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PULL TOO HARD AND THE ROPE MAY BREAK: ON THE SECONDARY LIABILITY OF TECHNOLOGY PROVIDERS FOR COPYRIGHT INFRINGEMENT

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*112 I. Introduction

The digital age marks a turning point in the world of copyright, allowing for the creation of infinite identical copies of digital content by anyone, autonomously and free of charge.

The fact that copyright owners strive to fight the widespread copying and distribution of copyrighted works is not surprising, yet the degree to which their fight is carried out is quite striking. As a strategic decision, the fight is conducted not only against copyright infringers themselves, but also against the providers of various types of technologies that make such infringements possible. Technology providers of different sorts, ranging from creators of file-sharing services[1] and Internet Service Providers (ISPs),[2] to developers of decryption programs[3] and search engines,[4] have been sued or have faced criminal charges.[5] The common thread among these lawsuits is that the defendants themselves have not engaged in any copyright infringement. Rather, infringing conduct of others-- users of the defendants' technology--is the basis of the claims.

This article focuses on the standard of secondary liability for technology providers under copyright law. Drawing on existing literature, it shows that contrary to the conventional understanding of the law as granting a safe harbor for technologies, courts have created a de facto open-ended liability standard. It then argues that the strict and unpredictable nature of that open-ended standard prevents effective ***113** direction of market behavior and harms the effectiveness of secondary liability as an enforcement measure in this regard.

The de facto standard for secondary liability of technology providers diverges from the standard that the Supreme Court and Congress declared de jure. Sony v. Universal, the 1984 principal Supreme Court precedent in this field, set the standard that a technology capable of substantial noninfringing use is shielded from secondary liability.[6] However, Sony itself is vague and indecisive. Moreover, while outwardly upholding Sony, subsequent moves in courts and in Congress have cut back on its protection--to the extent that not a single case or statute actually shields any technology based on the Sony safe harbor.[7] The Digital Millennium Copyright Act (DMCA),[8] which was designed to provide safe harbors for various scenarios, has also proven inapplicable to contemporary technologies and contexts.

With the law becoming increasingly complicated and unpredictable, the market developed a dual, polarized reaction. One path, which I term the risk-minimizing route, is typically taken by established and "deep pocket" companies. The risk-minimizing route is epitomized by over-protectiveness of copyrights, often at the expense of users' interests. The second path, which I term the legal escapism route, prevails among peer-to-peer networks. This route is best characterized as continuing the unauthorized transmission of copyrighted works, while employing various measures to avoid the legal consequences that may stem from this behavior.

The implication of this dichotomous market behavior on the effectiveness of secondary liability is critical. Secondary liability of technology providers is designed to promote effective and efficient copyright enforcement through three main objectives.[9] First, it provides a cost-effective litigation mechanism compared to the alternative path of suing countless direct infringers. Second, it attempts to generate adequate compensation for plaintiffs via the deep pockets of technology companies. Third, it positions technology providers as gatekeepers that can hinder infringement by a copyright-friendly design and utilize their service fees to both distribute revenues to copyright owners and discourage infringement. However, the open-ended ***114** standard has been destructive to its own purpose, and has rendered these objectives unfulfilled. Instead of effective enforcement, the law results in market substitution. Infringement simply shifts from one platform to another, becoming more sophisticated and evasive.

To be clear, I am not suggesting that the copyright enforcement crisis is due entirely to the vagueness of the secondary liability regime. Much of the enforcement hardship is obviously the result of the high demand for free copyrighted works, which encourages the creation of platforms to consume copyrighted works for free. Yet, the ambiguity of the secondary liability standard has its own unique contribution to this crisis: it did not leave a clear safe zone for companies where they know they can function without being excessively attentive to copyright owners' interests and at the same time operate in a legal manner.[10]

Part II focuses on the descriptive-analytic aspect of the argument, exploring the law of secondary liability and elucidating the development of a de-facto open-ended standard. Part III addresses the development of the open-ended standard normatively, and analyzes the ineffectiveness of the open-ended standard for secondary liability. Part III first expands on the dichotomous market of copyright-affected technologies. Second, it demonstrates that this standard is at odds with the objectives of a secondary liability regime. The article concludes that the law must abandon the open-ended standard in favor of restoring a

clear, coherent regime, which will be able to effectively direct behavior of technology providers and users in the digital age.

