

# COPYRIGHT FALSE POSITIVES

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*Copyright enforcement is riddled with false positives. A false positive occurs when enforcement actions are taken against uses that are not actual infringements. Far from benign occurrences, copyright false positives inflict significant social harm in the form of increased litigation and transaction costs, distortions of licensing markets through rent-seeking behavior, increased piracy due to diminished public adherence with copyright law, and the systemic erosion of free speech rights and the public domain.*

*To combat this problem, this Article analyzes the causes that give rise to false positives, as well as their legal and social effects, and offers policy recommendations targeted at mitigating the damage of false positives. These policy recommendations include heightening the registration requirements to include a substantive review of all copyright claims, the promulgation of regulations dictating that copyright registrations be periodically renewed, and revision to the statutory damage provisions of the Copyright Act in order to encourage litigation that would help to excise false positives from the copyright corpus.*

## INTRODUCTION

In the geography of intellectual property law, copyright occupies a vast and verdant terrain, but its borders are poorly marked. The imprecise delineation of individual copyrights is both an intentional feature and an inherent flaw of the system: copyrights take minimal effort to acquire,<sup>1</sup> but the metes and bounds of the interests staked are often uncertain.<sup>2</sup> Unlike patents, where property rights are restricted to the claims contained in a successfully prosecuted application,<sup>3</sup> or trademark law, which only protects reg-

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1 See *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 346 (1991) (explaining that only a “modicum of creativity” is required for a work to be sufficiently original for the purposes of copyright protection).

2 See *infra* Section I.A.

3 See 35 U.S.C. §§ 100–105 (2006).

istered marks actually used in commerce,<sup>4</sup> copyrights inure at the moment of fixation<sup>5</sup> without any procedural or substantive inquiry into their scope.<sup>6</sup> As such, an author<sup>7</sup> of a putatively original work does not know, *ab initio*, the amount of protected expression contained in this work,<sup>8</sup> and so is unable to assess accurately the strength of her property claims.<sup>9</sup> Her original expression is protected, but the amount of originality her expression contains is often not readily discernible from the work on its face.<sup>10</sup> Similarly, it is often difficult to determine what part of another author's work is protected without extensive analysis of the substance of the work and the circumstances surrounding the work's creation. Every form of creative expression—from the crudest imitation to the highest reaches of originality—draws in part from prior art, both in form and in substance.<sup>11</sup> As a result, the boundaries of any copyright are vague and vulnerable to interpretation and second-guessing.

Such lacunae, in combination with other factors,<sup>12</sup> give rise to an abundance of copyright enforcement false positives,<sup>13</sup> where rights holders erro-

4 See 15 U.S.C. §§ 1051–1072 (2006).

5 See 17 U.S.C. § 102(a) (2006) (“Copyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression, now known or later developed . . .”).

6 Subject only to minimal review by the Copyright Office, works that are registered within five years of their initial publication are presumed to contain copyright-protected subject matter, and registration is considered prima facie evidence of validity. See 17 U.S.C. § 410 (2006). Accordingly, in a copyright suit the evidentiary burden is shifted to the defendant to prove the claim's invalidity or to offer an affirmative defense, which dramatically increases the cost of defending against a copyright action. *Id.*

7 In this Article, the terms “author,” “artist,” “writer,” and “creator” are used synonymously to denote the originator of creative expression, except where otherwise specified. For a general discussion of the definition of authorship in copyright law, see JULIE E. COHEN ET AL., COPYRIGHT IN A GLOBAL INFORMATION ECONOMY 116–43 (3d ed. 2010).

8 By statute, an author has copyrights in the expression, but not the ideas, contained in her work. 17 U.S.C. § 102. However, this idea/expression dichotomy is significantly complicated by the fact that certain types of expression may be unprotected ideas on the basis of the doctrines of merger, *scenes a faire*, and independent creation, as well as federal regulations that prohibit certain types of common expression (words, names, short phrases, etc.) from being copyrightable. See, e.g., 37 C.F.R. § 202.1 (2012); see *infra* Part I.

9 Conversely, uncertain boundaries also create notice problems for third parties. See Peter S. Menell & Michael J. Meurer, *Notice Failure and Notice Externalities*, 4 J. LEG. ANALYSIS 1, 21 (2012); see also *infra* Sections I.A & III.A.

10 See *infra* note 73 and accompanying text.

11 See *infra* note 74 and accompanying text.

12 See *infra* Part I.

13 In the economic literature on law enforcement, a Type II error or false positive occurs when an individual who should not be found liable is mistakenly found liable. See A. Mitchell Polinsky & Steven Shavell, *The Economic Theory of Public Enforcement of Law*, 38 J. ECON. LIT. 45, 60 (2000). In the framework advanced in this Article, copyright enforcement false positives are instances in which copyright enforcement actions target activities that are not infringements, or where the rights claimed are not actually possessed by the enforcer. As we discuss in more detail below such enforcement false positives become

neously believe that their interests in a particular work extend beyond the bounds of what is actually protected.<sup>14</sup> These false positives often motivate copyright owners to seek enforcement of rights that are non-existent or outside the scope of copyright.<sup>15</sup> Such misguided enforcement actions impose significant social costs.<sup>16</sup> For example, automated enforcement technologies frequently send cease-and-desist letters or DMCA notice-and-takedown requests<sup>17</sup> for non-infringing uses.<sup>18</sup> In theory, such actions would seem relatively harmless given the numerous legal means available for alleged infringers to contest these erroneous claims.<sup>19</sup> In practice, however, even if successfully challenged by alleged infringers, the litigation costs<sup>20</sup> involved in correcting enforcement errors impose a burden on creative

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actual “copyright false positives” when misguided enforcement actions remain uncontested and are adopted by courts into law as standard licensing practices, in fair use determinations, etc. See *infra* note 141 and accompanying text. Moreover, copyright enforcement false positives create high litigation and transaction costs and may deter potential creative artists who cannot bear the prohibitive risks or costs. See *infra* Section II.B.

14 Similarly, copyright holders might strategically assert an enforcement claim (such as a takedown notice) with the knowledge that the claim might well be outside of the scope of their rights, but with the hope that the alleged infringer will not contest the claim. See *infra* Section I.E (distinguishing between erroneous and strategic enforcement actions).

15 Focusing on copyright enforcement false positives, this Article does not make any claims about the relative over- or under-enforcement of copyright law today. Although we point out how massive copyright infringements motivate some of the aggressive enforcement tactics by right holders, the subject matter of copyright false negatives and the comparison between copyright false positives and negatives are outside the scope of this Article.

16 See, e.g., *Nash*, 899 F.2d at 1540 (“Once a work has been written and published, any rule requiring people to compensate the author slows progress in literature and art, making useful expressions ‘too expensive’, forcing authors to re-invent the wheel, and so on. Every work uses scraps of thought from thousands of predecessors, far too many to compensate even if the legal system were frictionless, which it isn’t.”); see also William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325, 332–33, 349–59 (1989) (discussing the administrative and enforcement costs of the copyright system).

17 See 17 U.S.C. § 512 (2006).

18 See, e.g., Jon Brodtkin, *How a Single DMCA Notice Took Down 1.45 Million Education Blogs*, ARS TECHNICA (Oct. 15, 2012, 6:00 PM), <http://arstechnica.com/information-technology/2012/10/how-a-single-dmca-notice-took-down-1-45-million-education-blogs/> (discussing how a copyright infringement claim on a single page questionnaire resulted in 1.45 million blogs being temporarily shut off).

19 For example, an alleged infringer can mount a defense based on the merits of the claim (e.g., by asserting there was no copying-in-fact); plead an affirmative defense (e.g., the copying was fair use); counter-claim for a declaratory judgment that a copyright plaintiff does not actually own the rights he claims; etc. See 17 U.S.C. §§ 410, 512.

20 These include both the costs of litigating a copyright claim and the potential statutory damages that would be incurred upon a finding of infringement. See 17 U.S.C. § 504.

expressions<sup>21</sup> and the rightful exercise of public rights and copyright exceptions.<sup>22</sup>

Second, and even more problematic, are instances where transaction costs and risk aversion inhibit wrongly accused infringers from opposing copyright infringement actions. Such *uncontested false positives* contribute to so-called “fared uses”<sup>23</sup> and the development of industry customs where royalty payments are expected for the grant of unnecessary, and possibly non-existent, rights.<sup>24</sup> Even if an alleged infringer could afford to litigate, the high statutory penalties that would follow an unsuccessful defense act as an effective deterrent against contesting such claims.<sup>25</sup> As such, would-be defendants are incentivized into settling overly broad or even spurious claims, which, in turn, creates and perpetuates uncontested false positives.<sup>26</sup> In this way, copyright false positives heighten fears of liability, and create chilling effects

21 Likewise, for intermediaries in the content distribution chain (such as websites that host user-submitted content), it is far more cost-effective to simply comply with all DMCA takedown notices than to assess the validity of each notice individually and risk exposure to contributory or vicarious liability. See *infra* Section I.B.

22 See, e.g., Rebecca Tushnet, *Copy this Essay: How Fair Use Doctrine Harms Free Speech and How Copying Serves It*, 114 YALE L.J. 535, 546 (2004) (discussing the importance of exact replication); see also Wendy J. Gordon, *Do We Have a Right to Speak with Another's Language? Eldred and the Duration of Copyright*, in COPYRIGHT AND HUMAN RIGHTS 109, 127 (Paul L.C. Torremans ed., 2004) [hereinafter Gordon, *Eldred and the Duration of Copyright*] (considering a music historian's need to collect exact copies of a song); Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 YALE L.J. 1533, 1591 (1993) [hereinafter Gordon, *A Property Right in Self-Expression*] (“Sometimes particular words are essential.”).

23 Compare Tom W. Bell, *Fair Use vs. Fared Use: The Impact of Automated Rights Management on Copyright's Fair Use Doctrine*, 76 N.C. L. REV. 557, 561 (1998) (arguing that allowing copyright owners and consumers to freely contract under a fared use system in time may be more beneficial to society than requiring new technologies to adopt to traditional fair use doctrine), with Wendy J. Gordon & Daniel Bahls, *The Public's Right to Fair Use: Amending Section 107 to Avoid the “Fared Use” Fallacy*, 2007 UTAH L. REV. 619, 620 (arguing that foreclosing fair use in favor of a licensing market is a “dangerous direction for copyright law”).

24 For example, the Summy-Brichard Company, a subsidiary of Warner Music Group, receives approximately \$2 million per year in royalty payments for licenses to the song “Happy Birthday to You,” despite the fact that the song is most likely in the public domain. See Robert Brauneis, *Copyright and the World's Most Popular Song*, 56 J. COPYRIGHT SOC'Y U.S.A. 335, 338–40 (2009) (arguing that the song “Happy Birthday to You” is not under copyright).

25 Under 17 U.S.C. § 504, a prevailing plaintiff may recover statutory damages between \$750 and \$30,000 *per work*. In the case of willful infringement by the defendant, damages of up to \$150,000 *per work* may be recovered. 17 U.S.C. § 504. Courts are also granted discretion to award costs and reasonable attorney's fees to the prevailing party in a copyright dispute. 17 U.S.C. § 505.

26 This effect is also exacerbated by the fact that most individuals are risk averse. On the asymmetric effect of uncertainty in copyright law, see James Gibson, *Risk Aversion and Rights Accretion in Intellectual Property Law*, 116 YALE L.J. 882, 887–92 (2007) (noting that risk aversion and user caution create licensing customs that reduce the perceived scope of permissible uses).

among creative artists,<sup>27</sup> for whom even the cost of settlement may be financially unpalatable.<sup>28</sup>

A third cause of enforcement false positives results from the difficulties that courts experience when trying to distinguish between legitimate and illegitimate uses of content by means of the same technology. In the case of these *partial false positives*,<sup>29</sup> the deterrent effects of enforcement inadvertently spill over into legitimate activities.<sup>30</sup> For instance, when targeting the distribution of copyrighted materials among users of peer-to-peer (“P2P”) file-sharing technology, courts effectively precluded people from using P2P for lawful activities, such as fair uses or the distribution of non-copyrighted material.<sup>31</sup> By assigning intermediary liability to technologies that potentially

27 See, e.g., *Nash v. CBS, Inc.*, 899 F.2d 1537, 1540–41 (7th Cir. 1990) (“[B]road protection of intellectual property also creates a distinct possibility that the cost of litigation—old authors trying to get a ‘piece of the action’ from current successes—will prevent or penalize the production of new works, even though the claims be rebuffed. Authors as a group therefore might prefer limited protection for their writings—they gain in the ability to use others’ works more than they lose in potential royalties.” (citing Landes & Posner, *supra* note 16, at 332–33, 349–59)).

28 See, e.g., 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, 411 (1999) (arguing that copyright costs may result in artists abandoning projects); Alan E. Garfield, *The First Amendment as a Check on Copyright Rights*, 23 HASTINGS COMM. & ENT. L.J. 587, 598 (2001) (discussing the costs of enforcing copyright); Mark A. Lemley & Eugene Volokh, *Freedom of Speech and Injunctions in Intellectual Property Cases*, 48 DUKE L.J. 147, 199–200 (1998) (noting that false positives may result in millions of dollars in costs and deprive the copyright holder of the productive lifespan of the work in question). *But see* David McGowan, *Some Realism About the Free-Speech Critique of Copyright*, 74 FORDHAM L. REV. 435, 445 (2005) (arguing the negatives effects of copyright law are overstated).

29 The classic example here is of a dual-use technology, as described in the “Sony Betamax” case, *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984). In that case, the Supreme Court held that because Betamax recorders had legitimate time-shifting uses, this exempted manufacturers of videocassette recorders from intermediary liability, effectively providing immunity to Sony from infringing uses of the same technology. See *id.* at 442 (holding that manufacturers of home video recording machines could not be liable for contributory copyright infringement for the potential infringing uses by its purchasers, because the devices also had substantial non-infringing uses).

30 For instance, in the case of blanket licenses or royalty payments imposed on content-carriers, partial false positives render legitimate uses more expensive (such as playing public domain materials or recording home videos and original songs). See, e.g., Audio Home Recording Act, 17 U.S.C. § 1004 (1992) (establishing royalty payment obligation for importers and manufacturers of digital audio recording devices and media); see also *infra* Section II.A.

31 See, e.g., *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 916, 922 (N.D. Cal. 2000) (requiring that non-infringing activities represent a commercially significant use of a technology), *aff’d in part and rev’d in part*, 239 F.3d 1004 (9th Cir. 2001). In demanding that the P2P service filter out all copyrighted material, the district court dismissed, in its hearing, the potential concern about adversely affecting legitimate uses. See Brief of Defendant/Appellee/Cross-Appellant Napster, Inc. at 26, *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001) (Nos. 01-15998, 01-16003, 01-16011, 01-16308) (“[W]hen in doubt, then block. . . . [I]f you overblock, so be it.” (quoting a statement by

enable copyright infringement, partial false positives policies may chill investments in new inventions that also serve many otherwise legitimate purposes.<sup>32</sup>

False positives in various guises are unavoidable in law enforcement generally.<sup>33</sup> But a number of structural factors make the issue of false positives acute in the area of copyright law.

