeterred, Lehman instead used the World Intellectual Property Organization (WIPO) negotiations to force Congress to enact the provisions

49. *See id.* at 90–91; Pamela Samuelson, *The U.S. Digital Agenda at WIPO*, 37 VA. J. INT'L L. 369, 379 (1997).

50. *See* LITMAN, *supra* note 30, at 90. The story of the Lehman Group's influence and pro-industry stance has been detailed in various works and often criticized. For more detail on the Lehman group's influence on the DMCA, *see id.* at 89–102, 122–28; GILLESPIE, *supra* note 7, at 36–40, 174–76; BILL D. HERMAN, *THE FIGHT OVER DIGITAL RIGHTS: THE POLITICS OF COPYRIGHT AND TECHNOLOGY* 38–43 (2013); PATRICIA AUFDERHEIDE & PETER JASZI, *RECLAIMING FAIR USE: HOW TO PUT BALANCE BACK IN COPYRIGHT* 43–44 (2011); Samuelson, *supra* note 49, at 379–80. As these sources discuss, the Lehman Group produced a controversial preliminary report, known as “the White Paper” and a final report advocating strong anti-circumvention provisions that became the basis for § 1201 of the DMCA.

51. *See* GILLESPIE, *supra* note 7, at 175; *see also* NII Copyright Protection Act of 1995, S. 1284, 104th Cong. (Senate bill); NII Copyright Protection Act of 1995, H.R. 2441, 104th Cong. (House bill). As both bills are identical, I will cite only to the Senate bill. *See generally* RONALD H. BROWN ET AL., *INFO. INFRASTRUCTURE TASK FORCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: A PRELIMINARY DRAFT OF THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS* (1994) [hereinafter *THE GREEN PAPER*]; RONALD H. BROWN ET AL., *INFO. INFRASTRUCTURE TASK FORCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS* (1995) [hereinafter *THE WHITE PAPER*].

52. *See* NII Copyright Protection Act of 1995, S. 1284, 104th Cong. §§ 1201–1202.

53. *See* LITMAN, *supra* note 45, at 122–28; GILLESPIE, *supra* note 7, at 175–76; AUFDERHEIDE & JASZI, *supra* note 50, at 43–44; HERMAN, *supra* note 50, at 41–42.

54. *See* LITMAN, *supra* note 45, at 127–28.

of the failed bill.⁵⁵ However, Lehman only succeeded in enacting a watered-down version of his proposals, including a weak anti-circumvention provision, through WIPO.⁵⁶ Equipped with the WIPO treaty, Lehman returned to Congress stating that the weak WIPO anti-circumvention proposals exemplified the need for the United States to take the lead in combating digital piracy.⁵⁷ On Lehman's third try, he successfully managed to get his proposals submitted as part of the WIPO implementation bill in the Senate that would eventually become the DMCA.⁵⁸

C. PASSING THE DMCA

The DMCA was introduced in the Senate in May of 1997, voted out of committee within the day, and passed a week later 99–0.⁵⁹ Why did this Senate bill move through so quickly while Lehman's prior bill had died in committee? One major reason was the fact that OSPs, critical opponents of the prior NII Copyright Act, came to a compromise with copyright holders to mitigate potential vicarious liability for their users' infringing acts.⁶⁰ Undeterred, the existing coalition of consumer electronic makers, law professors, consumer groups, libraries, and other opponents who had not cut a deal took the battle to the House.⁶¹ This coalition found Congressional allies, such as Representative Rick Boucher, who introduced a more consumer-friendly

55. *See id.* at 129 (“Opponents of the White Paper legislation perceived [this] effort . . . as a sneaky trick.”). For a detailed overview of the United States’ goals and agenda at the WIPO treaty, see Samuelson, *supra* note 49. For the specifics of Lehman’s plan at WIPO regarding his NII Copyright policy see *id.* at 427–34. Regarding the NII Copyright Act’s stalling in Congress, Samuelson notes that “[Lehman’s] response was to redouble [his] efforts . . . [p]erhaps [because] he could get in Geneva an implementation of the digital agenda that he had [been unable] to get from Congress. This, then, became Lehman’s second order strategy for accomplishing [his] digital agenda.” *Id.* at 429.

56. *See* LITMAN, *supra* note 45, at 129–30 (“[T]he treaty . . . incorporated few of Lehman’s ambitious proposals, and even those were substantially diluted.”); Samuelson, *supra* note 49, at 414 (“Facing the prospect of little support for the . . . [anti-circumvention proposal], the U.S. delegation was [forced] to find a national delegation willing to introduce a compromise provision brokered by U.S. industry groups that . . . simply require[d] states to have adequate . . . legal protection against circumvention . . . a delegation was found, and the final treaty embodied this provision . . .”).

57. *See* LITMAN, *supra* note 45, at 134. Professor Litman notes that “Representatives of the motion picture and recording industries backed up [Lehman’s] arguments with prophecies of widespread international piracy unless Congress acted quickly.” *Id.*

58. *See id.* at 135–36; Digital Millennium Copyright Act of 1998, S. 2037, 105th Cong. (1997).

59. *See* LITMAN, *supra* note 45, at 136–37.

60. *Id.* at 127–29, 135–37.