II. The Standard for Secondary Liability of Technology Providers

A. The Doctrines of Secondary Liability and Their Application to Technologies

Two long-standing doctrines hold a person liable for copyright infringement committed by another: contributory infringement and vicarious liability.[11] These doctrines stem from tort common law.[12] However, these doctrines have largely diverged ***115** from their tort law source, developing unique rules and terminology.[13]

1. Contributory Infringement

Contributory infringement arises when a person, knowingly and materially, contributes to an infringing act of another person. As stated in the seminal case of Gershwin,[14] a defendant may be held contributorily liable if "with knowledge of the infringing activity, [she] induces, causes or materially contributes to the infringing conduct of another."[15] The Supreme Court recognized contributory infringement as far back as 1908 and 1911,[16] and the doctrine became firmly established in the 1970s.[17]

The doctrine of contributory infringement extended over the years with the interpretation of "knowledge" extending to include both actual and constructive knowledge.[18] Furthermore, the Ninth Circuit recently concluded that merely providing ***116** online services might satisfy the "material contribution" prong of the doctrine.[19] In fact, the precise boundaries of the doctrine remain opaque to this day.[20]

2. Vicarious Liability

Vicarious liability originated in the contexts of employment and independent contracting based on the general agency theory of respondeat superior.[21] In the seminal case of Shapiro,[22] however, vicarious liability extended to all cases in which a person has both a direct financial interest in the infringement and the "right and ability to supervise [it]."[23]

A substantial expansion of the doctrine occurred over the last two decades, through the attenuation of the "direct financial interest" requirement. Viewed as a major keystone in this context, Fonovisa held that swap meet organizers had a "direct financial benefit" from the sales of infringing material that occurred in the swap meet even though their fee was not in any way tied to the sale revenues.[24] More recently, in Napster[25] the court posited that this requirement was fulfilled even though the defendant earned no profit, since such profit was likely in the future.[26]

Many cases invoking vicarious liability and contributory infringement tend to use confusingly similar reasoning and rhetoric. This obscures the differences between the two doctrines.[27] The danger in this confusion is not merely semantic. ***117** The fear is that lawmakers will bypass the phase of proving all the elements of a particular doctrine, and will subject defendants to liability based on some assortment of standards from these doctrines, thus subjecting a broader class of activities to liability than originally intended.[28]

3. Application of the Secondary Liability Rule to Technology Providers

Contributory infringement and vicarious liability are the basic paradigms for secondary liability law.[29] The secondary liability standards pertaining to technology providers stem from contributory infringement and vicarious liability. Interestingly, though, the cases that originally shaped these doctrines concerned people or businesses that were in some way involved in the infringing activities of a fellow person, not technologies that were later used for infringement.[30]

This is not to say that the concept of protecting content by controlling dissemination technology is novel in any way. In fact, it is older than the idea of copyright itself. For decades, prior to the establishment of the copyright regime in England, protection for the content industry was provided by granting the Stationers' Company of London control over the printing press-- the only available dissemination technology at that time.[31] Perhaps unsurprisingly, this control was often utilized to promote the stationers' own agenda at the cost of free flow of information ***118** and free speech.[32] It was not until the 1710 Statute of Anne, which is the origin of the copyright regime in the United States as well, that the focus shifted to use, as

distinct from dissemination of content.[33]

However, as technology progressed, infringement became increasingly widespread through technological tools, and this paradigm began to crack. As once articulated by Hon. Lewis A. Kaplan:

> There was a time when copyright infringement could be dealt with quite adequately by focusing on the infringing act. . . . In principle, the digital world is very different. . . . Every recipient is capable not only of decrypting and perfectly copying plaintiffs' copyrighted DVDs, but also of retransmitting perfect copies. . . . The process potentially is exponential rather than linear.[34]

Consequently, the law sought to stop infringement at its root, and secondary liability, which developed outside the technological context, appeared to be an appropriate vehicle to hold technology providers liable for the misuse of their technology by its users.[35]

In fact, the secondary liability doctrines may have different implications when applied to technology providers. Technology, particularly digital technology, is disseminated to an unlimited and indefinite number of users globally.[36] Moreover, while in the early cases, the infringement occurred during the contractual (or other) relationship between the direct and the secondary infringers, infringement in the technological realm often occurs long after this relationship has ended.[37] These implications change the way copyright law applies to secondary infringers: the technology design now must incorporate copyright considerations ex-ante.