First, the symbiotic<sup>34</sup> relationship between copyright law and technology produces uncertainty as to the correct allocation of rights between consumers, copyright holders, and the public domain.<sup>35</sup> As new technologies have evolved, the distribution system for copyrighted materials has grown to include decentralized, pseudonymous networks of media businesses, technology companies, paying customers, and piratical free riders.<sup>36</sup> Within these networks, the legal question of who should bear the burden for copyright infringement is currently unsettled, and the fact-intensive nature of many copyright rules create an extra layer of uncertainty.<sup>37</sup> A landscape rife with

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the District Court for the Northern District of California during a hearing on May 3, 2001)); *see also In re Aimster Copyright Litig.*, 334 F.3d 643, 652 (7th Cir. 2003) (confirming burden on file-sharing technology sites to produce evidence of actual substantially non-infringing uses of its services). Conversely, in *Sony*, the Supreme Court held that because Betamax recorders had legitimate time-shifting uses, this exempted manufacturers of videocassette recorders from intermediary liability, effectively providing immunity to Sony from infringing uses of the same technology. *See supra* note 29 (discussing *Sony Corp. of Am.*, 464 U.S. 417).

32 *See, e.g.*, Michael A. Carrier, *Copyright and Innovation: The Untold Story*, 2012 Wis. L. REV. 891, 937 (presenting evidence of the chilling effect of copyright lawsuits and statutory damages on investments in technology innovation involving copyrighted content on the basis of interviews with innovators and investors). *See generally* *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 929 (2005) (expressing “concern that imposing liability, not only on infringers but on distributors of software based on its potential for unlawful use, could limit further development of beneficial technologies”). This concern is expressed in the various briefs in recent litigation involving file-sharing web sites. *See, e.g.*, Brief for Consumer Electronics Association et al. as Amici Curiae at 1, *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913 (2005) (No. 04-480); Brief for Emerging Technology Companies as Amici Curiae Supporting Respondents at 19–25, *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913 (2005) (No. 04-480); Brief for Innovation Scholars and Economists as Amici Curiae at 15–20, *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913 (2005) (No. 04-480); Brief for Intel Corporation as Amicus Curiae at 20–22, *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913 (2005) (No. 04-480).

33 On the trade-offs involved in law enforcement, *see generally* Nuno Garoupa, *The Theory of Optimal Law Enforcement*, 11 J. ECON. SURVEYS 267 (1997) (describing the economic persistence on deterrence).

34 Some partisans from traditional copyright industries such as book or newspaper publishing might characterize the relationship as more parasitic than symbiotic.

35 *See* Ben Depoorter, *Technology and Uncertainty: The Shaping Effect on Copyright Law*, 157 U. PA. L. REV. 1831, 1850–51 (2009).

36 *See, e.g.*, Timothy B. Lee, *Innocent Megaupload User Asks Court to Release Secret Raid Documents*, ARS TECHNICA (Oct. 23, 2012 5:40 PM EDT), <http://arstechnica.com/tech-policy/2012/10/innocent-megaupload-user-asks-court-to-release-secret-raid-documents/>.

37 One example is the fair use exception. *See* 17 U.S.C. §§ 106–107 (2006).

legal uncertainty is fertile ground for overextended claims by copyright holders based on false positives. Such claims increase the occurrence, cost, and duration of litigation (in the case of *contested false positives*), as well as erroneously extend the scope of protection afforded to rights holders (as occurs with *uncontested false positives*). Similarly, uncertainty as to the nature and likely impact of new technologies on copyright holders makes it harder for courts to counter excessive claims by way of summary judgment and other procedural safeguards.<sup>38</sup>

Second, copyright false positives result from an asymmetry between the litigation costs and potential damages involved with copyright infringement, on the one hand, and the modest benefits of most potentially infringing activities, on the other hand. Transaction and litigation costs have a pervasive effect in the area of copyright because the expected costs of defending the right to use copyrighted material without permission (e.g., fair use) usually outweigh the more modest private value (but perhaps not the social value) of the use of the material by the alleged infringer.<sup>39</sup> This disparity between likely costs and benefits inhibits wrongly accused infringers from opposing copyright infringement actions.<sup>40</sup> This, in turn, creates rent-seeking opportunities for current copyright holders to engage in aggressive and potentially overbroad enforcement activities.<sup>41</sup>

Third, the vast scale of copyright infringing activities online contributes to the copyright false positive issues discussed in this Article. File-sharing technologies, social networks, and broadband Internet access in general have decreased revenues for traditional copyright-based industries.<sup>42</sup> This created a Hobson's choice in the mind of these copyright holders: either aggressively

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38 See *infra* Section II.B.

39 In fact, the low private value, but potentially high social value of legitimate uses of copyrighted materials (for example, in the classroom, news reporting, commentary, parodies,) justify the very existence of some of the exemptions to copyright law—most prominently the doctrine of fair use. See Wendy J. Gordon, *Fair Use as Market Failure: A Structural Analysis and Economic Analysis of the Betamax Case and Its Predecessors*, 82 COLUM. L. REV. 1600, 1602–04 (1982). What is often neglected is that it is often costly to exercise these rights when challenged by a copyright holder. See Gideon Parchomovsky & Alex Stein, *The Relational Contingency of Rights*, 98 VA. L. REV. 1313, 1319 (2012) (linking the effectiveness of legal rights to the right holders' ability to exercise the right as a practical matter).

40 See Peter S. Menell & Ben Depoorter, *Copyright Fee Shifting: A Proposal to Promote Fair Use and Fair Licensing* (Univ. Cal. Berkeley Pub. Law, Working Paper No. 2159325, 2012), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2159325](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2159325) (proposing to impose litigation costs on plaintiffs that reject reasonable license offers).

41 See *infra* note 127 and accompanying text.

42 See, e.g., Michael D. Smith & Rahul Telang, *Assessing the Academic Literature Regarding the Impact of Media Piracy on Sales* (Aug. 19, 2012), available at <http://ssrn.com/abstract=2132153> (arguing that the vast majority of empirical studies find that piracy harms media sales); MONEY, MUSIC, AND PIRACY, <http://www.clickiticket.com/MoneyMusicandPiracy.asp> (last updated 2011) (documenting U.S. music industry sales and piracy statistics). But see Joel Waldfoegel, *The Four P's of Digital Distribution in the Internet Era: Piracy, Pricing, Pie-Splitting, and Pipe Control*, 7 REV. ECON. RES. COPYRIGHT ISSUES 3, 12–15 (2010) (arguing that new technology requires media firms to create new methods for revenue sharing).

ramp up enforcement against all infringers<sup>43</sup>—despite widespread public condemnation of the practice<sup>44</sup>—or face potentially devastating losses in revenue. In response, copyright holders have employed a number of tactics that are prone to inducing false positives. For instance, copyright holders have increasingly turned to “algorithmic enforcement” where computer programs (“bots”) scour the Internet looking for content that bears the markings of an infringement.<sup>45</sup> By using bots rather than human spotters, a broader range of potential infringements can be detected at far less cost than is required for manual enforcement,<sup>46</sup> but at the expense of greatly reduced accuracy.<sup>47</sup> As such, algorithmic enforcement actions contribute to a wide range of both contested and uncontested false positives.<sup>48</sup> Further, the practical impossibility of detecting all infringements leads to overreaching by copyright holders, both as a means of partially offsetting their losses and as a way to increase deterrence by heightening fears of getting caught. Finally, copyright holders may feel justified in pursuing aggressive enforcement strategies<sup>49</sup> because of

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43 See, e.g., *Capitol Records, Inc. v. Thomas-Rasset*, 692 F.3d 899, 901–02 (8th Cir. 2012) (upholding damages of \$222,000 for infringement of twenty-four songs); *Sony BMG Music Entm’t v. Tenenbaum*, 721 F. Supp. 2d 85, 116–17 (D. Mass. 2010) (reducing jury statutory damage award of \$22,500 per work down to \$2,250 on the grounds that the jury award was grossly excessive in violation of the Due Process Clause), *aff’d in part, rev’d in part*, 660 F.3d 487 (1st Cir. 2011) (upholding the constitutionality of statutory damages for copyright violations and remanding for reconsideration of the remittitur motion), *remanded to 103 U.S.P.Q.2d 1902* (D. Mass. Aug 23, 2012) (reinstating initial jury award).

44 See Ben Depoorter et al., *Copyright Backlash*, 84 S. CAL. L. REV. 1251, 1264 (2011) (“[T]he massive litigation against teenagers and college students has proven to be much more controversial—perhaps, in part, because the general public identifies somewhat with copying music in one’s home, especially by individuals living under the same roof.”).

45 For example, a copyright enforcement program might compare the “fingerprints” of audiovisual content available online to a reference database of protected content and, if the program determines that the online content is similar, an automated takedown notice would be issued to the website hosting the content. See Geeta Dayal, *The Algorithmic Copyright Cops: Streaming Videos Robotic Overlords*, WIRED (Sept. 6, 2012 6:00 AM), <http://www.wired.com/threatlevel/2012/09/streaming-videos-robotic-overlords-algorithmic-copy-right-cops/all/> (describing automated copyright systems that search for copyrighted material in real time).

46 See generally Annemarie Bridy, *Is Online Copyright Enforcement Scalable?*, 13 VAND. J. ENT. & TECH. L. 695, 712 (2011) (discussing the limitations of technological copyright enforcement on a mass scale).

47 For instance, the fair use exception is based on a balancing test of four context-specific factors that must be applied on a case-by-case basis. See 17 U.S.C. § 107 (2006). This test is, by its very nature, difficult to reduce to a set of instructions that could be applied by an automated process. See Bridy, *supra* note 46, at 712 (“[T]he DMCA can be understood as a mechanism for simultaneously scaling up online copyright enforcement and scaling back online copyright liability . . .”); cf. Julie E. Cohen, *The Place of the User in Copyright Law*, 74 FORDHAM L. REV. 347, 347–48 (2005) (discussing the absence of the role of users in copyright doctrine); Molly Shaffer Van Houweling, *Distributive Values in Copyright*, 83 TEX. L. REV. 1535, 1537 (2005) (discussing disproportionate impact of copyright remedies on independent artists).

48 See *infra* Section II.A.

49 Such as in the case of a false positive.



a deep sense of injustice that comes from the perception (true or not) that technology companies and their users are benefitting from mass infringement.<sup>50</sup> In each of these instances, the economics of copyright enforcement contribute to a heightened number of false positives. In sum, copyright enforcement in the digital era faces an unprecedented problem relating to the frequency and severity of false positives.

False positives imperil the legitimate property interests of rights holders by diminishing public respect for, and adherence to, copyright law. Copyright law is now an arena of stirring public controversy and contention. In the past, disputes over the scope and strength of copyrights were fought primarily between business entities, but now the number of partisans involved in the copyright system has grown significantly to include hardware manufacturers, software developers, website operators, search engines, end users, etc. Given that the interests of many of these groups are diametrically opposed,<sup>51</sup> there is a pressing need—from a business, legal, and normative perspective—for greater clarity as to the metes and bounds of copyright protection. Unfortunately, false positives have the exact opposite effect: they undermine the legitimacy of copyright law,<sup>52</sup> misallocate resources and rights between creators, owners, and consumers, and generally add heat instead of light to an already inflamed public debate.<sup>53</sup>

To combat the growing problem of copyright false positives this Article offers various policy recommendations targeted at reducing the number of false positives and mitigating the damage they cause: (A) heightening registration requirements to include a substantive review of all copyright claims to be registered (these heightened requirements would not affect the substantive scope of copyright protection,<sup>54</sup> but rather would create a procedural safeguard to diminish the number of questionable copyright claims ending up in court<sup>55</sup>); (B) promulgating regulations that require periodic renewal

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50 See, e.g., *Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1154–57 (9th Cir. 2007) (involving claims brought by an adult entertainment magazine against a search engine for direct and contributory infringement for the creation of thumbnail images derived from its copyrighted photographs).

51 To say nothing of the interests of the growing number of organizations opposed to any form of copyright enforcement at all. See, e.g., UNITED STATES PIRATES PARTY, <http://uspirates.org/about/> (last visited Oct. 14, 2013); THE PIRATE BAY, <https://thepiratebay.sx/about.php> (last visited Oct. 14, 2013) (website for the world's largest bittorrent tracker that began as a Swedish anti-copyright organization).

52 For example, scholars have documented the widening gap between social norms and copyright law, especially in the context of P2P file sharing. See generally Depoorter et al., *supra* note 44; Yuval Feldman & Janice Nadler, *The Law and Norms of File Sharing*, 43 SAN DIEGO L. REV. 577, 591–601 (2006) (comparing the three camps into which “law and economics of norms” scholars fall in their analyses of how law influences social norms).

53 See Jane C. Ginsburg, *How Copyright Got a Bad Name for Itself*, 26 COLUM. J.L. & ARTS 61 (2002).

54 See *Feist Publ'ns v. Rural Tel. Serv. Co.*, 499 U.S. 340, 347 (1991).

55 Registration with the Copyright Office is a prerequisite to filing an infringement claim in federal court. See 17 U.S.C. § 410 (2006).

of copyright registration; and (C) revising the statutory damage provisions<sup>56</sup> in order to incentivize more copyright defense, thereby reducing the number of uncontested false positives.

This Article proceeds as follows: Part I describes the various causes of copyright false positives. Part II reflects on the effect of copyright false positives. Part III provides policy recommendations.

## I. FALSE POSITIVES IN COPYRIGHT ENFORCEMENT

Law enforcement is necessarily imperfect. In all areas of law, enforcement is likely to be plagued by factors that prevent enforcement from occurring at the socially optimal level.<sup>57</sup> For example, virtually all areas of law are constrained by a scarcity of resources and political limitations on enforcement. Sometimes imperfect enforcement will lead to false negatives (type I errors) where no enforcement takes place.<sup>58</sup> At other times, imperfect enforcement will involve false positives (type II errors), where enforcement takes place without it being justified.<sup>59</sup> The relative frequency and severity of false positives and negatives depends on the type of concrete obstacles that plague enforcement. For instance, in the area of criminal law, public prosecutors with insufficient budget are likely to generate many false negatives. Similarly, in tort law, if victims do not have the financial means or incentives to sue, there will be under-enforcement.

In copyright law there is a widespread perception, especially among content industries, that copyright infringements are rampant and that new, digital technologies have complicated enforcement. At the same time, however, attempts to halt infringements have proved controversial and generated negative reactions.<sup>60</sup> As a result, copyright enforcement has become an area of stirring controversy.

While content industry representatives understand the issue to be under-enforcement and false negatives, this Article asserts that copyright holders either misunderstand or choose to ignore the detrimental effect of enforcing false positives. A number of structural factors make the issue of false positives especially acute in the area of copyright law.

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56 See 17 U.S.C. § 504. See generally Pamela Samuelson & Tara Wheatland, *Statutory Damages in Copyright Law: A Remedy in Need of Reform*, 51 WM. & MARY L. REV. 439 (2009) (discussing copyright damages reform).

57 To be sure, a “socially optimal” level of enforcement is subject to various benchmarks—e.g., utilitarian, fairness, distributive justice, etc. The main point is that no matter what the normative goal is, complicating factors are likely to drive a wedge between the optimal and actual level of enforcement.

58 See Depoorter et al., *supra* note 44, at 1285; Polinsky & Shavell, *supra* note 13, at 60.

59 See Polinsky & Shavell, *supra* note 13, at 60.

60 See Depoorter et al., *supra* note 44, at 1277–82 (providing empirical evidence of enforcement backlash among file sharers).