61. *Id.* at 137.

version of the WIPO implementation bill than the one in the Senate.⁶² Despite opposition by industry proponents of the Senate bill, the Commerce Committee held a hearing on the bill.⁶³ In the hearing, opponents raised their concerns regarding fair use,⁶⁴ and industry proponents countered with claims of unchecked piracy.⁶⁵ The committee assured the content industry that they understood the need to pass the bill.⁶⁶ But the Committee also stated that the coalition raised valid concerns about the version passed in the Senate, which contained an absolute ban on circumvention with no exceptions for fair use.⁶⁷ The Committee indicated that the proponents of the bill were being unreasonable and urged further negotiation between the two sides, angering the content industry who expected the bill to pass quickly.⁶⁸

62. *Id.* at 137–38. See Digital Era Copyright Act, H.R. 3048, 105th Cong. (1997). It is important to note that this bill’s version of § 1201 textually required the nexus to infringement requirement that was later read into the present version of the DMCA by the Federal Circuit’s *Chamberlain* decision, which this Note discusses *infra* in Section III.D. “No person, *for the purpose of facilitating or engaging in an act of infringement*, shall engage in conduct so as knowingly to remove, deactivate or otherwise circumvent the application or operation of any effective technological measure used by a copyright owner to preclude or limit reproduction of a work[.]” *Id.* § 1201(a) (emphasis added). For the House bill that would later become the DMCA, see Digital Millennium Copyright Act, H.R. 2281, 105th Cong. (1997).

63. See LITMAN, *supra* note 45, at 137–38.

64. See, e.g., *Copyright Treaties Implementation Act: Hearing Before the Subcommittee on Telecommunications, Trade, and Consumer Protection of the House Committee on Commerce*, 105th Cong. 71 (1998) (“[The first issue with the bill] is it creates the right of new access that includes none of the limitations or exceptions that are applied to proprietary rights and current law. This unconstrained new right would sharply limit the ability of faculty and students to use information services.”) (statement of Charles E. Phelps speaking on behalf of the Association of American Universities).

65. The arguments by the bill’s proponents mainly relied on stoking fears of digital piracy and WIPO non-compliance. See, e.g., *id.* at 57 (“[The proposals by the opponents] serv[e] mainly to provide a roadmap to keep the purveyors of ‘black boxes’ and other circumvention devices and services in business . . . [t]heir adoption will reduce the legal protection for these . . . technologies to an inadequate and ineffective level, thus falling short of the WIPO treaties’ minimum standards.”) (statement of Steven J. Metaltiz representing the Motion Picture Association of America).

66. An example of the subcommittee’s sympathetic views to the content industry is the following:

[T]he digital environment poses a unique threat to the rights of copyright owners, and . . . necessitates protection against devices that undermine copyright interests. [Unlike] the analog experience, digital technology enables pirates to reproduce and distribute perfect copies . . . at virtually no cost . . . to the pirate. As technology advances, so must our laws.

H.R. REP. NO. 105-551, pt. 2, at 25 (1997).

67. See Digital Millennium Copyright Act of 1998, S. 2037, 105th Cong. (1997) (no exemptions listed).

68. See LITMAN, *supra* note 45, at 137–40.

These compromises included the current DMCA's exceptions for libraries and encryption research to appease software industry demands. However, the House was persuaded by the coalition's concerns to insert both a two-year moratorium period for anti-circumvention violations and to require an impact study on the potential effects of the circumvention ban.⁶⁹

The Senate, however, refused to pass the House bill, insisting on its own version with the current Congress ending in only a few weeks. This led to a series of last-minute deals, and the final version was a Frankenstein's Monster of different bits and pieces of both the House and Senate bills frantically stitched together. Both sides of the aisle wanted to get the bill passed before the election recess, and they succeeded.⁷⁰ President Clinton signed the DMCA into law on October 28, 1998, which had ballooned into a nearly thirty-thousand-word document across fifty pages.⁷¹

III. CONCERNS RAISED BY § 1201

The concerns that were raised by both the media industry and the public interest groups during § 1201's passage happened to be prescient. The meteoric rise of Napster all but confirmed the industry's fears, with its user base gleefully sharing music and other copyrighted materials. On the other hand, the fears of public harm and erosion of fair use raised by § 1201's opponents would also come to this pass. This Part highlights these concerns and reveals the public's antipathy to § 1201 as well as the harms, through chilled or outright prohibition of traditional fair uses, faced by the public. Rejecting a nexus requirement between § 1201 liability and copyright infringement is the primary cause of both the public's antipathy towards copyright generally and this erosion of traditional fair uses.

A. THE SUM OF ALL FEARS NAPSTER & THE RISE OF FILE SHARING

The content industry's fears about digital piracy may have seemed overblown, but in 1999, shortly after the DMCA's passage, Napster, a peer-to-peer file-sharing network, launched.⁷² It was the sum of all the content industry's fears and an enormously popular hit with the nation's youth, despite

69. See Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to Be Revised*, 14 BERKELEY TECH. L.J. 1, 41 (1999); LITMAN, *supra* note 45, at 141.

70. See LITMAN, *supra* note 45, at 143.

71. See *id.*

72. See Richard Nieva, *Ashes to Ashes, Peer to Peer: An Oral History of Napster*, FORTUNE (Sept. 5, 2013), <http://fortune.com/2013/09/05/ashes-to-ashes-peer-to-peer-an-oral-history-of-napster> [<https://perma.cc/A69M-AT2M>].

being sued out of existence in 2001.⁷³ Napster connected users to each other, allowing them to swap files, mostly music. At its peak, it had 70 million users.⁷⁴ Napster seemed to cement the need for the DMCA in Congress's eyes as numerous hearings were held and fears of the death of the music industry were used to push for even more restrictive measures.⁷⁵