Moreover, while holding a person secondarily liable limits only the specific infringing activity at question, holding a technology secondarily liable precludes ***119** this technology altogether--its infringing and noninfringing functions alike.[38] This represents not only an immediate risk to the specific technology at issue, but also a chilling effect on innovation in general. Indeed, potential innovators may be discouraged from creating a technology that could eventually be precluded.[39] Thus, when applied to technologies, the positioning of the doctrines of secondary liability is not in their natural sphere to direct behavior in a certain set of circumstances, but rather regulating technology design in general.[40]

B. Secondary Liability of Technology Providers in Court and Congress

1. The Creation of a De Jure Safe Harbor for Technologies in Sony

The application of the secondary liability doctrines to technologies first occurred in 1984 with Sony v. Universal.[41] The case concerned Sony's Betamax videocassette recorder (VCR), which was the first compact, affordable videotape recorder on the market.[42] The Betamax was enthusiastically welcomed among consumers, yet its greeting among other groups was not as favorably passionate.[43] Before long, Universal Studios and Walt Disney Productions, copyright owners of numerous television shows, commenced a lawsuit against Sony alleging direct and contributory infringement.[44] The basis of the contributory infringement claim was ***120** alleged infringing activities conducted by the VCR users, including building archives of programs for repeated viewing.[45]

The district court rejected the lawsuit on both its direct and contributory infringement claims.[46] The court concluded there was no showing of commercial harm to the studios and that private noncommercial copying was generally not prohibited, or at the very least constituted fair use and was nearly impossible to enforce.[47]

This conclusion likely appeared outrageous to copyright holders, who appealed the decision.[48] Meeting their expectations at least somewhat, the Ninth Circuit reversed the District Court's ruling with regards to contributory liability, recognizing a possible cumulative effect of the VCR to diminish potential markets.[49] However, the Ninth Circuit did not disturb the District Court decision that Sony conducted no direct infringement.[50]

Sony subsequently filed a petition for a writ of certiorari to the Supreme Court, challenging the holding regarding its contributory infringement. After granting the certiorari,[51] and following re-argument two years later, the Court, by a 5-4 vote, reversed the Ninth Circuit's ruling and held that Sony was not subject to contributory infringement.[52] The decision was based on a standard borrowed from patent law, where a producer of a technology that is capable of "substantial noninfringing use" is shielded from contributory liability.[53] The Court found that beyond the fact that various producers consented to the recording of their programs, the ***121** regular use of the VCR was time-shifting--namely, recording a program in order to

watch it once at a later time.[54] Time-shifting, the Court opined, is fair use, and the VCR is therefore protected as a product that is capable of substantial noninfringing use.[55]

The dissenting opinion, by Justice Blackmun, suggested that the standard for a dual-use technology should be based on its actual, not potential, use and on the possibility of new potential markets that opened as a result of the new technology.[56] Thus, a technology provider would be held contributorily liable if it could not show substantial actual noninfringing use of its technology or if the plaintiffs demonstrate they have been deprived of the ability to exploit a new market. Justice Blackmun further disagreed that the actual use of the VCR was definitively, in quantitative terms, substantially noninfringing.[57]

At first glance, the immediate effect of the Sony standard, also known as Sony's Staple Article of Commerce Doctrine, was the creation of a safe harbor for technologies that are capable of significant noninfringing use.[58] Among most scholars, this standard was widely viewed as a victory for technology and consumers and as the "Magna Carta" of the technology age.[59] At the same time, however, the Sony decision attracted criticism, not so much for its conclusion as for the analysis that led to it.

One point that drew significant criticism was the Court's reliance on a patent law standard, based on a "historic kinship" between the laws of patents and copyrights. ***122** [60] Scholars argued that this reliance was not even necessary. The same outcome could have been reached based on the consent of various producers to the recording of their works, on the determination that time-shifting is fair use, and on the absence of proof of commercial harm to the plaintiffs.[61] Reliance on the Staple Article of Commerce Doctrine, scholars argue, overlooks critical differences between the laws of patents and copyrights including their objectives,[62] their statutory history,[63] and the industry-wide effect this doctrine may have on each body of law.[64]

Other scholars have criticized Sony for loosely using legal terms to the extent that the precise scope of the doctrine remains opaque, and its applicability problematic. The murky phrase "substantial noninfringing use," (defined simply as "commercially significant"),[65] and the ill-defined fair use doctrine have made the safe harbor weak. Similarly, the interchangeable use of the phrases "contributory liability" and "vicarious liability" throughout the decision[66] led to confusion in applying the Sony doctrine to vicarious liability.

As a result of this vagueness, the Seventh Circuit interpreted Sony as applicable to both contributory and vicarious liability, while the Ninth Circuit viewed it as limited to contributory liability.[67] This confusion renewed in the Grokster decision, ***123** where the Supreme Court again used these doctrines interchangeably.[68] Therefore, Sony, supposedly creating a safe harbor, may have actually sowed the seeds of confusion reflected in the area of copyright secondary liability to this day.[69]

The internal dynamic of the Sony Court's decision-making process may have contributed to this result. Initially, only four Justices voted to grant Sony a writ of certiorari.[70] Justice Blackmun was among them and, as his dissent implies, sought to affirm and reinforce the Ninth Circuit's ruling.[71] As commentators have observed, however, this strategy proved to be risky. Although originally five justices preferred to leave the Ninth Circuit decision intact, in the discussion process Justice O'Connor crossed the line to the other side of the divide.[72] Justice Blackmun's draft, originally written as the majority opinion, became the dissent, while Justice Stevens' dissent became the majority opinion.[73] It is not surprising that such a process would require a compromise, the natural casualty of which can be clarity of the legal rule.[74]

***124** The vagueness of the Sony standard rendered it both difficult to follow and easy to manipulate.[75] This may have contributed to the trend of subsequent legal measures to assert consistently the Sony rule while simultaneously applying different standards and leaning on factors other than the capability of a technology for substantial noninfringing use, as shown below.