### A. *Uncertainty in Copyright Law*

While copyrights are easily obtained—requiring merely fixation and a modicum of creativity<sup>61</sup>—the boundaries of a copyright are difficult to ascertain. The resulting legal uncertainty makes it difficult for copyright holders and the public to predict, *ex ante*, how courts will apply the law to a set of facts. This uncertainty is a major contributing factor to the occurrence of copyright enforcement of false positives. As such, any attempt to ameliorate the issue of false positives must begin with an understanding of the various causes of copyright uncertainty.

First, as a general matter, boundary issues are widespread in intellectual property law. Because intellectual property rights involve intangible subject matter, the metes and bounds of the rights are more abstract.<sup>62</sup> As opposed to real property where land surveys, title registration, and title insurance reduce ambiguity and potential boundary disputes,<sup>63</sup> intellectual property boundaries are never fully transparent *ex ante*, particularly the boundaries of copyrights.<sup>64</sup> As commentators have observed, “Copyright boundaries depend in part on audience reaction to an expressive work. While copying of the entirety of a copyrighted work typically crosses the infringement line, it is often difficult to determine the protection of components or nonliteral elements of a copyrighted work.”<sup>65</sup>

Second, within the realm of intellectual property, copyright law involves an additional layer of uncertainty. Unlike patents, where property rights are restricted to the claims contained in a successfully prosecuted application,<sup>66</sup> or trademark law, which only protects registered marks actually used in com-

61 See *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 346 (1991) (holding that only a “modicum of creativity” is required for a work to be sufficiently original for the purposes of copyright protection).

62 See Menell & Meurer, *supra* note 9, at 21 (citing ROBERT MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW DIGITAL AGE* 549–52 (6th ed. 2012)).

63 *Id.* at 15 (“A land developer typically has little trouble identifying property rights and property owners who might credibly assert a claim against a proposed project. The tangible, geographic, and rivalrous characteristics of land, as well as the precision of land claims and the availability of public recording systems and related institutions (such as finance and title insurance), provide relatively reliable and inexpensive means for verifying potential property conflicts.”).

64 See *id.*

65 *Id.* at 21 (citing MERGES ET AL., *supra* note 62) (arguing that a similar issue presents itself in trademark law where a mark is infringing if it creates a likelihood of confusion with an already existing, valid trademark); see also 15 U.S.C. §§ 1114, 1125 (2006).

66 See 35 U.S.C. §§ 100–105 (2006). Scholars have noted the unique difficulties with effective disclosure in the patent system. See, e.g., JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* 32–34 (2008) (discussing the similarities and differences between patents and tangible property); Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 551 (2009) (arguing that ineffective disclosure is detrimental to economic competition and innovation); Timothy R. Holbrook, *Possession in Patent Law*, 59 SMU L. REV. 123, 142–43 (2006) (noting that knowledge of disclosed patents is required for liability, and thus provides an incentive for rational ignorance of prior art).

merce,<sup>67</sup> copyrights inure at the moment of fixation<sup>68</sup> without any procedural or substantive inquiry into their scope.<sup>69</sup> To apply a term used by Peter Menell and Michael Meurer, copyright law does not provide “deed” information to the involved parties.<sup>70</sup> The absence of factual information relating to the actual resource boundaries of the protected work amplifies the potential uncertainty involved with copyright protection and the correct enforcement of these rights. As such, an author of a putatively original work does not know, *ab initio*, the amount of protected expression contained in her work,<sup>71</sup> and so is unable to assess accurately the strength of her property claims.<sup>72</sup> Her original expression is protected, but the amount of originality her expression contains is often not readily discernible from the work on its face.<sup>73</sup> Similarly, it is often difficult to determine what part of another author’s work is protected without extensive analysis of the substance of the work and the circumstances surrounding the work’s creation. Every form of creative expression—from the crudest imitation to the highest reaches of originality—draws in part from prior art, both in form and substance.<sup>74</sup> Indeed, when it comes to determining the precise boundaries of another’s

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67 See 15 U.S.C. §§ 1051–1072 (2006).

68 See 17 U.S.C. § 102 (2006) (“Copyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression, now known or later developed . . .”).

69 Subject only to minimal review by the Copyright Office, works that are registered within five years of their initial publication are presumed to contain copyright protected subject matter and registration is considered “*prima facie* evidence of the validity of the copyright.” 17 U.S.C. § 410 (2006). As such, in a copyright suit the evidentiary burden is shifted to the defendant to prove the claim’s invalidity or to offer an affirmative defense, which dramatically increases the cost of defending against a copyright action.

70 See Menell & Meurer, *supra* note 9, at 7.

71 By statute, an author has copyrights in the expression, but not the ideas, contained in her work. 17 U.S.C. § 102. However, this idea/expression dichotomy is significantly complicated by the fact that certain types of expression may be unprotected ideas on the basis of the doctrines of merger, *scenes a faire*, and independent creation, as well as federal regulations that prohibit certain types of common expression (words, names, short phrases, etc.) from being copyrightable. 37 C.F.R. § 202.1 (2012).

72 Conversely, uncertain boundaries also create notice problems for third parties. On information costs and notice externalities in intellectual property law more generally, see Menell & Meurer, *supra* note 9, at 24.

73 For example, the amount of expression protected in that work may be very “thin,” as is the case in works of non-fiction or history. See, e.g., Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 547–49 (1985) (finding a limited copyright interest in the factual information contained in a memoir written by former President Gerald Ford). Similarly, a seemingly original work may nevertheless contain elements that infringe upon pre-existing copyrights that the author appropriated without conscious awareness. See, e.g., Bright Tunes Music Corp. v. Harrisongs Music, Ltd., 420 F. Supp. 177, 180–81 (S.D.N.Y. 1976) (holding that the song “My Sweet Lord” infringed on the song “He’s So Fine,” on the basis of subconscious copying).

74 See, e.g., Nash v. CBS, Inc., 899 F.2d 1537, 1540 (7th Cir. 1990) (“Intellectual (and artistic) progress is possible only if each author builds on the work of others. No one invents even a tiny fraction of the ideas that make up our cultural heritage.”).

rights, knowing that a work is copyrighted is about as helpful as a medieval sea-faring map marked “Here there be Dragons.”<sup>75</sup>

The boundary complexity in copyright law is perhaps best illustrated by the difficulty of separating copyright-eligible expression from unprotected ideas. Take, for example, the possibility of different interpretations in the classic law school hypothetical of *Romeo and Juliet v. West Side Story*.<sup>76</sup> On the one hand, if Shakespeare were alive today, some courts would likely find that he holds copyright to the written text of the play *Romeo and Juliet*, but not to the idea of a dramatic work about a tragic romance between teenagers. On the other hand, as a leading commentator argues, the issue is that *West Side Story*’s “essential sequence of events, as well as the interplay of the characters, [is] straight out of ‘*Romeo and Juliet*.’”<sup>77</sup> The fact that “not all courts would agree”<sup>78</sup> on this fundamental demarcation issue, illustrates the degree of uncertainty in copyright law.<sup>79</sup> Moreover, the idea/expression dichotomy is further complicated by the fact that certain types of expression may be unprotectable ideas because of the doctrines of merger, *scènes à faire* and independent creation, as well as federal regulations that prohibit certain types of common expression (words, names, short phrases, etc.) from being copyrightable.<sup>80</sup>

Third, boundary uncertainties in copyright are compounded by the unique relationship between copyright law and new technology. Whenever new technological applications (software, storage, recording, playback systems, etc.) enable novel ways to enjoy copyrighted content, difficult questions arise about the legal status of a new technology or users’ actions. Thus, the history of copyright case law is replete with disputes involving the legitimacy of new uses of content by way of new technologies. Time after time, technological advancements (piano rolls, printing press, photography, photocopying, video recording, DVR technology, file-sharing systems, cloud technology, etc.) have raised difficult questions regarding the scope and application of

75 See JAMES A. OWEN, *HERE, THERE BE DRAGONS* (2007) (a fictional novel where three main characters are assigned to be caretakers of an atlas of all the lands that have ever existed in myth and legend, fable, and fairy tale).

76 See, e.g., Jed Rubenfeld, *The Freedom of Imagination: Copyright’s Constitutionality*, 112 *YALE L.J.* 1, 14 (2002).

77 *Id.* at 14 n.61 (quoting 4 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 13.03[A][1][b], at 13–33 (2001) (alteration in original)).

78 *Id.* (quoting 4 NIMMER & NIMMER, *supra* note 77, at 13–34).

79 See *Nash*, 899 F.2d at 1540 (“[At] a high level of abstraction, the first author may claim protection for whole genres of work (‘the romantic novel’ or, more modestly, any story involving doomed young lovers from warring clans, so that a copyright on *Romeo and Juliet* would cover *West Side Story* too). Even a less sweeping degree of abstraction creates a risk of giving copyright protection to ‘the idea’ although the statute protects only ‘expression.’”); 4 NIMMER & NIMMER, *supra* note 77.

80 See 17 U.S.C. § 102(b) (2006); 37 C.F.R. § 202.1 (2012); see also *Mazer v. Stein*, 347 U.S. 201, 217 (1954) (“Unlike a patent, a copyright gives no exclusive right to the art disclosed; protection is given only to the expression of the idea—not the idea itself.”); *Baker v. Selden*, 101 U.S. 99, 107 (1879) (holding that blank account books are not subject to copyright).

the law to novel uses of copyrighted content.<sup>81</sup> New technologies regularly pose fundamental questions concerning definition (such as “Is this a copy?”), copyright subject matter, the scope of rights, and the boundaries of the public domain. Consequently, the outcome of technology copyright cases is notoriously difficult to predict.<sup>82</sup> The reason for this is that technological breakthroughs, by their nature, make it more difficult to apply existing rules by simple analogy. Moreover, when attempting to apply existing copyright laws to new technologies, the social and economic ramifications are often still uncertain.<sup>83</sup>

For instance, as new technologies have evolved, the distribution system for copyrighted materials has grown to include decentralized, pseudonymous networks of media businesses, technology companies, paying customers, and piratical free riders.<sup>84</sup> Within these networks, the legal question of who should bear the burden for copyright infringement is currently unsettled, and the *ad hoc* nature of many copyright rules creates an extra layer of uncertainty.<sup>85</sup> A landscape rife with legal uncertainty is fertile ground for overextended claims by copyright holders, based on false positives. Such claims increase the occurrence, cost, and duration of litigation (in the case of *contested false positives*), as well as erroneously extend the scope of protection afforded rights holders (as occurs with *uncontested false positives*). Similarly, uncertainty as to the nature and likely impact of new technologies on copyright holders makes it harder for courts to counter excessive claims by way of summary judgment and other procedural safeguards.<sup>86</sup>

To conclude, uncertainty about the allocation of rights between consumers, copyright holders, and the public domain in copyright law, contributes, in no small matter, to the existence and enforcement of false positives in this area.

### B. Enforcement Automation

As a result of file-sharing technologies, social networks, and broadband Internet access, online copyright infringement now occurs on an unprecedented scale. The resulting decline in revenue<sup>87</sup> has created a sense of urgency for traditional copyright-based industries to either aggressively ramp up enforcement or face potentially devastating losses.

81 For an overview, see Depoorter, *supra* note 35, at 1832–49.

82 *Id.*

83 For example, emerging technologies create significant difficulties for courts when they have to assess “the effect of the use upon the potential market for or value of the copyrighted work,” as required by the statutory fair use test in 17 U.S.C. § 107(4).

84 *See, e.g., Lee, supra* note 36.

85 One example is the fair use exception. *See* 17 U.S.C. § 107.

86 *See* discussion *infra* Section II.B.

87 *See* Stan J. Liebowitz, *File Sharing: Creative Destruction or Just Plain Destruction?*, 49 J.L. & ECON. 1 (2006).

The initial attempt to deter online copyright infringement—specifically file sharing—by way of heavy-handed sanctions<sup>88</sup> generated widespread public condemnation of the industry’s enforcement practice and of copyright law more generally.<sup>89</sup> Perhaps in an effort to stem the negative reactions to the seemingly punitive and disproportionate nature of such deterrence actions, content industries have turned to enforcement models that increase the certainty (probability) rather than the severity of enforcement.

In doing so, copyright holders have employed a number of tactics that are prone to inducing false positives. For instance, copyright holders increasingly turn to “algorithmic enforcement” where computer programs (“bots”) scour the Internet looking for content that bears the markings of an infringement.<sup>90</sup> By using bots rather than human spotters, a broader range of infringing activities can be detected at far less cost than is required for manual enforcement,<sup>91</sup> but at the expense of greatly reduced sensitivity.<sup>92</sup> As such, algorithmic enforcement actions contribute to a wide range of both contested and uncontested false positives.<sup>93</sup>

For example, automated enforcement technologies (so-called copyright “bots”) frequently send out cease-and-desist letters or DMCA notice-and-takedown requests<sup>94</sup> for non-infringing uses.<sup>95</sup> Copyright bots detect possible infringement by comparing the “fingerprint” of audiovisual content available on the web against a “reference fingerprint database” of protected works.<sup>96</sup> In theory, such actions would seem relatively harmless on a systemic level,

88 See, e.g., *Capitol Records, Inc. v. Thomas-Rasset*, 692 F.3d 899, 902 (8th Cir. 2012) (upholding damages of \$222,000 for infringement of twenty-four songs); *Sony BMG Music Entm’t v. Tenenbaum*, 721 F. Supp. 2d 85, 116–17 (D. Mass. 2010) (reducing jury statutory damage award of \$22,500 per work down to \$2,250 on the grounds that the jury award was grossly excessive in violation of the Due Process Clause), *aff’d in part, rev’d in part*, 660 F.3d 487, 515 (1st Cir. 2011) (upholding the constitutionality of statutory damages for copyright violations and remanding for reconsideration of the remittitur motion), *remanded to 103 U.S.P.Q.2d 1902* (D. Mass. 2012) (reinstating initial jury award).

89 See Depoorter et al., *supra* note 44, at 1277–78 (providing empirical evidence of enforcement backlash among file sharers).

90 For example, a copyright enforcement program might compare the “fingerprints” of audiovisual content available online to a reference database of protected content, and, if the program determines that the online content is infringing, an automated takedown notice would be issued to the website hosting the content. See Dayal, *supra* note 45.

91 See generally Bridy, *supra* note 46 (discussing the limitations of technological copyright enforcement on a mass scale).

92 For instance, the fair use exception is based on a balancing test of four context-specific factors that must be applied on a case-by-case basis. See 17 U.S.C. § 107 (2006). This test is, by its very nature, difficult to reduce to a set of instructions that could be applied by an automated process. Cf. Cohen, *supra* note 47, at 347 (discussing the place of end user interest in copyright laws); Van Houweling, *supra* note 47, at 1538 (discussing disproportionate impact of copyright remedies on independent artists).

93 See discussion *infra* Section II.B.

94 See 17 U.S.C. § 512 (2006).

95 See, e.g., Brodtkin, *supra* note 18.

96 See *supra* note 90 and accompanying text.

given the numerous legal mechanisms in place to contest erroneous claims.<sup>97</sup> In practice, however, the costs<sup>98</sup> involved in correcting enforcement errors through litigation are prohibitive to all but the most deep-pocketed defendants. Moreover, copyright bots that are programmed to enforce false positives can arrest free speech and the rightful exercise of copyright exceptions.