While this seemed to justify the DMCA to content owners and most policy makers, as the Internet grew to everyday ubiquity, the public became increasingly active in protecting it from content industry restrictions. Compared to the original enactment of § 1201, new attempts of heavy industry lobbying to restrict user's rights were met with much more public attention and activism. Perhaps Napster was the "crack-cocaine" of internet growth,⁷⁶ and the public's illicit addiction to Napster and subsequent withdrawal caused it to view the Internet as a commons in need of protection. Perhaps it was the growing Internet's ability to connect specialized news sources and advocacy groups to more people. Or perhaps it was simply the epiphany of the convenience of downloading the one song you wanted instead of paying \$15 for the whole CD.⁷⁷ Regardless, despite the content industries pumping out millions in Public Service Announcements, the public began to view copyright law and the DMCA with increasing distaste and with a growing appetite for online content.⁷⁸

73. *See id.*

74. *See id.*

75. *See, e.g.*, Protecting Intellectual Rights Against Theft and Expropriation Act of 2004 (Pirate Act), S. 2237, 108th Cong. (2004); Stop Online Piracy Act (SOPA), H.R. 3261, 112th Cong. (2011); PROTECT IP Act (PIPA), S. 968, 112th Cong. (2011). The content industry faced significant opposition, particularly as the following bills remain unenacted with SOPA being the focus of much public attention and protest. *See*, Chenda Ngak, *SOPA and PIPA Internet Blackout Aftermath, Staggering Numbers*, CBS NEWS (Dec. 19, 2012), <https://www.cbsnews.com/news/sopa-and-pipa-internet-blackout-aftermath-staggering-numbers> [<https://perma.cc/Q75B-ZCA8>].

76. *See* LAWRENCE LESSIG, *FREE CULTURE: HOW BIG DATA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY* 296 (2004).

77. *See* Laura Sydell, *Napster: The File Sharing Service That Started It All?*, NPR (Dec. 21, 2009), <https://www.npr.org/2009/12/21/121690908/napster-the-file-sharing-service-that-started-it-all> [<https://perma.cc/JXJ9-JND7>].

78. For a discussion of copyright's low approval rating and possible solution, see Peter S. Menell, *This American Copyright Life: Reflections on Re-equilibrating Copyright for the Digital Age*, 61 J. COPYRIGHT SOC'Y U.S.A. 235, 240–44, 250–69 (2014). In fact, one study found that increasing the severity of punishment against file-shares brings about not only stronger anti-copyright views but an increase in infringement as well. *See* Ben Depoorter, Alain Van Hiel, & Sven Vanneste, *Copyright Backlash*, 84 S. CAL. L. REV. 1251, 1280 (2011).

B. HOW § 1201 HARMS THE PUBLIC

The DMCA was lobbied for heavily by Hollywood for the introduction of its DVD TPM.⁷⁹ Films are traditionally the kind of material protected by copyright, and the kind of material Congress considered when drafting the DMCA.⁸⁰ It cannot be said, however, that Congress meant for auto owners to be considered mere licensees unable to repair their own vehicles,⁸¹ for John Deere to gain a monopoly on the repair of its tractors by embedding software in its products,⁸² or for consumers to be forced to buy one brand of coffee pod because of the software in their coffee makers.⁸³

These harms can be broadly broken into two categories: the rise of software products in everyday consumer goods interfering with traditional rights of ownership⁸⁴ and the evisceration of traditional fair uses in copyright law,⁸⁵ such as scholarship, research, and preservation, due to a work being digital and therefore containing TPMs.⁸⁶ While these harms are referenced and

79. See PETER DECHERNEY, *HOLLYWOOD'S COPYRIGHT WARS: FROM EDISON TO THE INTERNET* 209–11 (2012).

80. See *WIPO Copyright Treaties Implementation Act; and Online Copyright Liability Limitation Act: Hearing Before the Subcom. on Courts and Intellectual Property of the Comm. of the Judiciary*, 105th Cong. (1998) at 79 (“This Committee understands with appreciative clarity the ascending curve of global revenues produced by American copyright industries who deal in intellectual property: revenues emerging from an international appetite for American computer software, videogames, movies, television programs, home videos, books, [and] musical recordings.”) (statement of Jack Valenti, President and CEO of the Motion Picture Association of America).

81. See Cory Doctorow, *GM Says You Don't Own Your Car, You Just License It*, BOING BOING (May 21, 2015), <https://boingboing.net/2015/05/21/gm-says-you-dont-own-your-ca.html> [<https://perma.cc/6NNJ-ZRVD>] (“GM has joined with John Deere in asking the government to confirm that you literally cannot own your car because of the software in its engine.”).

82. See Kyle Wiens, *We Can't Let John Deere Destroy the Idea of Ownership*, WIRED (Apr. 21, 2015), <https://www.wired.com/2015/04/dmca-ownership-john-deere> [<https://perma.cc/5LVB-TB7Y>].

83. See John Dzieza, *Keurig's Attempt to 'DRM' Its Coffee Cups Totally Backfired*, VERGE (Feb. 5, 2015), <https://www.theverge.com/2015/2/5/7986327/keurigs-attempt-to-drm-its-coffee-cups-totally-backfired> [<https://perma.cc/8HM9-B2VH>].

84. These traditional rights include the right to repair, modify, sell, and dispose of property. For a good summary of how the DMCA interacts with these rights, see Samuelson, *supra* note 3, at 589–97.

85. Fair use is codified at 17 U.S.C. § 106 (2015). For a discussion of how the DMCA harms fair use, see generally Katherine Sender & Peter Dechery, *Defending Fair Use in the Age of the Digital Millennium Copyright Act*, 1 INT'L J. COMM. 136 (2007).

86. See Cory Doctorow, *EFF vs IoT DRM, OMG!*, ELECTRONIC FRONTIER FOUND.: DEEPLINKS BLOG (Feb. 7, 2018), <https://www.eff.org/deeplinks/2018/02/eff-vs-iot-drm-omg> [<https://perma.cc/S6YJ-ZJFV>] (stating that “[t]oday, [TPMs] have proliferated to every device with embedded software: cars, tractors, pacemakers, voting machines, phones, tablets, and, of course, ‘smart speakers’ used to interface with voice assistants”).

used throughout this Note, the purpose of this Part is to merely introduce them to the reader. Those wishing to dive deeper into these specific harms have a wealth of literature to explore and this Note contains many citations for the reader to explore more. These harms show why the Copyright Office's recommendations are insufficient; rather than accept these recommendations, Congress should amend the DMCA with a statutory amendment requiring a nexus between circumvention and copyright infringement.⁸⁷

IV. GRAPPLING WITH § 1201

The toxic effects of the DMCA on consumer goods and traditional fair uses, such as research and criticism, have not only created a push for exemptions and state-level bills granting consumers a right to repair,⁸⁸ but also limited legislative action by Congress.⁸⁹ These efforts show that there is some interest among lawmakers to remedy the harms created by the DMCA and that they understand that the erosion of ownership and consumer choice by software-embedded products needs to end. Both public outcry⁹⁰ and the inherent need to resolve the aging circuit split⁹¹ may be pushing these members of Congress to seek reform. It is important to note that, as a national law that regulates and impacts commerce, the DMCA should be uniformly applied. Congress, not the Courts, are in the best position to clarify their intent behind the DMCA.

87. See *infra* Section IV.B.

88. See SECTION 1201 REPORT, *supra* note 5, at 88 (noting that “[t]he Copyright Office received numerous comments advocating for statutory exemptions to . . . fix obsolete, damaged, or malfunctioning TPMs” and that “[g]rowing public interest in repair activities is further reflected by the right-to-repair bills currently pending in several states”).

89. See, e.g., Unlocking Consumer Choice Act, Pub. L. No. 113-144, 128 Stat. 1751 (2014) (passed to allow consumers to “unlock” their phones from a carrier’s network). This was passed due to a temporary exemption which allowed this activity to unexpectedly not be renewed by the Copyright Office despite successful passage in two prior Rulemakings. See SECTION 1201 REPORT, *supra* note 5, at 34. For a more comprehensive, unenacted bill that would have codified a nexus requirement, see Unlocking Technology Act of 2015, H.R. 1587, 114th Cong. § 2(a)(1)(A)–(B). This bill was also introduced in 2013 but has yet to make it out of committee. See SECTION 1201 REPORT, *supra* note 5, at 42. A more limited legislative reform bill aimed at the rulemaking process has also been introduced, see Breaking Down Barriers to Innovation Act of 2015, H.R. 1883, 114th Cong. For a helpful overview of this act, see Mitch Stoltz, *New “Breaking Down Barriers to Innovation Act” Targets Many of DMCA Section 1201’s Problems*, ELECTRONIC FRONTIER FOUND.: DEEPLINKS BLOG (Apr. 20, 2015), <https://www.eff.org/deeplinks/2015/04/new-breaking-down-barriers-innovation-act-targets-many-dmca-section-1201s-problems> [<https://perma.cc/KS9Z-TSXL>].

90. See *supra* note 78.

91. See *infra* Section IV.A.

A. THE COURTS

Copyright specialists eagerly awaited a court's interpretation of § 1201 following the initial two-year moratorium on the anti-circumvention provisions. However, the courts came out with incongruous rulings regarding § 1201. In 2001, the Second Circuit was the first circuit court to interpret 1201 and gave an expansive interpretation of the circumvention and trafficking prohibitions in *Corley*.⁹² Three years later, the Federal Circuit held in *Chamberlain*, which concerned garage door opener software, that a nexus to infringement was required for liability under § 1201.⁹³ Also in 2004, the Sixth Circuit seemed to agree with the Federal Circuit in dicta in a dispute over circumvention of a TPM involving ink cartridges.⁹⁴ While DVDs and video games were foreseeable at the time of the DMCA's passage, the court correctly found it doubtful that Congress foresaw the DMCA being litigated over consumer goods like ink cartridges.⁹⁵ The case law over § 1201 was complicated further in 2010, when the Ninth circuit openly and vehemently split with the Federal Circuit's interpretation of § 1201 in a case involving circumvention of a cheat detection system in an online video game.⁹⁶ The Ninth circuit rejected the Federal and Sixth's nexus requirement, stating that § 1201 created a new property right independent of copyright. As the above

92. *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 453–58 (2d Cir. 2001) (upholding the trial court's injunction of posting and linking to the circumvention program DeCSS). This was especially troubling given that Corley was a journalist, making Patry's commentary, *supra* note 19, all the more accurate.

93.

Chamberlain . . . has failed to show. . . the critical nexus between access and protection. Chamberlain neither alleged copyright infringement nor explained how the access provided by the [defendant's] transmitter facilitates . . . infringement . . . There can therefore be no reasonable relationship between the access . . . gain[ed] to Chamberlain's copyrighted software when using Skylink's . . . transmitter and the protections [of] the Copyright Act.

See Chamberlain Grp., Inc. v. Skylink Tech., Inc. 381 F.3d 1178, 1204 (Fed. Cir. 2004).