On September 2, 2012, a video stream of the annual Hugo Awards<sup>99</sup> ceremony was interrupted during the acceptance speech of author Neil Gaiman on the basis of alleged copyright infringement.<sup>100</sup> Gaiman was being honored for an episode he wrote for the television program *Doctor Who*, and prior to the award being announced the Hugo Awards program had shown clips of *Doctor Who*, as well as other TV shows that had been nominated.<sup>101</sup> These clips triggered the digital rights management software used by Ustream.com, the website responsible for carrying the Hugo Awards stream, and the software automatically disrupted the stream.<sup>102</sup> However, the clips at issue had been explicitly licensed for use by the Hugo Awards.<sup>103</sup> Even though Ustream and the officiating body of the Hugo Awards quickly realized the bot's error, the stream was not resumed, thus eliminating the only live broadcast of the Hugo Awards available online.<sup>104</sup>

This incident stands as a cautionary tale of the pitfalls of automated enforcement technologies generally,<sup>105</sup> and of the maleficent effects of false positives on these technologies specifically. Here, the copyright bot used to identify the *Doctor Who* clips erroneously determined that the use was unauthorized and triggered an automatic interruption of the stream (i.e., it was

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97 For example, an alleged infringer could, among other strategies: mount a defense based on the merits of the claim (e.g., by asserting there was no copying-in-fact); plead an affirmative defense (e.g., the copying was fair use); or counter-claim for a declaratory judgment that a copyright plaintiff does not actually own the rights they claim.

98 These costs include both the costs of litigating a copyright claim and the potential statutory damages that would be incurred upon a finding of infringement. See 17 U.S.C. § 504.

99 The Hugo Awards are the most prestigious awards given for science fiction. See *Hugo Award FAQ*, THE HUGO AWARDS, <http://www.thehugoawards.org/hugo-faq/> (last visited Oct. 14, 2013).

100 Doug Gross, *Ustream Apologizes for Killing Hugo Awards Webcast*, CNN (Sept. 4, 2012, 3:11 PM), <http://www.cnn.com/2012/09/04/tech/web/hugo-awards-gaiman-ustream/index.html>; see also Annalee Newitz, *How Copyright Enforcement Robots Killed the Hugo Awards*, IO9 (Sept. 3, 2012, 10:25 AM), <http://io9.com/5940036/how-copyright-enforcement-robots-killed-the-hugo-awards> (detailing the evening's events).

101 Gross, *supra* note 100.

102 *Id.*

103 *Id.* Even if the clips had not been used with permission, their inclusion in an awards show ceremony would likely still qualify as a fair use.

104 *Id.*

105 See, e.g., Marc Aaron Melzer, *Copyright Enforcement in the Cloud*, 21 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 403, 412–13 (2011) (discussing the technological and legal challenges of identifying copyright infringement in light of the transient nature of digital content).



“banned due to copyright infringement”),<sup>106</sup> even though the Hugo Awards had explicitly obtained permission.<sup>107</sup> Though it is tempting to dismiss this incident as mere growing pains for a new technology,<sup>108</sup> the fact that the owner of *Doctor Who* had, at the very least, constructive notice of when and where the clips would be broadcast (i.e., they provided the clips to the show’s organizers), and that the show’s organizers had obtained permission to use the clips, suggests that automatic enforcement programs are currently producing a large number of false positives and that incidents of copyright bots unnecessarily restricting user access are pervasive.<sup>109</sup> Moreover, some commentators have argued that bots are incapable of making the fine-grained distinction between fair and impermissible use that the Copyright Act requires, and that their use eviscerates fair use as a practical reality<sup>110</sup>: “[T]hese technologies do an end run around fair use . . . . Fair use still exists in the books, in legal theory, but fair use does not exist in practice in a world where companies that are relying on these databases of copyrighted works can immediately shut off the public’s access.”<sup>111</sup> While it is reasonable to believe that automated enforcement technologies will become more accurate over time, such technology can only address part of the infringement inquiry: bots can assess whether a copy is similar to a protected work, but they cannot determine whether or not said copying is impermissible, which requires a fact-based application of the statutory fair use factors.<sup>112</sup> Courts have not determined any way to apply these factors in a mechanical fashion that would lend itself to software application, and so even exceptionally accurate bots would only be capable of assessing the quantity of protected expression copied, not the qualities of its use.<sup>113</sup> As such, the trend towards greater reliance

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106 Gross, *supra* note 100.

107 *Id.* This interruption also interfered with the First Amendment rights of the Hugo Awards and the various honorees given the opportunity to make speeches. While an analysis of the free speech implications of algorithmic copyright enforcement are beyond the scope of this article, other scholars have analyzed this issue. See generally Benkler, *supra* note 28; Garfield, *supra* note 28; Lemley & Volokh, *supra* note 28. But see McGowan, *supra* note 28, at 445 (arguing that the negative effects of copyright law are overstated).

108 See, e.g., Janko Roettgers, *Vobile to Ustream: Don’t Blame Us for Your Hugo Awards SNAFU*, GIGAOM (Sept. 6, 2012, 4:25 PM), <http://gigaom.com/2012/09/06/vobile-ustream-hugo-awards/> (discussing which company was to blame for erroneously shutting down the Hugo Awards feed).

109 See *id.*

110 See Dayal, *supra* note 45.

111 *Id.* (quoting Professor Kembrew McLeod, University of Iowa).

112 17 U.S.C. § 107 (2006).

113 Compare *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 565 (1985) (finding against fair use (in part) because, though a small amount of a book was copied, the copied section was “essentially the heart of the book”), with *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 454–55 (1984) (finding that copying an entire television program for purposes of time-shifting was fair use), superseded by statute, Digital Millennium Copyright Act, Pub. L. No. 105-304, § 1201, 112 Stat. 2860 (1998), as recognized in *Universal Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294, 323 (S.D.N.Y. 2000); see also *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 820–21 (9th Cir. 2003) (finding that copying an

on algorithmic enforcement will likely result in more false positive claims, not fewer. As bots become better at identifying the “fingerprints” of unauthorized copies, more works that bear resemblance to a protected work are likely to be detected and trigger an enforcement action.<sup>114</sup> Without a mechanism to assess whether a matching use is an actual infringement or a false positive—which would require *de facto* human intervention<sup>115</sup>—automated enforcement will result in over-deterrence, as permissible uses are swept up in the same dragnet as piratical ones.

In sum, the nature and inherent difficulties of automated enforcement strategies strongly contribute to the copyright false positive issue discussed in this Article.

### C. *Mixed Use Technologies*

A third cause of enforcement false positives results from the difficulties that courts experience when trying to distinguish between legitimate and illegitimate uses of content by means of the same technology.

The classic example here is of a dual-use technology, as described in the “Sony Betamax” case.<sup>116</sup> In that case, the Supreme Court held that because Betamax recorders had legitimate time-shifting uses, this exempted manufacturers of videocassette recorders from intermediary liability, effectively providing immunity to Sony from infringing uses of the same technology.<sup>117</sup> The Court argued that manufacturers of home video recording machines could not be liable for contributory copyright infringement for the potential infringing uses by its purchasers, because the devices also had substantial non-infringing uses.<sup>118</sup> *Sony* is an example of the difficulty of differentiating *ex ante* between legal and illegal uses when making a final decision on the legal status of a technology that has multiple possible uses.

The decision in *Sony* is of course more accurately described as involving both a false negative as well as a false positive, since the producer of video recorders were not held contributorily liable even though many users engaged in illegal uses as well as legal time-shifting. In many other instances,

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entire photo to use as a thumbnail in online search results did not weigh against fair use “[i]f the secondary user only copies as much as is necessary for his or her intended use”); Gordon, *A Property Right in Self-Expression*, *supra* note 22, at 1591 (“Sometimes particular words are essential.”); Gordon, *Eldred and the Duration of Copyright*, *supra* note 22, at 127 (considering a music historian’s need to collect exact copies of a song); Tushnet, *supra* note 22, at 546 (discussing the importance of exact replication).

114 *Compare* Bell, *supra* note 23, at 557 (arguing that allowing copyright owners and consumers to freely contract under a fared use system in time may be more beneficial to society than requiring new technologies to adopt to traditional fair use doctrine), *with* Gordon & Bahls, *supra* note 23, at 620 (arguing that foreclosing fair use in favor of a licensing market is a “dangerous direction for copyright law”).

115 *See generally* Bridy, *supra* note 46 (discussing the limitations of technological copyright enforcement on a mass scale).

116 *Sony Corp.*, 464 U.S. at 417.

117 *Id.*

118 *Id.* at 442.

however, courts have erred in the opposite direction, classifying dual-use technologies as infringing despite the existence of legal uses as well. For example, in the first stream of file-sharing cases courts effectively wiped out many legitimate uses (e.g., distribution of non-copyrighted materials or licensed content sharing) of the pioneering networks by requiring that non-infringing activities must represent a commercially significant use of a technology,<sup>119</sup> or by imposing a burden on developers of peer-to-peer (“P2P”) technologies to produce evidence of actual substantially non-infringing uses of its services.<sup>120</sup> Moreover, in demanding that P2P service providers filter out all copyrighted material, the district court in the *Napster* case dismissed the potential concern about adversely affecting legitimate uses, stating, “[W]hen in doubt, then block. . . . [I]f you overblock, so be it.”<sup>121</sup>

Another example of partial false positive involves blanket licenses or royalties imposed on digital recording media, such as Digital Audio Tapes (“DATs”). When Congress imposed a royalty payment obligation on importers and manufacturers of digital audio recording devices and media,<sup>122</sup> no distinction was made between permissible and unlicensed uses. The manufacturer of home recording equipment must make royalty payments to the designated copyright collectives regardless of whether a buyer plans to use a recording device for royalty-triggering uses or for a use that has no copyright implications, such as playing public domain materials or recording home videos and original songs. Because manufacturers include this expected royalty in the purchase price of their devices, such partial false positives render more expensive legitimate uses.

False positives caused by mixed-use technologies are difficult to eradicate. In order to maintain a degree of flexibility—especially in light of the emergence of novel technologies—copyright doctrine is more suited to open-ended standards rather than very specific and precise rules.<sup>123</sup> By contrast, attempts to apply different classifications to the various uses of a technology are likely to be frustrated because any specific use of a technology by an alleged infringer is difficult to monitor and verify. This presents a dilemma for courts and policy makers, who must either make assumptions about the typical use of a new technology or wait until the uses present themselves organically in the marketplace, at the risk of potential accompanying harms. In either case, false positives or negatives are likely to result.

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119 *Id.* at 437–38 n.18.

120 *In re Aimster Copyright Litig.*, 334 F.3d 643, 648 (7th Cir. 2003).

121 Brief of Defendant/Appellee/Cross-Appellant Napster, Inc. at 26, *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001) (Nos. 01-15998, 01-16003, 01-16011, 01-16308) (quoting a statement by the District Court for the Northern District of California during a hearing on May 3, 2001).

122 *See, e.g.*, Audio Home Recording Act, 17 U.S.C. § 1004 (1994).

123 *Cf.* Liebowitz, *supra* note 87, at 1 (providing analytical study of the relationship between file sharing and record sales); Depoorter, *supra* note 35, at 1831 (arguing that legal delay and uncertainty lead to a greater reliance on “self-help” by copyright owners and users).

*D. Litigation Costs & Statutory Damages*

The issue of copyright false positives is amplified by the litigation costs and potential damages involved with copyright infringement. Typically, for an alleged copyright infringer, the expected costs of defending the right to use copyrighted material without permission (e.g., fair use) vastly outweigh the more modest private value of the use, though perhaps not its social value.<sup>124</sup> For example, it does not make sense in most instances for a documentary filmmaker to contest an alleged infringement action involving an unlicensed five-second segment. If the documentary has not been distributed at the time of the copyright infringement claim, then the filmmaker will most likely purchase a license or drop the alleged segment from his movie altogether—even if using the segment is very likely covered by the fair use doctrine. The alternative—spending thousands of dollars to litigate a fair use case and incurring the risk of paying statutory damages and the plaintiff’s attorney’s fees and costs—simply does not make business sense. In this manner, the disparity between likely costs and benefits inhibits wrongly accused infringers from opposing copyright infringement actions.<sup>125</sup>

As a result, most users of copyrighted content will prefer to remove the content or license it, rather than face the disproportionate costs of litigation, even if the infringement claim is a weak one.<sup>126</sup> This, in turn, creates rent-seeking opportunities for current copyright holders. Because push back from accused infringers will likely be minimal, copyright holders might be tempted to engage in aggressive and potentially overbroad enforcement activities—strategies that will most likely generate false positives.<sup>127</sup>

In this manner, litigation costs and the remedial structure in copyright are a pervasive cause of false positives. Together, the high uncertainty in many copyright disputes and disproportionate litigation costs bring about a set of false positives that lead to over-deterrence.

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124 In fact, the low private value, but potentially high social value, of legitimate uses of copyrighted materials (for example, in the classroom, news reporting, commentary, parodies) justifies the very existence of some of the exemptions to copyright law (most prominently the doctrine of fair use). See Gordon, *supra* note 39, at 1602–04. What is often neglected is that it is often costly to exercise these rights when challenged by a copyright holder. See Parchomovsky & Stein, *supra* note 39, at 1313 (linking the effectiveness of legal rights to the right holder’s ability to exercise the right as a practical matter).

125 See Menell & Depoorter, *supra* note 40 (proposing to impose litigation costs on plaintiffs that reject reasonable license offers).

126 This contributes also to the credo in creative communities: “when in doubt leave out.”

127 Spurious and overly broad claims cast a penumbra of doubt over whether works are in the public domain or not. In light of the potential costs imposed by the statutory damages regime of the Copyright Act, see 17 U.S.C. § 504 (2006), many persons accused of infringement choose to settle rather than litigate, even if they believe a plaintiff’s claim to be without merit. See *infra* Section II.D.

### E. *Compensating False Negatives*

The vast scale of non-commercial copyright infringement online has created an existential awareness among traditional industries, such as entertainment.<sup>128</sup> Fearing a further decline of revenues, copyright industry representatives responded to the perceived online piracy threat by aggressively ramping up enforcement as a means to partially offset their losses and to increase deterrence by setting examples for would-be pirates.<sup>129</sup> Towards this end, copyright holders have implemented enforcement strategies that are prone to false positives.<sup>130</sup>

One contributing factor to the problem of false positives involves the industry's shift towards targeting non-commercial infringements. Traditionally, content holders almost exclusively targeted commercial piracy, but the advent of widespread non-commercial sharing through P2P sites and torrents<sup>131</sup> necessitated a redirection to include non-commercial infringements. However, whereas commercial pirates can be identified relatively easily since there is a formal distribution channel and a focal point, such as a physical pirate DVD mailing center or warehouse, private users might appear to be infringing online even though they are merely engaging in fair uses. As a result, enforcement accuracy is lower in the context of digital, non-commercial infringement settings because monitoring Internet traffic is difficult and prone to errors.<sup>132</sup> Further, copyright holders may feel justified in pursuing aggressive enforcement strategies that push the boundaries of copyright law because of the perceived injustice (correct or not) that technology companies and their users are benefitting from mass online infringements.<sup>133</sup> In

128 See Mark A. Lemley, *Is the Sky Falling on the Content Industries?*, 9 J. ON TELECOMM. & HIGH TECH. L. 125, 125–32 (2011) (tracing the history over the last two centuries of content owner claims that new technologies will destroy their business models).