94. *See Lexmark Int'l, Inc. v. Static Control Comps., Inc.*, 387 F.3d 522, 549 (6th Cir. 2004) ("Nowhere in its deliberations over the DMCA did Congress express an interest in creating liability for the circumvention of technological measures designed to prevent consumers from using consumer goods while leaving the copyrightable content of a work unprotected. In fact, Congress added the interoperability provision in part to ensure that the DMCA would not diminish the benefit to consumers of interoperable devices 'in the consumer electronics environment.'" (citations omitted)).

95. *See id.* at 548.

96. *See MDY Indus., LLC v. Blizzard Entm't, Inc.*, 629 F.3d 928, 950 (2010) ("While we appreciate the policy considerations expressed by the Federal Circuit in *Chamberlain*, we are unable to follow its approach because it is contrary to the plain language of the statute . . . its approach is based on policy concerns that are best directed to Congress[.]").

cases demonstrate, TPMs are showing up in a variety of unexpected places. This has led to a circuit split over whether a nexus to copyright infringement is required or if Congress meant to create an entirely separate right protecting against circumvention.⁹⁷

B. THE COPYRIGHT OFFICE'S 1201 REPORT

The Copyright Office's Section 1201 Report, released in June 2017, gives an overview of the current legal framework, an analysis of proposed statutory reforms for § 1201, and proposed reforms to the rulemaking process.⁹⁸ The Copyright Office takes a very modest approach to reform of § 1201, to the disappointment of some critics.⁹⁹ There are hints of status quo bias throughout the report, for instance, the Copyright Office heaps praise upon § 1201 as the law that made the Internet the ubiquitous success it is today.¹⁰⁰ However, the Copyright Office is willing to break from the established framework on a few issues, such as the Right to Repair, and to call for a few new permanent exemptions, to the delight of some commentators.¹⁰¹ Despite

97. Compare *Chamberlain*, 381 F.3d at 1192 (“The essence of the DMCA’s anticircumvention provisions is that §§ 1201(a), (b) establish causes of action for liability. They do not establish a new property right.”), with *MDY*, 629 F.3d at 950 (“The *Chamberlain* court reasoned that if § 1201(a) creates liability for access without [a nexus to the] Copyright Act, it ‘would clearly affect rights and limitations . . .’ This perceived tension is relieved by our recognition that § 1201(a) creates a new anti-circumvention right distinct from the . . . rights of a copyright owner.” (internal citations omitted)).

98. See SECTION 1201 REPORT, *supra* note 5.

99. See, e.g., Mitch Stoltz, *Copyright Office Proposes Modest Fixes to DMCA 1201, Leaves Fundamental Flaws Untouched*, ELECTRONIC FRONTIER FOUND.: DEEPLINKS BLOG (June 28, 2017), <https://www.eff.org/deeplinks/2017/06/copyright-office-proposes-modest-fixes-dmca-1201-leaves-fundamental-flaws?fdesktop=true&page=28> [https://perma.cc/J2D8-8GWW]; Cory Doctorow, *US Copyright Office Recommends Sweeping, Welcome Changes to America’s DRM Law*, BOING BOING, (June 23, 2017), <https://boingboing.net/2017/06/23/us-copyright-office-recommends.html> [https://perma.cc/ZHW9-N3TH] (“This is all great stuff, but it stop[s] pretty far short of the mark.”).

100. The Report’s very first line claims that “The Digital Millennium Copyright Act (‘DMCA’) has played a pivotal role in the development of the modern digital economy.” SECTION 1201 REPORT, *supra* note 5, at 1. As Stoltz, *supra* note 99, points out, the Copyright Office provides no evidence to support this claim besides statements from the content industry. See SECTION 1201 REPORT, *supra* note 5, at 36 (“Commenters representing creative industries argued that section 1201 has contributed significantly to the explosive growth in legitimate digital content delivery services.”).

101. See, e.g., Ali Breland, *Copyright Office Voices Support for Giving Consumers the ‘Right to Repair’*, HILL (June 23, 2017), <http://thehill.com/policy/technology/339147-copyright-office-voices-support-for-legalizing-consumers-right-to-repair> [https://perma.cc/JA2X-SPGH]; Jason Koebler, *The US Government Wants to Permanently Legalize the Right to Repair*, MOTHERBOARD (June 22, 2017), https://motherboard.vice.com/en_us/article/d3zbnz/the-government-wants-to-permanently-legalize-the-right-to-repair [https://perma.cc/9FPP-

recommendations for modest changes, these deviations do not go far enough.

The Copyright Office's Report, while mainly advocating for the status quo, does offer some exciting proposals for modifying § 1201. These recommendations include a statutory amendment allowing third-party assistance in circumvention to "exemption beneficiaries"¹⁰² and greater flexibility for security testing.¹⁰³ Other recommendations propose new permanent exemptions, such as for assistive technologies,¹⁰⁴ codifying a right to repair,¹⁰⁵ including the circumvention of obsolete access controls,¹⁰⁶ but the Copyright Office declined to recommend a right for "tinkering" or modification.¹⁰⁷ These are steps in the right direction and the Copyright Office deserves praise for challenging the status quo, especially for advocating for a right to third-party help for those undertaking exempted activities and a permanent right to repair exemption.

However, the Copyright Office's rejection of further reform is disappointing. It rejects the most simple and straightforward proposal that easily encompasses all of its proposed piecemeal reforms: a requirement of a nexus to infringement for liability.¹⁰⁸ This is due to concerns that such a requirement would limit the power of copyright holders to exercise meaningful control over their works. However, the Copyright Office ignores the benefits to public welfare. It also rejects several smaller, more targeted exemptions, perhaps reflecting bias towards the status quo. Examples of this bias can be found throughout the Report, such as when the Copyright Office rejects broad statutory amendments but then gives roadmaps of possible statutory language if Congress chooses to do so. This can be seen in both its discussion on the

U3WC]; John Eggerton, *Copyright Office: Circumvention Prohibition Framework Remains Sound*, BROADCASTING & CABLE (June 22, 2017), <http://www.broadcastingcable.com/news/washington/copyright-office-circumvention-prohibition-framework-remains-sound/166735> [<https://perma.cc/U2RG-G5QR>] ("The Center for Democracy and Technology was pleased with the recommendation that the exemption for cybersecurity research was currently too narrow . . .").

102. SECTION 1201 REPORT, *supra* note 5, at 60.

103. *See id.* at 77.

104. *See id.* at 84 (defining "Assistive Technologies" as technologies that "facilitate access to literary works . . . by persons who are blind, visually impaired or print-disabled").

105. *See id.* at 90 (stating that circumvention for repair purposes "would be consistent with the statutes overall policy goals").

106. *See id.* at 92 (this recommendation also groups "damaged or malfunctioning TPMs" with obsolete access controls).

107. *See id.* at 90 (suggesting that the triennial rulemaking is a more appropriate forum for these exemptions).

108. *See id.* at 42–47.

reverse engineering¹⁰⁹ and security research exemptions.¹¹⁰ These roadmaps, contrasted with their conclusions, show that the Copyright Office may at least be more open to a more substantive reform than a mere summary of recommendations would reveal.

1. *A Nexus to Infringement Requirement Allows the Flexibility Required to Regulate Future Changes in Technology*

Technology changes. Like Hanna-Barbara imagining a future of stilted buildings, robot maids, and a society run on sprockets,¹¹¹ few could have predicted Spotify or Facebook in 1998. The fundamental flaw at the heart of the DMCA is that it was intended to set bounds on something constantly growing: a bottle to contain the genie of instantaneous copying and transmission. This genie of the Information Age has the power to deliver knowledge and entertainment regardless of whether the end result is a Wikipedia or a Napster. The DMCA is not flexible enough even with the triennial rulemaking as a failsafe. The result has been an explosion: the genie is free, but shrapnel has hit numerous bystanders. The starting point is to allow this expansion. The first step in doing so is a statutory requirement for a nexus to infringement, a step the Copyright Office forcefully rejects.¹¹²

However, such a requirement would not only cure the ills of software-embedded garage door openers or ink cartridges using TPMs to anticompetitively control the repair and services market,¹¹³ but would greatly reduce the chilling effect the DMCA has had on legitimate research.¹¹⁴ The

109. *See id.* at 71 (“[T]he Office is not convinced that amendment . . . is . . . necessary . . . to engage in the legitimate activities to enable the interoperability that Congress intended That said, if Congress wishes to do so, the Office would also welcome legislative clarification of the circumstances under which persons may (or may not) engage in circumvention for interoperability purposes.”).

110. *See id.* at 74 (“While the Office is not at this time proposing statutory language for reform, it continues to believe that the exemption adopted in 2015 can be a useful starting point, and notes that most of the security researchers who petitioned for that exemption, as well as other commenters, agree.”).

111. *See The Jetsons* (ABC television broadcast starting 1962).

112. *See* SECTION 1201 REPORT, *supra* note 5, at 42–43.

113. *See* Daniel C. Higgs, Note, *Lexmark International, Inc. v. Static Control Components, Inc. & Chamberlain Group, Inc. v. Skylink Technologies, Inc.: The DMCA and Durable Goods Aftermarkets*, 19 BERKELEY TECH. L.J. 59, 83 (2004) (“[M]anufacturers of durable goods recognized in these provisions the potential for a broader application: the exclusion of competitors from aftermarkets. If left unchecked, this troubling extension of the DMCA could have drastic effects on U.S. aftermarket industries and consumers alike.”).

114. *See, e.g.*, Edward Felten, *The Chilling Effects of the DMCA*, SLATE (Mar. 29, 2013), http://www.slate.com/articles/technology/future_tense/2013/03/dmca_chilling_effects_how_copyright_law_hurts_security_research.html [<https://perma.cc/KR6P-HT5B>]; Robert

Copyright Office expresses some concern about this chilling effect on research,¹¹⁵ but the best solution would be the nexus requirement. In our brave new world of network devices, linking everything from picture frames,¹¹⁶ refrigerators,¹¹⁷ and medical devices,¹¹⁸ the danger of cyberattacks is omnipresent.¹¹⁹ Instead of hindering such security and encryption research, we should be encouraging it.

This would clear similar clouds over freedom of speech¹²⁰ and educational issues,¹²¹ allowing society to benefit from less restricted expression and allowing new innovative methods of teaching. A nexus requirement also would

Lemos, *Russian Crypto Expert Arrested at Def Con*, CNET, (Mar. 2, 2002), <https://www.cnet.com/news/russian-crypto-expert-arrested-at-def-con> [<https://perma.cc/QJB4-QGWH>]; Parker Higgins, *Research and Remixes the Law Won't Allow*, ELECTRONIC FRONTIER FOUND.: DEEPLINKS BLOG (July 21, 2016), <https://www.eff.org/deeplinks/2016/07/research-and-remixes-law-wont-allow> [<https://perma.cc/UP7F-72VF>].

115. See SECTION 1201 REPORT, *supra* note 5, at 80 (recommending clarification for encryption research due to concerns over chilled research).

116. See Elinor Mills, *Latest Problem Import? Infected Digital Photo Frames*, CNET (Jan. 8, 2009), <https://www.cnet.com/news/latest-problem-import-infected-digital-photo-frames> [<https://perma.cc/W3PL-G2SM>].