129 For a description of the enforcement campaign, see RIAA, *FAQ on Piracy*, <http://www.riaa.com/faq.php> (last visited Oct. 15, 2013); see also Rick Harbaugh & Rahul Khemka, *Does Copyright Enforcement Encourage Piracy?*, 58 J. INDUS. ECON. 306 (2010) (arguing that new technologies that allow stronger controls over unauthorized use paradoxically benefit consumers).

130 See *supra* Sections I.B. & I.C.

131 Torrents (also known as “bittorrents”) are a method of P2P file sharing that work by downloading small bits of files from many different web sources at the same time, rather than from a centralized server. See Dylan Love, *Everything You Need to Know About BitTorrent, The Legal (And Illegal) Way To Download Anything You Want*, BUSINESS INSIDER (Apr. 23, 2012, 11:28 AM), <http://www.businessinsider.com/what-is-bittorrent-2012-4>.

132 See, e.g., Eric Bangeman, *RIAA Versus Grandma, Part II: The Showdown that Wasn't*, ARS TECHNICA (Dec. 16, 2007, 11:56 PM), <http://arstechnica.com/tech-policy/2007/12/riaa-versus-grandma-part-ii-the-showdown-that-wasnt/> (describing the settlement of a lawsuit between the RIAA and a grandmother for songs her grandchild downloaded onto her computer). See generally Melissa L. Morris, Note, *How Streaming Audio and Video Change the Playing Field of Copyright Claims*, 18 J.L. & POL'Y 419 (2010) (discussing copyright enforcement against P2P network users).

133 See, e.g., Lemley, *supra* note 128, at 131–32; Cary H. Sherman, *What Wikipedia Won't Tell You*, N.Y. TIMES (Feb. 7, 2012), at A27, available at <https://www.nytimes.com/2012/02/08/opinion/what-wikipedia-wont-tell-you.html> (discussing the decline of music sales since

this context, industry representatives might deem aggressive and potentially overreaching claims as insignificant given that under-enforcement of their property rights (i.e., false negatives) is pervasive online. Similarly, the perceived need to compensate for the necessarily imperfect nature of enforcement might help explain opportunistic enforcement actions that exploit the costs of litigation and other strategies in which copyright industries err on the side of bringing a claim when the use in question is ambiguous.

In sum, the economic costs of and obstacles to stopping mass online copyright infringement might motivate some of the enforcement strategies that further elevate the number of copyright false positives. In the following Part we examine more closely the effects of false positives on copyright law and society more generally.

## II. EFFECTS OF COPYRIGHT FALSE POSITIVES

### A. *Obstructing Creative Expression and Legitimate Uses*

Copyright false positives can hamper free speech and the rightful exercise of copyright exceptions. The assertion of questionable property rights on the basis of false positives threatens to disrupt the balance struck between copyright and the First Amendment.<sup>134</sup> As the Court noted in *Eldred v. Ashcroft*, the purpose of copyright is to promote the creation and dissemination of free expression, and the Copyright Act contains two provisions that protect First Amendment rights: the idea/expression dichotomy and fair use.<sup>135</sup> As provided by 17 U.S.C. § 102, copyright protection only extends to expressions, while ideas may be freely communicated.<sup>136</sup> Likewise, fair use limits the extent to which copyrights may be asserted against uses of a work that serve the public interest, such as commentary, criticism, and scholarship.<sup>137</sup> Taken together, the idea/expression dichotomy and fair use provide “safety valves” against copyright protection exerting too much pressure on free

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the emergence of Napster and arguing that Google, Wikipedia, and others websites engaged in “hypocrisy” and “[m]isinformation” in order to a defeat a congressional bill designed to strengthen copyright protection online).

134 On copyright and First Amendment issues, see generally C. Edwin Baker, *First Amendment Limits on Copyright*, 55 VAND. L. REV. 891 (2002); Benkler, *supra* note 28; Marci A. Hamilton, *Copyright at the Supreme Court: A Jurisprudence of Deference*, 47 J. COPYRIGHT SOC'Y U.S.A. 317 (2000); Lemley & Volokh, *supra* note 28; Neil Weinstock Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1 (2001); Rubinfeld, *supra* note 76.

135 See *Eldred v. Ashcroft*, 537 U.S. 186, 219–21 (2003) (“To the extent such assertions raise First Amendment concerns, copyright’s built-in free speech safeguards are generally adequate to address them.”).

136 17 U.S.C. § 102 (2006).

137 See 17 U.S.C. § 107 (“[T]he fair use of a copyrighted work . . . for purposes such as criticism, comment, news reporting, teaching . . . scholarship, or research, is not an infringement of copyright.”); *Eldred*, 537 U.S. at 219–21.

speech,<sup>138</sup> though some scholars have questioned whether these provisions alone are sufficient to ameliorate copyright's "speech burdening" effects.<sup>139</sup>

False positives corrode these protective mechanisms. Claims based on false positives attack the boundary between ideas and expressions and encroach upon the rights reserved to the public by copyright law as well as constitutionally protected speech rights.<sup>140</sup> If left unchallenged over time, these claims take on the appearance of legitimacy in a way roughly analogous to an unauthorized tenant accruing rights through adverse possession.<sup>141</sup> By squatting on rights that are not lawfully granted, false positives cause a diminution of the public domain and simultaneously reduce the amount of material that is *per se* available for use by others for expressive purposes.<sup>142</sup> This chilling effect is especially strong for forms of creative expression, such as parody, which rely on imitation and copying for their efficacy.

Similarly, false positive claims—particularly partial false positives—narrow the range of activities that are considered fair use. This contraction occurs when courts inquire into "the effect of the use upon the potential market for or value of the copyrighted work."<sup>143</sup> In fair use defenses, substantial weight is given to the existence of a licensing market for the use at issue.<sup>144</sup> If a market exists, then courts will view a fair use claim less favorably on the basis that a prior licensee would not have paid for what they were entitled to take for free.<sup>145</sup> In this way, licensing agreements that arise from false positives putatively validate the merits of the right holder's claim, even if the fair use analysis otherwise weighs heavily against it, or if the license was obtained solely for reasons of economic expediency—i.e., "better safe than sued."<sup>146</sup> As a result, uncontested false positive claims result in "doctrinal

138 See Melville B. Nimmer, *Does Copyright Abridge the First Amendment Guarantees of Free Speech and Press?*, 17 UCLA L. REV. 1180, 1189 (1970) (describing the mechanism through which copyright law avoids offending the First Amendment); see also R. Terry Parker, *Sold Downstream: Free Speech, Fair Use, and Anti-Circumvention Law*, 6 PIERCE L. REV. 299, 303–06 (2007) (discussing the tension between the First Amendment and copyright law in the context of the DMCA's anti-circumvention provisions).

139 See Netanel, *supra* note 134, at 5; see also Baker, *supra* note 134, at 895–99.

140 See, e.g., Benkler, *supra* note 28, at 386–94. On the rights that copyright law reserves to the public, see L. RAY PATTERSON & STANLEY W. LINDBERG, *THE NATURE OF COPYRIGHT* (1991) and Jessica Litman, *Readers' Copyright*, 58 J. COPYRIGHT SOC'Y U.S.A. 325 (2011).

141 See Gibson, *supra* note 26, at 882 (arguing that acquiring a license where none is needed is problematic because "the existence . . . of licensing markets plays a key role in determining the breadth of rights, [so] these . . . decisions eventually feed back into doctrine, as the licensing itself becomes proof that the entitlement covers the use").

142 See Benkler, *supra* note 28, at 358 ("[T]he First Amendment requires a robust public domain."). On the importance of a robust public domain as a foundation for creativity, see JAMES BOYLE, *THE PUBLIC DOMAIN* (2008).

143 17 U.S.C. § 107(4) (2006).

144 See Gibson, *supra* note 26, at 895–96.

145 *Id.*

146 *Id.* at 894.

feedback” that diminishes the scope of fair use,<sup>147</sup> and increase the instances of “fared use.”<sup>148</sup>

False positives also lead to intrusions into the public domain, which reduces the *quantity* of expression protected by the First Amendment *per se*, and also creates limitations on fair use, which harms the *qualities* of said expression. In this way, false positives disrupt the balance between the Copyright Act and the First Amendment by shifting the fulcrum in favor of intellectual property protection for information that is rightfully “free as the air to common use.”<sup>149</sup> This burden is not only borne by users of copyrighted works—who rightly fear liability on the basis that their actions could fall outside the bounds of fair use<sup>150</sup>—but also by new authors, who face similar uncertainty as to the boundaries between their original works and prior works created by others.<sup>151</sup> An unavoidable measure of uncertainty is endemic to copyright by nature and design,<sup>152</sup> but false positives unduly magnify this uncertainty by encouraging copyright holders to over-enforce their putative rights<sup>153</sup> and for users to avoid ambiguous uses for fear of incurring liability.<sup>154</sup> Second, copyright infringement suits based on false positives impose a significant burden on new innovation and financial investment in copyright-based technologies.<sup>155</sup> Specifically, in the case of *partial*

147 *Id.* at 887.

148 See Gordon & Bahls, *supra* note 23, at 620–21 (arguing that foreclosing fair use in favor of a licensing market is a “dangerous direction for copyright law”).

149 See *Int’l News Serv. v. Assoc. Press*, 248 U.S. 215, 250 (1918) (Brandeis, J., dissenting); see also Benkler, *supra* note 28, at 386–94 (arguing that the enclosure of information through intellectual property laws abridges free speech).

150 Cf. Cohen, *supra* note 47, at 347–48 (describing copyright doctrine as predicated on the absence of a user); Van Houweling, *supra* note 47, at 1535 (discussing disproportionate impact of copyright remedies on independent artists).

151 See, e.g., *Nash v. CBS, Inc.*, 899 F.2d 1537, 1540–41 (7th Cir. 1990) (“[B]road protection of intellectual property also creates a distinct possibility that the cost of litigation—old authors trying to get a ‘piece of the action’ from current successes—will prevent or penalize the production of new works, even though the claims be rebuffed. Authors as a group therefore might prefer limited protection for their writings—they gain in the ability to use others’ works more than they lose in potential royalties.” (citing Landes & Posner, *supra* note 16, at 332–33, 349–59)).

152 See *supra* note 92 and accompanying text.

153 Cf. Julie E. Cohen, *Pervasively Distributed Copyright Enforcement*, 95 GEO. L.J. 1, 43 (2006) (arguing that “pervasively distributed copyright enforcement . . . is both qualitatively different from earlier modes of discipline and normatively undesirable”).

154 See Depoorter, *supra* note 35, at 1837 (arguing that legal delay and uncertainty lead to a greater reliance on “self-help” by copyright owners and users).

155 See, e.g., Carrier, *supra* note 32, at 91 (presenting evidence of the chilling effect of copyright lawsuits and statutory damages on investments in technology innovation involving copyrighted content on the basis of interviews with innovators and investors). See *generally* *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 929 (2005) (recognizing the “concern that imposing liability, not only on infringers but on distributors of software based on its potential for unlawful use, could limit further development of beneficial technologies”). This concern is expressed in the various briefs submitted in recent litigation involving file-sharing web sites. See *supra* note 32.



*false positives*<sup>156</sup> this over-deterrence spills over into other legitimate activities unrelated to any alleged infringement.<sup>157</sup> For instance, when confronted with the unlawful distribution of copyrighted materials among peer-to-peer (“P2P”) network users, courts not only enjoined uses of these networks that were found to be piratical but also lawful uses, such as the distribution of public domain materials.<sup>158</sup> This substantially disrupted the use and development of P2P for legitimate activities. The threat of incurring intermediary liability dissuades investors from companies that are developing technologies that could potentially enable copyright infringement (i.e., dual-use technologies that could give rise to partial false positives), even if piratical uses are merely incidental to the technology’s primary and intended use.<sup>159</sup>

Overall, false positive claims disrupt the balance of legal incentives necessary for the investment of labor and capital in new works of creative expression by discouraging fair use and creating disincentives to the development of new technology.<sup>160</sup>

### B. Increased Litigation and Transaction Costs

For many accused of infringement, a legal defense is well beyond their financial means.<sup>161</sup> Even for affluent defendants, overcoming the Copyright Act’s strict liability standard is highly burdensome. For example, litigating a small copyright claim (for an amount in controversy of less than \$1 million) costs on average \$303,000 through the end of discovery, and \$521,000 through trial.<sup>162</sup> Such high litigation costs, coupled with the risk of incur-

156 See *supra* note 29 (discussing the classic example of the “Sony Betamax” case).

157 For instance, in the case of blanket licenses or royalties imposed on content-carriers, partial false positives render more expensive legitimate uses (such as playing public domain materials or recording home videos and original songs). See, e.g., Audio Home Recording Act, 17 U.S.C. § 1004 (1994) (establishing royalty payment obligation on importers and manufacturers of digital audio recording devices and media).

158 See, e.g., *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 916 (N.D. Cal. 2000) (requiring that non-infringing activities represent a commercially significant use of a technology), *aff’d in part and rev’d in part*, 239 F.3d 1004 (9th Cir. 2001); *supra* note 31 (discussing the *Napster* District Court’s dismissal of the potential concern with adversely affecting legitimate uses); see also *In re Aimster Copyright Litig.*, 334 F.3d 643, 647–48 (7th Cir. 2003) (confirming burden on file-sharing technology sites to produce evidence of actual substantially non-infringing uses of its services).

159 See *Carrier*, *supra* note 32, at 891 (presenting evidence of the chilling effect of copyright lawsuits and statutory damages on investments in technology innovation involving copyrighted content on the basis of interviews with innovators and investors).

160 See, e.g., *Depoorter*, *supra* note 35, at 1830 (arguing that legal delay and uncertainty lead to a greater reliance on “self-help” by copyright owners and users).

161 See *Menell & Depoorter*, *supra* note 40 (proposing to impose litigation costs on plaintiffs that reject reasonable license offers).

162 See AM. INTELLECTUAL PROPERTY LAW ASS’N, Report of the Economic Survey (2011). For copyright claims valued between \$1 and 25 million, the average cost through the end of discovery was \$543,000 and through the end of trial was \$932,000. For claims above \$25 million, the costs through the end of discovery averaged \$1.22 million, and through trial \$2 million. These calculated costs included outside and local counsel, associates, paralegal

ring statutory damages and an opponent's attorney's fees,<sup>163</sup> provide a strong incentive for defendants to settle, even if the alleged claim is of questionable merit. In most instances, it is more cost-effective to simply capitulate.<sup>164</sup> On first blush, it would seem that a plaintiff should be similarly discouraged from initiating a suit, but the potential rewards available to plaintiffs under the statutory damage provisions in the Copyright Act change the arithmetic.<sup>165</sup> From the perspective of a copyright holder, the downside risks associated with litigation are comparatively small, insofar as most claims will settle, and for claims that proceed the plaintiff will enjoy a significant procedural advantage—the defendant will have to overcome a *prima facie* presumption that the copyright is valid.<sup>166</sup> If the plaintiff wins, they will be entitled to either actual or statutory damages (their choice), as well as recovery of all their attorney's fees and costs.<sup>167</sup> Only if the defendant prevails will the plaintiff face potential losses.<sup>168</sup> So, from an economic perspective, copyright holders have an incentive to attempt to enforce their interests as broadly as possible, as the foreseeable rewards exceed the accompanying risks.<sup>169</sup> This calculation is what has given rise to the phenomenon of “copyright trolling,”<sup>170</sup> as

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services, travel and living expenses, fees and costs for court reporters, copies, couriers, exhibit preparation, analytical testing, expert witnesses, translators, surveys, jury advisors, and similar expenses, but were exclusive of judgments and damage awards. *Id.*

163 Under 17 U.S.C. § 504 (2006), a prevailing plaintiff may recover statutory damages between \$750 and \$30,000 *per work*. In the case of willful infringement by the defendant, damages of up to \$150,000 *per work* may be recovered. *Id.* Courts are also granted discretion to award costs and reasonable attorney's fees to the prevailing party in a copyright dispute. 17 U.S.C. § 505.

164 *Cf.* Cohen, *supra* note 47, at 347 (arguing that users play two important roles in the copyright system by receiving copyrighted works and by becoming authors themselves); Van Houweling, *supra* note 47, at 1535 (discussing disproportionate impact of copyright remedies on independent artists).

165 Under the Copyright Act, a plaintiff in an infringement action may elect, at any time before final judgment, to receive an award of statutory damages. *See* 17 U.S.C. §§ 412, 504, 505. At the court's discretion any amount between \$750 and \$150,000 per infringed work may be awarded, though the upper end of this spectrum (between \$30,000 and \$150,000) is reserved for “willful infringers.” *Id.* Although Congress intended this designation to only apply to “exceptional cases,” courts have generally interpreted “willfulness” broadly. *See* Samuelson & Wheatland, *supra* note 56, at 480–91 (presenting numerous examples of arbitrary, inconsistent, and excessive statutory damage awards). The prevailing party is also entitled to recovery of their attorney's fees and costs. 17 U.S.C. § 505.

166 17 U.S.C. § 410.

167 17 U.S.C. § 505.

168 A defendant can also recover attorney's fees and costs if they prevail in a lawsuit. *Id.*

169 *See, e.g.*, James DeBriyn, *Shedding Light on Copyright Trolls: An Analysis of Mass Copyright Litigation in the Age of Statutory Damages*, 19 UCLA ENT. L. REV. 79, 79 (2012) (“To supplement profits from copyrighted works, copyright holders have devised a mass-litigation model to monetize, rather than deter, infringement[,] . . . utiliz[ing] the threat of outlandish damage awards to force alleged infringers into quick settlements.”).

170 *See id.* at 86 (explaining that a copyright troll is an owner of a valid copyright who brings an infringement action “not to be made whole, but rather as a primary or supplemental revenue stream”); *see, e.g.*, Third Degree Films v. Does 1–47, 286 F.R.D. 188, 190

well as a proliferation of uncontested false positives. Such uncontested false positives contribute to a normative shift within copyright industries towards “fared uses,”<sup>171</sup> and likewise have a distorting effect on the market for copyright licenses. Defendants threatened with litigation over a false positive are induced into licensing the underlying work, even if this license is unnecessary or conveys non-existent rights.<sup>172</sup> This, in turn, leads to the false positive taking on a sheen of legitimacy, as the copyright holder can point to previous settlement agreements as proof of the validity of their claim in future litigation.<sup>173</sup> This, in turn, leads to rent-seeking by copyright holders, driving up the transaction costs for licensees on the basis of artificial demand.<sup>174</sup> Likewise, for intermediaries in the content distribution chain (such as websites that host user-submitted content) it is far more cost-effective to simply comply with all DMCA takedown notices rather than to assess the validity of each notice individually.<sup>175</sup> In this way, copyright false positives incentivize weak claims by copyright holders, heighten fears of liability, and create risk-aversion and chilling effects among creative artists,<sup>176</sup> for whom even the cost of licensing may be financially unpalatable.<sup>177</sup>

### C. Weakening Copyright Adherence

Enforcement false positives create a perception that copyright law reaches beyond reasonable boundaries and serves private but not public

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(D. Mass. 2012); *see also* Shyam Balganesh, *The Uneasy Case Against Copyright Trolls*, 86 S. CAL. L. REV. (forthcoming 2013) (explaining how copyright trolls exploit the market for copyright claims); Christopher M. Swartout, Comment, *Toward a Regulatory Model of Internet Intermediary Liability: File-Sharing and Copyright Enforcement*, 31 Nw. J. INT’L L. & BUS. 499, 509–10 (2011) (describing the business model used by copyright trolls in the adult entertainment industry).

171 *Compare* Bell, *supra* note 23, at 557 (arguing that allowing copyright owners and consumers to freely contract under a fared use system in time may be more beneficial to society than requiring new technologies to adopt to traditional fair use doctrine), *with* Gordon & Bahls, *supra* note 23, at 620 (arguing that foreclosing fair use in favor of a licensing market is a “dangerous direction for copyright law”).

172 For example, the Summy-Brichard Company, a subsidiary of Warner Music Group, receives approximately \$2 million per year in royalty payments for licenses to the song “Happy Birthday to You,” despite the fact that the song is most likely in the public domain. *See* Brauneis, *supra* note 24, at 338–40.

173 *See* Gibson, *supra* note 26, at 887–95 (2007) (arguing that risk aversion and user caution create licensing customs that reduce the perceived scope of permissible uses); *see also infra* Part III.

174 This effect is also exacerbated by the fact that most individuals are risk averse.

175 However, the DMCA does not impose a duty on ISPs to affirmatively monitor for infringement. *See* *Viacom Int’l, Inc. v. YouTube, Inc.*, 676 F.3d 19, 35 (2d Cir. 2012) (“[Section] 512(m) is incompatible with a broad common law duty to monitor or otherwise seek out infringing activity based on general awareness that infringement may be occurring.”).

176 *See supra* notes 27 and 151 and accompanying text.

177 *See, e.g.*, Benkler, *supra* note 28, at 411; Garfield, *supra* note 28, at 587; Lemley & Volokh, *supra* note 28, at 166. *But see* McGowan, *supra* note 28, at 435.

interests.<sup>178</sup> When enforcement false positives target permitted uses, such enforcement actions undermine the respect for and legitimacy of the copyright system.<sup>179</sup> For example, copyright false positives give credence to commentators who assert that politically strong entertainment companies control copyright law.<sup>180</sup> By diminishing public respect for, and adherence to, copyright law,<sup>181</sup> false positives imperil the very property interests that rights holders seek to protect. As the public becomes less deferential towards copyright, the increased non-compliance prompts further aggressive enforcement tactics in what ultimately becomes a vicious spiral.<sup>182</sup> This spiral of escalating infringement and deterrence might continue for some time since, in such a polarized climate, legislatures are often reluctant to intervene.<sup>183</sup> In the meantime, litigation costs and friction will continue to drain valuable public resources. In sum, false positives undermine the legitimacy of copyright law,<sup>184</sup> misallocate resources and rights between creators, owners, and consumers, and generally add heat instead of light to an already inflamed public debate.<sup>185</sup>

### III. POLICY RECOMMENDATIONS

While copyright holders as a general class suffer harm from the effects of false positives,<sup>186</sup> the harm of false positives tends to fall disproportionately

178 See, e.g., LAWRENCE LESSIG, *FREE CULTURE* 184–87 (2004).

179 See Depoorter et al., *supra* note 44, at 1251 (demonstrating normative backlash effect of stringent copyright enforcement).

180 See, e.g., Craig W. Dallan, *The Problem With Congress and Copyright Law: Forgetting the Past and Ignoring the Public Interest*, 44 SANTA CLARA L. REV. 365, 454 (2004) (arguing that Congress has ignored the public interest in favor of a property right rationale in recent copyright legislation); Chris Sprigman, *The Mouse That Ate the Public Domain: Disney, the Copyright Term Extension Act, and Eldred v. Ashcroft*, FINDLAW (Mar. 5, 2002), [http://writ.news.findlaw.com/commentary/20020305\\_sprigman.html](http://writ.news.findlaw.com/commentary/20020305_sprigman.html) (arguing that the Copyright Term Extension Act was passed in part based on large campaign contributions to politicians by the Walt Disney Company).

181 See Ginsburg, *supra* note 53, at 63–65 (arguing that overreaching by copyright owners has resulted in a public scorn for copyright law); see also Feldman & Nadler, *supra* note 52, at 577 (documenting normative intuitions of users of file-sharing systems).

182 See Depoorter et al., *supra* note 44, at 1264.

183 For example, an organized online protest where hundreds of websites “went dark” for a day to protest the Stop Online Privacy Act ended consideration of copyright legislation by Congress in 2012. See Timothy B. Lee, *Still Smarting from SOPA, Congress to Shy away from Copyright in 2013*, ARS TECHNICA (Jan. 7, 2013), <http://arstechnica.com/tech-policy/2013/01/still-smarting-from-sopa-congress-to-shy-away-from-copyright-in-2013/>; see also Peter S. Menell, *Envisioning Copyright Law’s Digital Future*, 46 N.Y.L. SCH. L. REV. 63, 181 (2003) (discussing the effect of social forces on legislative action and drawing a comparison between copyright and environmental activism).

184 On the widening gap between social norms and copyright law in the context of P2P file sharing, see Depoorter et al., *supra* note 44, at 1252; Feldman & Nadler, *supra* note 52, at 589–91.

185 See Ginsburg, *supra* note 53, at 63–65.

186 See *id.*

on private individuals and small business entities, rather than large content producers. As will be discussed below, the current system bestows significant legal entitlements on registrants in exchange for very modest administrative fees,<sup>187</sup> and these entitlements shift significant information, litigation, and transaction costs onto potential defendants and third parties. As such, organizations that manage large copyright portfolios tend to benefit the most from this system, as they suffer minimal upfront costs to gain access to a parcel of rights that provides significant market power and bargaining leverage. As a result, these organizations have little incentive to lobby for changes to the current regime; from the perspective of large portfolio owners, copyright false positives are likely viewed as mere annoyances.<sup>188</sup> However, for the system as a whole, copyright false positives impose negative externalities that have significant impact on less politically—and economically—advantaged actors: independent artists, new technology entrants, and private individuals and institutions availing themselves of fair use, among others. As such, remedying the problem of false positives would represent a net benefit to the copyright system as a whole, in that it would excise erroneously protected works from the copyright corpus, enrich the breadth and depth of the public domain, and shift costs to the least cost avoider, the registrant.

To combat the problems caused by copyright false positives,<sup>189</sup> structural reforms of the copyright system are needed. The policy recommendations below seek to achieve three primary goals: reduction in the number of false positives, reduction in the cost of discovering false positives, and mitigation of the social costs that false positives impose. Towards these ends, the following structural changes would be helpful: (A) increasing the application requirements and review standards for registration with the Copyright Office; (B) adopting a rule of mandatory renewal of copyright registrations on a periodic basis; and (C) revision of the statutory damages provisions to incentivize litigation aimed at curing copyright false positives.

#### A. Heightening Registration Requirements

Though neither publication nor formal registration of a work is required for copyrights to vest,<sup>190</sup> registration is required in order to enforce these

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187 The current cost of registration and recordation ranges from \$25 to \$220, with the basic electronic filing priced at \$35. See *Fees*, U.S. COPYRIGHT OFFICE (effective Aug. 1, 2009), <http://www.copyright.gov/docs/fees.html>.

188 For example, the major entertainment and media trade organizations (such as the MPAA, RIAA, NAB, etc.) are unlikely to proactively address the problem of copyright false positives, as the remedy would likely lead to increased administrative costs, more litigation, and the potential invalidation of some fraction of the copyrights currently held by their membership.

189 See *supra* Part II.

190 See 17 U.S.C. § 102 (2006). Prior to 1978, copyrights did not generally attach until a work was published with notice of copyright attached. See Copyright Act of Mar. 4, 1909, 35 Stat. 1075, 1077 (repealed Jan. 1, 1978).

rights in federal court.<sup>191</sup> According to existing law, if registration was made within three months of publication of a work, or prior to an infringement occurring, statutory damages and attorney's fees are available to the copyright holder in a prevailing action.<sup>192</sup> Otherwise, plaintiffs are limited in their recovery to actual damages and profits.<sup>193</sup> Further, registration within five years of publication constitutes prima facie evidence of the copyright's validity and of the facts stated on the registration certification.<sup>194</sup> Taken together, these entitlements convey significant litigation advantages onto plaintiffs and largely shift the burden of proof to the alleged infringer, who must put on evidence showing that the copyright is invalid or establishing an affirmative defense for their copying.<sup>195</sup> This procedural deficit, when considered alongside the fact that the Copyright Act imposes strict liability for misappropriation regardless of an infringer's intent,<sup>196</sup> provides a strong incentive for defendants to settle infringement suits regardless of the strength of the underlying claims.

Currently, the Copyright Office reviews deposits for subject matter eligibility,<sup>197</sup> but does not undertake a substantive review of prior registrations to ascertain what, if any, expression in the application is protected. Copyright registration is usually granted as a matter of course, so long as the applicant correctly files their application and the deposited subject matter is within the scope of copyright protection.<sup>198</sup> As such, the issuance of a registered copyright certificate offers little guidance as to the extent of an author's property rights in the work, or even if the work contains protectable expression at all.<sup>199</sup> This process stands in stark contrast to other intellectual property registration protocols, which require substantive review of the application subject matter prior to registration. For example, to register a patent, examiners at the Patent and Trademark Office ("PTO") compare an applicant's invention against prior art and prepare a series of "Office action" memo-

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191 See 17 U.S.C. § 411 ("[N]o action for infringement of the copyright in any United States work shall be instituted until preregistration or registration of the copyright claim has been made in accordance with this title.").

192 17 U.S.C. §§ 412, 504, 505. Conversely, a prevailing defendant is also entitled to recover their attorney's fees.

193 *Id.*

194 *Id.* § 410.

195 Examples of affirmative defenses include fair use, laches, and copyright misuse.

196 See, e.g., *Bright Tunes Music Corp. v. Harrisongs Music, Ltd.*, 420 F. Supp. 177, 180-81 (S.D.N.Y. 1976) (holding that the song "My Sweet Lord" infringed on the song "He's So Fine," on the basis of subconscious copying).

197 See 17 U.S.C. § 410 ("When, after examination, the Register of Copyrights determines that, in accordance with the provisions of this title, the material deposited constitutes copyrightable subject matter and that the other legal and formal requirements of this title have been met, the Register shall register the claim and issue to the applicant a certificate of registration under the seal of the Copyright Office.")