117. See Swapnil Bhartiya, *Your Smart Fridge Might Kill You: The Dark Side of the IoT*, INFO WORLD (Mar. 3, 2017), <https://www.infoworld.com/article/3176673/internet-of-things-your-smart-fridge-may-kill-you-the-dark-side-of-iot.html> [<https://perma.cc/83BR-5VFF>].

118. See Cory Doctrow, *Medical Implants and Hospital Systems are Still InfoSec Dumpster Fires*, BOING BOING (May 26, 2017), <https://boingboing.net/2017/05/26/disclosure-vs-dmca.html> [<https://perma.cc/E5XJ-BCJT>].

119. See Lee Raine & Janna Anderson, *The Internet of Things Connectivity Binge: What Are the Implications?*, PEW RES. CTR. (June 6, 2017), <http://www.pewinternet.org/2017/06/06/the-internet-of-things-connectivity-binge-what-are-the-implications> [<https://perma.cc/VU9P-YNPZ>].

120. See, e.g., Wendy Seltzer, *Free Speech Unmoored in Copyright's Safe Harbor: Chilling Effects of the DMCA on the First Amendment*, 24 HARV. J. L. & TECH. 171 (2010) (discussing the chilling effects the DMCA has had on free speech and proposing policy reform based on first amendment principles); ELEC. FRONTIER FOUND., UNINTENDED CONSEQUENCES—16 YEARS UNDER THE DMCA 3–12 (2014) (“Experience with section 1201 demonstrates that it is being used to stifle free speech and scientific research. The lawsuit against 2600 magazine, threats against Princeton Professor Edward Felten’s team of researchers, and prosecution of Russian programmer Dmitry Sklyarov have chilled the legitimate activities of . . . the public.”) <https://www.eff.org/files/2014/09/16/unintendedconsequences2014.pdf> [<https://perma.cc/X9WE-J2XC>] [hereinafter EFF UNINTENDED CONSEQUENCES].

121. See, e.g., Renee Hobbs, *Lessons in Copyright Activism: K-12 Education and the DMCA 1201 Exemption Rulemaking Process*, 12 INT’L J. INFO. & COMM. TECH. EDUC. 50, 53 (2016) (“Because many educators and learners depend on clips from film DVDs for use in both classroom teaching and student media production assignments, the law has had a negative impact on digital learning and, in particular, has discouraged educators from using film as a teaching resource.”); EFF UNINTENDED CONSEQUENCES, *supra* note 120, at 6–7.

allow product owners to tinker and modify the products they own. Tinkering and modification are not only long-held rights of property owners,¹²² but also essential to our creative ecosystem.¹²³ This kind of dynamic modification and knowledge sharing is exactly what the DMCA needs to embrace.

2. *The 1201 Rulemaking Process Should Operate as a Fail-Safe as Congress Intended*

The 1201 Rulemaking Process and its exemptions have the same problem as Tribbles:¹²⁴ they keep multiplying. Rulemaking has grown exponentially both in public petitions, exemptions granted, and public interest.¹²⁵ This is not only costly and onerous, but due to the DMCA's imbalance in favor of content owners, the burden usually falls on public interest groups to seek these exemptions.¹²⁶ This time-consuming process is not operating as the fail-safe that Congress intended. If an infringement nexus were required, the number of petitions would sharply decrease. This is because the majority of the petitions deals with repair, preservation, education use, or some other well-settled non-infringing use under copyright law.¹²⁷ Litigating copyright infringement can be very expensive, with most stages of litigation costing

122. See Samuelson, *supra* note 3, at 566.

123. *Id.* at 567–68. For real-world examples of the benefits of tinkering see, e.g., David Labrador, *Teaching Robot Dogs New Tricks*, SCI. AM. (Jan. 21, 2002), <https://www.scientificamerican.com/article/teaching-robot-dogs-new-t> [<https://perma.cc/428R-NU2J>] (detailing the improvements made by users to a robotic dog toy); Craig Pearson, *A Brief History of Garry's Mod: Count to Ten*, ROCK PAPER SHOTGUN (Aug. 29, 2012), <https://www.rockpapershotgun.com/2012/08/29/a-brief-history-of-garrys-mod-count-to-ten> [<https://perma.cc/794X-CE3K>] (detailing the history of Half Life 2's Most Popular Mod which allows users a platform create their own works in a variety of media); Luke Bouma, *A Short History of Kodi*, TING (Mar. 24, 2016), <https://ting.com/blog/a-short-history-of-kodi> [<https://perma.cc/VLW5-DKVL>] (giving the history of Kodi, one of the most popular open source media interfaces, and its origins as a tinkering project of the open source Xbox Media Center software).

124. See *Star Trek: The Trouble with Tribbles* (NBC television broadcast Dec. 29, 1967).

125. The Copyright Office notes that the first rulemaking received 392 public comments and the Office recommended two temporary exemptions, while the 2015 rulemaking saw almost 40,000 public comments with 22 exemptions recommended. See SECTION 1201 REPORT, *supra* note 5, at 25.

126. For example, the Electronic Frontier Foundation sought six exemptions in the 2015 Rulemaking. 2015 DMCA Rulemaking, ELECTRONIC FRONTIER FOUND., <https://www.eff.org/cases/2015-dmca-rulemaking> [<https://perma.cc/N3SA-2CVL>].