198 See 17 U.S.C. § 408.

199 See, e.g., *Feist Publ'ns v. Rural Tel. Serv. Co.*, 499 U.S. 340, 361 (1991) (holding that the white pages of a phonebook did not meet the minimum originality required for copyright protection).

randa that provide justification for why the examiner has accepted, or rejected, the applicant's claims.<sup>200</sup>

Though only *de minimis* originality is necessary to obtain copyright—and often only a modicum of protection is subsequently provided<sup>201</sup>—authors tend to consistently overestimate the extent of their property interests in copyrighted work. It is a rare copyright holder who does not suffer from “that obsessive conviction, so common among authors and composers, that all similarities between their works and any others [that] appear later must inevitably be ascribed to plagiarism.”<sup>202</sup> As opposed to a patent grant, which serves a similar function for an invention as a deed does for a tract of real property<sup>203</sup>—i.e., defining the borders that separate one claim from another—copyright registrations serve little intrinsic purpose other than a purely notary function of recording when and by whom a work was registered. This, among the other reasons discussed in Part I above, leads to false positives.

One way to remedy this problem would be for the Copyright Office to undertake a heightened level of scrutiny during the registration process. Under heightened standards, the Copyright Office would be required to undertake a patent-like examination of the substance of the work seeking registration by comparing it to prior art (e.g., similar works deposited with the Library of Congress), and to make an initial assessment (roughly analogous to a PTO “Office action”) of what elements contained in a submitted work constitute original, protectable expression. For example, suppose that an author decided to write a screenplay about the struggles and ultimate triumph of a boxer growing up in a working class neighborhood. At first glance, this play would be reminiscent of the films *Raging Bull*, *Rocky*, and *Million Dollar Baby*, among many others. Indeed, the new script and these films would share many similar stock elements: exploration of the strains a boxing career places on familial relationships, the struggle to overcome personal demons, a narrative arch that builds to a climatic fight scene that encapsulates the protagonist's struggle, etc.<sup>204</sup> But the play's script also con-

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200 See generally 35 U.S.C. §§ 102, 103 (2006) (defining novelty and non-obvious subject matter as conditions for patentability); 37 C.F.R. § 1.104 (2002) (defining the process of examination for the satisfaction of conditions for patentability); U.S. PATENT AND TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 706 (8th ed. 2001) (reviewing the examination, rejection, and acceptance of patent applications). Trademark law also requires substantive review of marks submitted for registration with the PTO. See generally 15 U.S.C. §§ 1051–1072 (2006) (describing the trademark application and registration process); U.S. PATENT AND TRADEMARK OFFICE, *supra*, § 800 (outlining application requirements for trademarks).

201 See *Feist*, 499 U.S. at 348.

202 *Litchfield v. Spielberg*, 736 F.2d 1352, 1358 (9th Cir. 1984).

203 But see *Menell & Meurer*, *supra* note 9, at 1. For a discussion of disclosure issues in the patent system, see, for example, *Bessen & Meurer*, *supra* note 66, at 32–34; *Fromer*, *supra* note 66, at 551; *Holbrook*, *supra* note 66, at 133–34.

204 As stock elements of the sports movies generally, these shared elements would be unprotectable under the *scènes à faire* doctrine. See, e.g., *Walker v. Time Life Films, Inc.*,

tains many unique elements that differentiate it from the prior works, such as its characters, dialogue, literary style, etc. If this work were submitted for registration under the proposed heightened review standard, a Copyright Office examiner would analyze the substance of the screenplay for original expression, taking into account the literary and dramatic conventions inherent to the work's genre, the thematic and stylistic similarities that the work bears to other prior works deposited in the Library of Congress, and the statutory limitations of the Copyright Act.<sup>205</sup> The examiner would then write a report, based on this analytic dissection,<sup>206</sup> that would include detailed bibliographic and technical information about the screenplay, and provide guidance as to what elements are likely protected (e.g., the playwright's dialogue) and what elements are likely not (e.g., the "preparing for the fight" story arch, certain supporting characters in the drama, general boxing terminology, etc.). Then, when a copyright registration certificate is granted, the examiner's report would be appended to the deposited copy in the Library of Congress and made publicly available for search through the Copyright Office's online catalogue. Heightening the registration requirements would not affect the substantive scope of copyright protection—e.g., copyright would still inure at the moment of fixation<sup>207</sup> and would persist for the same statutory duration<sup>208</sup>—but rather would create a procedural mechanism to more accurately survey the metes and bounds of the copyright in an individual work.

The benefits of adopting such a review protocol are numerous. Substantive examination of works at the point of registration would serve an important notice function to both copyright holders and potential copyists. The examiner's report would provide copyright holders with a basic chart of their protected property interests, as well as what elements in the work are in the

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784 F.2d 44, 49 (2d Cir. 1986) (holding that the book *Fort Apache* and the film *Fort Apache: The Bronx* were not "substantially similar beyond the level of generalized or otherwise non-protectible ideas," and thus the film did not infringe upon the copyright of the book).

205 See 17 U.S.C. § 102(b) (2006); 37 C.F.R. § 202.1 (2012).

206 This type of structural substantive review is similar to the "script coverage" reports used in the motion picture industry, where studio readers summarize and evaluate books, screenplays, and other dramatic materials for possible production as a movie. See, e.g., MAX ADAMS, *THE SCREENWRITER'S SURVIVAL GUIDE* 84 (2001). It is also similar to the "extrinsic" test undertaken by courts in the Ninth Circuit when assessing substantial similarity with regards to the misappropriation element of an infringement claim. See, e.g., *Sid & Marty Krofft Television Prods. v. McDonald's Corp.*, 562 F.2d 1157, 1164 (9th Cir. 1977) ("[One test of substantial similarity is based on] specific criteria which can be listed and analyzed. Such criteria include the type of artwork involved, the materials used, the subject matter, and the setting for the subject. Since it is an extrinsic test, analytic dissection and expert testimony are appropriate.").

207 See *Feist Publ'ns v. Rural Tel. Serv. Co.*, 499 U.S. 340, 348 (1991) (noting that only a *de minimis* amount of originality is required for copyrights to attach to work of authorship).

208 See *Eldred v. Ashcroft*, 537 U.S. 186, 222 (2003) (affirming the constitutionality of the 1998 Copyright Term Extension Act, which extended the duration of copyright to the life of the author plus seventy years).



public domain.<sup>209</sup> This information would allow for more targeted enforcement actions, reducing the litigation and transaction costs of pursuing invalid claims. Conversely, guidance as to what components of the work are protected would allow subsequent authors to better predict whether copying particular elements from a work would subject them to liability for unauthorized reproduction or adaptation.

In addition, this protocol would reduce litigation costs and promote judicial economy. The examiner's report would reduce both parties' information costs from the onset of a lawsuit, leading to quicker settlements and fewer questionable copyright claims ending up in court.<sup>210</sup> The examination protocol would also aid courts in disposing of cases more efficiently. For example, while courts have the discretion to dismiss a misappropriation claim on summary judgment,<sup>211</sup> as a general principle such motions are disfavored on the basis that a showing of substantial similarity is a question of fact "uniquely situated for determination by the trier of fact."<sup>212</sup> However, courts have overcome this reluctance when sufficient evidence is offered in pleadings that no reasonable jury could find substantial similarity as a matter of law.<sup>213</sup> An initial assessment made by the Copyright Office into the scope of copyright protection would provide significant factual information that could serve as the basis upon which a court could decide to dismiss a claim, both at the summary judgment and the initial pleading stages.<sup>214</sup>

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209 While the Copyright Office's factual findings concerning the scope of protected expression would likely be given deference by courts in accordance with the Administrative Procedure Act, federal courts would remain the final arbiters of the scope of copyright protection. See generally Kelly Kunsch, *Standard of Review (State and Federal): A Primer*, 18 SEATTLE U. L. REV. 11 (1994) (discussing the applicable standards for review of administrative agencies).

210 Registration with the Copyright Office is a prerequisite to filing an infringement claim in federal court. See 17 U.S.C. § 411 (2006).

211 See, e.g., *Litchfield v. Spielberg*, 736 F.2d 1352, 1358 (9th Cir. 1984) (upholding summary judgment for the defendant on the basis that the action was premised "upon a wholly erroneous understanding of the extent of copyright protection").

212 *Jason v. Fonda*, 526 F. Supp. 774, 777 (C.D. Cal. 1981), *aff'd*, 698 F.2d 966 (9th Cir. 1982); see also *Berkic v. Crichton*, 761 F.2d 1289, 1292 (9th Cir. 1985) (holding that substantial similarity is a matter for the trier of fact); *Litchfield*, 736 F.2d at 1355 (same). But see *See v. Durang*, 711 F.2d 141, 142 (9th Cir. 1983) ("No special standard is applied in determining whether summary judgment is appropriate on the issue of substantial similarity of expression in a copyright case.").

213 See, e.g., *Jason*, 698 F.2d at 967 (upholding summary judgment on the ground that no reasonable jury could find substantial similarity); see also *Litchfield*, 736 F.2d at 1358 (same); *Durang*, 711 F.2d at 142 (same); *Sid & Marty Krofft Television Prods. Inc. v. McDonald's Corp.*, 562 F.2d 1157, 1164 (9th Cir. 1977) (same).

214 For example, a cause of action for copyright infringement requires, *inter alia*, the existence of a valid copyright in the work allegedly infringed. See 17 U.S.C. § 501 (2006). Therefore, in order to survive a motion to dismiss for failure to state a claim upon which relief can be granted (see FED. R. CIV. P. 12(b)(6)), a plaintiff must plead evidence sufficient to establish a valid copyright interest. "Factual allegations must be enough to raise a right to relief above the speculative level, on the assumption that all the allegations in the complaint are true (even if doubtful in fact)." *Bell Atl. Corp. v. Twombly*, 550 U.S. 544,

For the Copyright Office to perform a searching review of all copyright applications would be logistically challenging, but nevertheless could be achieved at a relatively low cost in comparison to the benefits conferred. Though the patent examination system would serve as a model, the implementation of heightened copyright review would be substantially less expensive and complex to administer. With limited exceptions,<sup>215</sup> such as software, a review of pre-existing works under copyright would not necessitate extensive scientific or engineering knowledge, as is required to examine and prosecute patent applications before the PTO. Furthermore, since neither novelty nor non-obviousness are precursors to copyright protection,<sup>216</sup> a prior art search in copyright need not be exhaustive, as the focus of the examiner's report would be on establishing what is protectable in the work under review, not whether the work is sufficiently different from other works that precede it.<sup>217</sup> The additional expense right holders would incur in registering their works would be offset by a substantial reduction in information, litigation, and transaction costs associated with enforcing their rights. Finally, a heightened protocol would improve the equitable balance between the parties in copyright litigation. The benefits conveyed on plaintiffs by virtue of registration (e.g., the potential for statutory damages and recovery of attorney's fees and the prima facie presumption of the copyright's validity<sup>218</sup>) would be tempered slightly by the additional costs incurred *ex ante*, and the procedural deficits faced by defendants (e.g., a strict liability regime and the burden of proving the plaintiff's prima facie claim invalid) would be offset by a reduction in their information and search costs.

### B. Periodic Copyright Registration Renewals

For heightened review to achieve the goal of reducing the number of copyright false positives, the proposed registration requirements must be applied to both works that are currently registered with the Copyright Office as well as new registrations. Without a mechanism to bring older registrations under the purview of the new examination system, any false positives

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555 (2007) (footnote omitted) (citations omitted) (internal quotation marks omitted). Thus, heightened registration requirements and delineation of protectable from non-protectable elements by the Copyright Office would establish an evidentiary basis for a court to dismiss copyright false positives on the pleadings, thereby significantly lowering the litigation costs of copyright defense.

215 For example, analyzing a computer program to determine the scope of protectable elements within may require specific technical knowledge. *Cf.* Computer Assocs. Int'l, Inc. v. Altai, Inc., 982 F.2d 693, 706–11 (2d Cir. 1992) (applying a three-part “Abstraction—Filtration—Comparison” test to determine substantial similarity in computer programs). *See generally* MARK A. LEMLEY ET AL., SOFTWARE AND INTERNET LAW (3d ed. 2006) (discussing required technological knowledge).

216 *See* 35 U.S.C. §§ 101–103 (2006).

217 Indeed, a work may be *identical* to a work under copyright and still qualify for protection, so long as the second work was independently created and did not copy from the earlier work. *See* 17 U.S.C. § 501.

218 *See* 17 U.S.C. §§ 410, 412, 504, 505.

that existed prior to the adoption of heightened review would persist for a very long—some would argue indefinite—period of time.<sup>219</sup> This could be achieved by the Copyright Office promulgating new regulations that mandate that registrations be renewed periodically throughout the entire term of the copyright, and that upon renewal the copyrighted work is subject to heightened review, as discussed above.<sup>220</sup>

Traditionally, copyrights had to be renewed periodically to enjoy continued protection.<sup>221</sup> Under the current system, however, there are no additional actions required for a copyright holder to maintain their registration. Once a work is registered the entitlements that accompany registration<sup>222</sup> continue for the entire term of the copyright.<sup>223</sup> The proposed periodic renewal requirement is not intended to affect either the duration of the copyright term or any other substantive rights of the copyright holder—i.e., the copyright in a work would endure for the full statutory term regardless of whether or not registration is renewed.<sup>224</sup> Rather, it is targeted at the statu-

219 See *Eldred v. Ashcroft*, 537 U.S. 186, 243 (2003) (Breyer, J., dissenting) (arguing that that CTEA creates a copyright term that is “virtually perpetual”).

220 See 37 C.F.R. § 202 (2011). The Copyright Office is authorized to promulgate regulations under 17 U.S.C. §§ 408(f), 702 (2006).

221 Until 1992, the Copyright Act provided that the duration of copyright was divided into two terms, the first term lasting for twenty-eight years, and a second term lasting for twenty-eight years. See Copyright Act of 1909, Pub. L. No. 60-349, § 23, 35 Stat. 1075 (repealed 1978). In order to enjoy this second term of protection, copyrights had to be renewed after twenty-eight years, and works that were not renewed would automatically enter the public domain. See *id.* However, Congress excised these renewal requirements from the Copyright Act in 1992, creating a single term of protection that does not require renewal. See Copyright Amendments Act of 1992, Pub. L. No. 102-307, 106 Stat. 264 (removing the statutory requirement that copyrights must be renewed after twenty-eight years in order to enjoy a second term of protection). Six years later, the Copyright Term Extension Act (“CTEA”) extended the term to its current duration of life of the author plus seventy years, or ninety-five years after publication for a work of corporate authorship. See Copyright Term Extension Act, Pub. L. No. 105-298, 112 Stat. 2827 (1998) (codified at 17 U.S.C. §§ 302–304 (2006)). In 2004, the Court held that the CTEA was constitutionally within the powers granted to Congress by the Intellectual Property Clause of the Constitution. See *Eldred*, 537 U.S. at 194 (holding that a twenty-year retroactive extension of copyright terms did not violate the Copyright Clause of the Constitution). See generally Michael Jones, *Eldred v. Ashcroft: The Constitutionality of the Copyright Term Extension Act*, 19 BERKELEY TECH. L.J. 85 (2004) (providing background on copyright law and the CTEA and arguing that the Court’s decision in *Eldred v. Ashcroft* should have been expected); Pamela Samuelson, *The Constitutional Law of Intellectual Property after Eldred v. Ashcroft*, 50 J. COPYRIGHT SOC’Y U.S.A. 547 (2003) (arguing that proponents for constitutional limitations of intellectual property law are likely to experience some success in the future, even if they were unsuccessful in *Eldred v. Ashcroft*).

222 See 17 U.S.C. §§ 412, 504–505.

223 *Id.* §§ 302–304.

224 The proposed renewal requirement addresses the procedural posture of copyright claims rather than their substantive rights. This is fundamentally different that the pre-1992 renewal requirements, under which copyrights which were not renewed after twenty-eight years automatically entered the public domain. See Copyright Act of 1909, Pub. L. No. 60-349, § 23, 35 Stat. 1075 (repealed 1978).

tory benefits that accrue when a work is registered, specifically the prima facie presumption of validity and election of statutory damages.<sup>225</sup> Under this proposed rule, in order to continue enjoyment of these advantages,<sup>226</sup> copyright owners would be subject to re-examination of their claims by the Copyright Office at regular intervals.

Periodic renewal would serve three purposes related to the reduction of copyright false positives. First, requiring that registrations be renewed would serve an error-checking function, where the validity of a claimed copyright would be tested in a quasi-adjudicatory proceeding. This process would provide a mechanism for challenging uncontested false positives without the need for litigation, and would serve to excise overly broad or invalid claims from the copyright corpus. Over time, this would have the effect of mitigating the distortion caused by false positives on the market for copyright licenses, and would partially deter the rent-seeking behavior that the current system of registration encourages.<sup>227</sup>

Second, periodic re-examination would separate the protected and unprotected elements in a work, enriching the public domain and slowing the overexpansion of claims into unprotectable subject matter.<sup>228</sup> For example, overly broad claims cast a penumbra of doubt over whether works (or parts of works) are in the public domain. Due to the severe liability imposed by the statutory damages regime,<sup>229</sup> many accused of infringement—those standing in the shadow, as it were—are all but forced by economic considerations to settle rather than litigate, even if they believe a plaintiff's claim to be without merit.<sup>230</sup> In the aggregate, these settlements increase transaction and search costs for all parties, and lead to significant deadweight losses in copyright markets.<sup>231</sup>

Third, renewal applications and their corresponding examiner's reports would create an archive (similar to a registry of real property deeds) describ-

225 See 17 U.S.C. §§ 412, 504–505.

226 See *supra* notes 187–96 and accompanying text.

227 Cf. RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 187–91 (3d ed. 1986) (noting that accidents will increase if there is an absence of adequate deterrence); see also *supra* Part II.

228 See BOYLE, *supra* note 142, at 42–54. See generally Benkler, *supra* note 28, at 354 (arguing that the second enclosure movement minimizes the availability of information and infringes on the freedom of speech).

229 See 17 U.S.C. § 504.

230 See Paul J. Heald, *Payment Demands for Spurious Copyrights: Four Causes of Action*, 1 J. INTELL. PROP. L. 259, 261 (1994).

231 Cf. WENDY J. GORDON & ROBERT G. BONE, 2 *ENCYCLOPEDIA OF LAW & ECONOMICS* 189, 196 (B. Bouckaert & G. De Geest eds. 2000) (arguing for the limited duration of copyright protection and fair use work to reduce deadweight loss and other costs); Ben Depoorter & Francesco Parisi, *Fair Use and Copyright Protection: A Price Theory Explanation*, 21 INT'L REV. L. & ECON. 453, 468–71 (2002) (arguing that even if copyright licenses could be transferred without cost, strategic behavior by copyright holders could still lead to deadweight losses). But see Stan J. Liebowitz, *The Myth of Copyright Inefficiency*, 32 REG. 28 (2009) (arguing that increases in copyright unambiguously increase economic efficiency and that no deadweight losses occur).

ing the metes and bounds of protected expression and identifying the owners of individual tracts.<sup>232</sup> This archive would make it easier to determine the validity of a claimed copyright and in turn lower both transaction and litigation costs generally. Such information would also aid judicial economy by reducing the number of infringement claims based on false positives.<sup>233</sup>

In sum, the adoption of heightened review standards, coupled with a registration renewal requirement, would provide significant benefits to copyright holders as a whole. Over time, higher review standards would create a repository of information that could be used by market participants to plan licensing and enforcement, and by courts to expedite the litigation of infringement claims. While these heightened standards would increase the cost of registering copyrights moderately,<sup>234</sup> this expense would be substantially outweighed by a reduction in false positive claims. Moreover, this burden would fall on the least cost avoider (the registrant), and would be reasonable in light of the significant entitlements bestowed by registration.<sup>235</sup>

### C. *Revision of Statutory Damages Provisions*

Additionally or alternatively, revision of the statutory damage provisions would help to eliminate false positives by incentivizing litigation to challenge dubious claims. Under the Copyright Act, a plaintiff in an infringement action may elect, at any time before final judgment, to receive an award of statutory damages. At the court's discretion, any amount between \$750 and \$150,000 per infringed work may be awarded,<sup>236</sup> though the upper end of this spectrum (between \$30,000 and \$150,000) is reserved for "willful infringers."<sup>237</sup> Although Congress intended this designation to apply only to "exceptional cases,"<sup>238</sup> courts have generally interpreted willfulness broadly,<sup>239</sup> and damage awards are frequently arbitrary and excessive.<sup>240</sup> Moreover, statutory damages are often far in excess of the actual harm to the plaintiff or profits to the defendant.<sup>241</sup> As a result, the specter of high statu-

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232 Renewal requirements would also likely help to resolve the problem of orphan works. See, e.g., Hal. R. Varian, *Copyrights That No One Knows About Don't Help Anyone*, N.Y. TIMES, May 31, 2007, at C3.

233 See *supra* note 211 and accompanying text.

234 See *supra* notes 197–207 and accompanying text.

235 See *supra* notes 187–96 and accompanying text.

236 17 U.S.C. § 504 (2006).

237 *Id.*

238 S. REP. NO. 94-473, at 144–45 (1975) (stating that enhanced damages should be available in "exceptional cases"); H.R. REP. NO. 94-1476, at 162 (1975) (same).

239 See, e.g., *Island Software & Computer Serv., Inc. v. Microsoft Corp.*, 413 F.3d 257, 264 (2d Cir. 2005) (finding that mere constructive notice of infringement was sufficient to show willfulness).

240 See Samuelson & Wheatland, *supra* note 56, at 480–91 (presenting numerous examples of arbitrary, inconsistent, and excessive statutory damage awards).

241 See, e.g., *Capitol Records, Inc. v. Thomas*, 579 F. Supp. 2d 1210, 1227 (D. Minn. 2008) (overturning a jury's award of \$222,000 in statutory damages for the infringement of

tory damages, combined with potential liability for the plaintiff's costs and attorney's fees,<sup>242</sup> provide a strong incentive for settlement, regardless of the merits of the plaintiff's claims or the existence of a plausible defense, such as fair use.<sup>243</sup> This, in turn, provides fertile soil for the growth of false positives, and a patina of legitimacy develops around overly broad or erroneous claims that go unchallenged.<sup>244</sup> In other words, the current statutory damage provisions provide inadequate judicial deterrence to false positive claims.<sup>245</sup>

In this context, statutory damage provisions need to balance two policy ends: (i) setting penalties high enough to discourage piracy; and (ii) providing sufficient incentives for defendants to challenge questionable claims.<sup>246</sup> The question of whether (i) is achieved by the current law is beyond the scope of this Article. As to (ii), for a defendant, the monetary advantages of litigating a claim versus settling are meager, at best.<sup>247</sup>

While a winning defendant would be entitled to the expenses they incurred through the course of litigation,<sup>248</sup> this potential reward does not adequately offset the defendant's risks. If they lose, a defendant is subject to statutory damages as well as payment of the plaintiff's costs and attorney's fees; if they win, they are merely reimbursed for their out-of-pocket expenses,

twenty-four songs, whose actual value the trial court acknowledged as being less than \$54); *see also* Samuelson & Wheatland, *supra* note 56, at 442–43 (providing examples of excessive statutory damage awards).

242 *See* 17 U.S.C. § 505 (2006).

243 *See* Samuelson & Wheatland, *supra* note 56, at 443 (arguing that statutory damages have a potential chilling effect on individuals and technology providers).

244 *See, e.g.,* Brauneis, *supra* note 24, at 338–40 (arguing that Warner Music Group erroneously receives approximately \$2 million per year in royalty payments for licenses to the song “Happy Birthday to You,” despite the fact that the song is most likely in the public domain).

245 *Cf. POSNER, supra* note 227, at 187–91 (3d ed. 1986) (noting that accidents will increase if there is an absence of adequate deterrence); *see also supra* Part II.

246 While an action for declaratory judgment seeking to invalidate a claimed copyright is theoretically possible under the Declaratory Judgment Act, a plaintiff in such an action must prove the existence of a case or controversy. *See* 28 U.S.C. §§ 1331, 1338(a) (2006). In the copyright arena, this usually means that a party alleging a legitimate fair use must make this use *prior* to seeking a judicial determination, else no case or controversy exists. *See, e.g.,* Solin v. Nat'l Ass'n of Sec. Dealers, 05 CIV 4268 RMB/MHD, 2006 WL 223156 (S.D.N.Y. Jan. 27, 2006) (dismissing an action for declaratory judgment on the basis that no case or controversy existed because defendant had not threatened to sue plaintiff and had given permission to use its copyrighted work); *see also* William Patry, *Declaratory Judgments*, THE PATRY COPYRIGHT BLOG (Feb. 2, 2006, 9:58 AM), <http://williampatry.blogspot.com/2006/02/declaratory-judgments.html>. *But see* 17 U.S.C. § 512(f) (2006) (providing an affirmative cause of action for abusive DMCA “takedown” notices).

247 This is setting aside the question of what intrinsic economic value the use of the copyrighted work has for the defendant, which may be substantial. Rather, this argument looks at the incentive structure that flows from the statutory remedies exclusively, irrespective of other considerations that may factor into a party's decision whether to defend against an infringement claim.

248 *See* 17 U.S.C. § 505 (2006).

but not for lost profits<sup>249</sup> or compensation for detriments suffered to their reputation or goodwill on account of the lawsuit. Furthermore, while a copyright holder who engages in abusive or improper conduct in the enforcement of their copyrights<sup>250</sup> might be subject to injunction under the doctrine of copyright misuse, this remedy does not provide for any pecuniary compensation to the defendant.<sup>251</sup> So, unless there are extenuating circumstances beyond financial considerations that necessitate litigation, defendants have little, if any, incentive under the current system to fight if a reasonable settlement is offered.<sup>252</sup>

Therefore, in order to incentivize defendants to continue litigation<sup>253</sup> against uncontested false positives, this Article proposes that the statutory damages provisions be revised to give courts the discretion to award reverse punitive damages to prevailing defendants in addition to costs and attorney's fees.<sup>254</sup> Such awards would provide an incentive for defendants to defend copyright claims rather than to settle, insofar as they would stand to avoid licensing costs and potentially to realize a financial gain above the amount invested in legal fees. Conversely, the possibility of incurring liability would increase plaintiffs' risk-aversion and lead to greater inquiry into the scope of their copyrights, leading to a reduction in the number of overly broad or questionable claims. Taken together, this provision would have the effect of reducing the number of false positives and arresting their growth: copyright holders would be less inclined to push the boundaries of their claims if they were forced to internalize some of the costs these actions impose, and defendants would have incentives to help police the boundaries of copyright claims, rather than allowing them to accrete through settlement.

It is worth noting, as discussed in Part I above, that not all false positive claims are the result of rent-seeking or malfeasance on the part of copyright

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249 Lost profits could be recovered by a plaintiff if they elected for actual damages rather than statutory damages. *See id.*

250 Examples include attempting to extend the scope of statutory rights through restrictive licensing. *See, e.g., Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970, 978 (4th Cir. 1990) ("The question is . . . whether the copyright is being used in a manner violative of the public policy embodied in the grant of a copyright.").

251 Furthermore, as an equitable remedy, the doctrine of copyright misuse focuses on the *conduct* of the copyright holder as it pertains to enforcement (i.e., whether their actions evince "unclean hands"), rather than on the merits of their underlying copyright. As such, attempting to enforce a false positive through legitimate means would not likely give occasion for a court to enjoin the plaintiffs for copyright misuse, even if their copyright was found to be invalid.

252 *See Menell & Depoorter, supra* note 40 (proposing to impose litigation costs on plaintiffs that reject reasonable license offers).

253 *See generally* Steve Shavell, *The Level of Litigation: Private Versus Social Optimality of Suit and of Settlement*, 19 INT'L REV. L. ECON. 99 (1999) (offering an economic model that accounts for the positive and negative externalities created by litigation).

254 For example, these damage awards could be structured to mirror the remedies available to plaintiffs, based on either a pre-established range (e.g., \$30,000–\$150,000) or calculated on evidence of actual harm incurred by the defendant (e.g., lost profits, decline in goodwill, etc.).

holders—many false positives arise from systemic factors. As such, a reasonable argument could be made that imposing liability on copyright holders is unjust if such liability arises from factors beyond their control or knowledge. However, from the perspective of the system as a whole, the copyright holder is in the best position to assess the extent of their interests and to determine the optimal amount of enforcement (i.e., deterrence) that is necessary to protect these interests. As such, the copyright holder is the least cost avoider and, following the logic of law and economics scholarship on risk avoidance, the adoption of a strict liability rule is more likely to result in a socially optimal outcome than a rule based on negligence.<sup>255</sup>

#### CONCLUSION

Copyright false positives result in social harms that are often difficult to detect, but are nonetheless widespread and pernicious in their effects. The indeterminacy of clear boundaries between copyright claims—the result of minimal registration requirements and strong disincentives to litigation—allow for rent-seeking by opportunistic copyright owners and corresponding deadweight losses for licensees. As a result, information, transaction, and litigation costs for all participants in the copyright system are artificially increased. Moreover, attempts to push the lawful boundaries of copyright protection via overly broad, and sometimes ostensibly bogus, claims result in a public backlash. This decreases respect for and adherence to copyright law, and sets off a vicious downward spiral of increased piracy and increasingly aggressive enforcement tactics. In the process, labor and capital investments in creative enterprises are waylaid for fears of liability. Finally, and most dangerously, constitutionally protected speech rights are imperiled by the deterioration of the “safety valves” (fair use and the idea/expression dichotomy) that protect the First Amendment from the overexpansion of intellectual property rights.

Much has been said about the risks that false negatives (i.e., under-deterrence) pose to livelihoods of authors, artists, and innovators, as well as the business entities that provide compensation for their creative efforts. But the risks posed to these same groups by over-deterrence are too often overlooked. Therefore, recognition of the dangers of false positives is a necessary complement to any policy discussion concerning reforms to the copyright system. While it would not be possible to eradicate all overly broad or erroneous claims, an overhaul of the copyright registration procedures and the statutory entitlements that inure with registration would substantially improve the chances of false positives being challenged in court and subse-

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255 See, e.g., Guido Calabresi, *Optimal Deterrence and Accidents*, 84 YALE L.J. 656 (1975) (discussing the effects different fault systems play in minimizing accidents); Guido Calabresi & A. Douglas Melamad, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1096–97 (1972) (arguing that the person who can best avoid an accident should be held liable). But see Richard A. Posner, *Strict Liability: A Comment*, 2 J. LEGAL STUD. 205 (1973) (arguing that strict liability is not the most economically efficient rule).



quently invalidated. This, in turn, would help to slow the accretion of unjustified claims and unscrupulous behavior by current right holders, and would serve to better optimize the legal and normative incentives necessary to promote the future of Science and the Useful Arts.