127. See Krista Cox, *1201 Rulemaking for a New Era?*, ASS'N RES. LIBRARY (Jan. 20, 2016), <http://policynotes.arl.org/?p=1262> [<https://perma.cc/7CHM-GDAW>] (“The proceeding also continues to perpetuate the fatal flaw in Section 1201 – exemptions are requested for uses that would all be considered non-infringing if these same copyrighted works were analog and did not have TPMs.”).

hundreds of thousands of dollars and complaint to trial often totaling over a million dollars.¹²⁸ If the law required a nexus to infringement, the rulemaking could function as a true fail-safe process that could flexibly respond to novel questions of technology, instead of being bogged down by clear fair uses.

C. THE LEGISLATURE

With the Copyright Office's current timid position and with the courts facing a circuit split, the burden falls on Congress to amend the problems arising from § 1201. The law is not working as it intended. Congress intended the DMCA to protect the kinds of expression that copyright has historically regulated, things like movies, video games, and music, not the tractors and garage door openers that are now being litigated under the DMCA. However, even their intended area of protection, media, has gone further than intended. The preservation of "born digital" works is now in jeopardy.¹²⁹ As more works are created and exist in intangible form, and TPM software controls access to these works, preservation is hindered due to potential liability under § 1201 because merely circumventing these TPMs raise liability under a reading of the DMCA without a nexus requirement.¹³⁰ Proof that § 1201 is now hampering the preservation efforts can easily be found, whether it be digital news applications¹³¹ or videogames.¹³²

This shows that the DMCA is eroding fair use far more than Congress intended and that the law has failed to keep up with our ever-changing world. Members of Congress have introduced multiple bills following the DMCA's passage to remedy the harms created by the DMCA, including a successful bill that allows consumers and technicians to circumvent cellphone TPMs to allow

128. See AM. INTELLECTUAL PROP. LAW ASS'N, REPORT OF THE ECONOMIC SURVEY 2017 I-183 (2017).

129. See SECTION 1201 REPORT, *supra* note 5, at 41. "Born Digital" is another way of saying that the work exists and was created as a digital product, like a novel that was exclusively released via eBook.

130. See generally Laura Gasaway, *Archiving and Preservation in U.S. Copyright Law*, in COPYRIGHT AND CULTURAL HERITAGE: PRESERVATION AND ACCESS TO WORKS IN A DIGITAL WORLD 131, 140 (Estelle Derclaye ed., 2010) (explaining certain problems archives and libraries face, such as an onsite access requirement for digital works, in their attempts at preservation as a result of the DMCA).

131. See Katherine Boss & Meredith Broussard, *Challenges Facing Born Digital News Applications*, 43 INT'L FED'N LIBR. ASS'NS J. 150, 153 (2017) (stating that "[l]egal issues also present a final, major obstacle in the preservation of news apps" while later mentioning the DMCA specifically).

132. See Allison M. Hudgins, *Preservation of the Videogame*, 29 PROVENANCE, J. SOC'Y GA. ARCHIVISTS 32, 37 (2011) (describing copyright law, and the DMCA specifically, as a significant obstacle to the preservation of video games).

access to wireless networks outside of their original carrier.¹³³ This shows that members of Congress are concerned about the DMCA's erosion of fair use and also understand the need for real reform to tie § 1201 liability to copyright infringement.

1. *The World Has Changed in Unforeseeable Ways*

Trying to predict the future is a lot like peering into a crystal ball; you usually only see your distorted reflection or the person sitting across from you. Our present circumstances always cloud our judgement. Few could have predicted Apple's rise and Microsoft's stagnation back in 1998 and no one would have attributed it to phone and music sales. In 1998, 41% of adults used the internet,¹³⁴ in 2016 88% did.¹³⁵ The rise of the IoT has been equally meteoric, with more and more of our devices, vehicles, appliances, and toys running embedded software capable of accessing the internet.¹³⁶

It is difficult to legislate for future technology. Therefore, the DMCA should be updated not only to reflect today's realities but made flexible enough to meet tomorrow's challenges as well. Congress can narrow liability through a statutory amendment requiring a nexus to copyright infringement. This puts the focus properly back on expressive content protection instead of garage door remotes.

V. CONCLUSION

The Copyright Office's Section 1201 Report proposes focusing on streamlining and giving themselves broader administrative discretion for the temporary exemption rulemaking process.¹³⁷ While these are welcome and much needed changes, marginal rulemaking solutions ignore the underlying defects of the DMCA. Section 1201, from its creation, has been broken and in need of substantial reform. The best way to achieve this is by requiring a statutory nexus to infringement. With the circuits split and the Copyright

133. See *supra* note 89 for examples of these bills and further discussion of the Unlocking Consumer Choice Act.

134. Susannah Fox, *The Internet Circa 1998*, PEW RES. CTR. (June 21, 2007), <http://www.pewinternet.org/2007/06/21/the-internet-circa-1998> [https://perma.cc/35U4-2VGD].

135. See *Internet/Broadband Fact Sheet*, PEW RES. CTR. (Jan. 12, 2017), <http://www.pewinternet.org/fact-sheet/internet-broadband> [https://perma.cc/Z3NE-HJWV].

136. See SOFTWARE REPORT, *supra* note 6, at 2–3. This led to concerns that the use of these products with its implications to copyright law “are particularly acute with respect to products that have not required software to operate in the past.” *Id.* at 8.

137. See SECTION 1201 REPORT, *supra* note 5, at 127–47.

Office's position unchanged, it is up to Congress to cure these defects and the easiest solution would be to amend § 1201 to require a nexus to copyright infringement.

Therefore, it is up to Congress to act, and the time to act is now. The DMCA's negative impact on repair, ownership, education, and security has brought public awareness of these issues to an all-time high. Congress should replace the inflexibility of the current DMCA with an infringement nexus that would fence in infringing uses while allowing the internet's creative ecosystem to freely graze.