2. The Development of a De Facto Open-Ended Standard in Courts

In a recent research, Peter Menell and David Nimmer demonstrate that courts consistently sidestepped the application of Sony.[76] They note the Fifth Circuit's Vault decision,[77] effectively reversed by Congress,[78] and the two lower courts' Grokster decisions,[79] reversed by the Supreme Court,[80] as the only cases that adopted Sony as a valid safe harbor.[81] In all other secondary liability cases that succeeded Sony, its safe harbor was always declared but never actually applied.[82] Indeed, not only did following Sony involve too high a risk for copyright owners, but also it was rather easy to avoid, considering that Sony itself was quite ambiguous.[83]

For instance, a court distinguished Sony in a case that involved an operator of technology, as distinct from its manufacturer.[84]

Similarly, a court distinguished Sony in a case where the provider had intended that the product would be used for ***125** infringement[85]--even though Sony never concerned itself with the provider's intent. In other cases, a court considered the Sony doctrine inapplicable based on the actual use of the product in question, although Sony itself eschewed an examination of an actual use of a product in favor of a focus on the product's capability.[86] Thus, case by case, bit by bit, the de facto and the de jure standards for secondary liability diverged, to the point where the Sony doctrine has evolved to merely a starting point for discussion from which the final conclusion is likely to differ.

Courts' responses to the rise of peer-to-peer technology[87] at the turn of the third millennium intensified this trend further converting Sony's doctrine to an intangible anchor that was too lenient to apply to peer-to-peer technologies. At times, courts have found secondary liability to be not merely an important tool to assist in copyright enforcement in the peer-to-peer realm but rather the exclusive way to impede infringement.[88] The Ninth Circuit's decision in Napster,[89] the Seventh Circuit's decision in Aimster,[90] and above all the Supreme Court's decision in Grokster[91] typify this trend.

In Napster, music copyright owners sued the pioneer file-sharing service for disseminating a software program predominately used to exchange copyrighted music files.[92] Napster's site never hosted any copyrighted content itself. It indexed files that were residing on users' hard drives and provided the software that enabled ***126** their copying and sharing.[93] Thus, the plaintiffs raised no claim of direct infringement against Napster, but rather sued for contributory and vicarious liability.[94] In its defense, Napster argued for the application of the Sony safe harbor.[95] Along the same lines as Sony's defense in that case, Napster emphasized its capability for substantial noninfringing use, namely, transfer of non-copyrighted files, authorized transfers, and promotion of new artists.[96] The district court rejected the argument, focusing on the actual infringing uses of Napster.[97]

The Ninth Circuit, on appeal, affirmed the preliminary injunction, yet departed from the district court's reasoning.[98] The court reinterpreted Sony narrowly in two aspects. First, it created a distinction between services and technologies, and posited that in the former, Sony merely precluded contributory liability based on constructive knowledge.[99] Thus, the court found that the plaintiffs would likely prevail on the contributory infringement claim. Second, the court ruled that Sony is inapplicable in the context of vicarious liability, and accordingly found that success was likely on the vicarious liability claim as well.[100]

Looking back, Sony itself may have not have escaped secondary liability under that strict reading of the Sony standard.[101] Looking ahead, in order to increase copyright enforcement, the Napster case substantially reduced the Sony safe harbor, precluding its application to services and to cases of vicarious liability.[102]

The Sony safe harbor was eroded further in the Aimster[103] case. Aimster was a file-sharing service, which operated in Instant Messaging frameworks, essentially ***127** allowing simultaneous users of chat rooms to swap files.[104] Following the Napster decision, Aimster filed for declaratory relief of its legality, and the Recording Industry Association of America (RIAA), together with various record companies and copyright owners, filed a countersuit for contributory and vicarious infringement.[105]

Akin to Napster, Aimster argued, inter alia, for the application of Sony; and akin to Napster, this argument was rejected. The district court distinguished Sony on two grounds: first, on the lack of substantial actual noninfringing use;[106] second, on the distinction between a discrete product and an ongoing service.[107] Noticeably, this analysis does not correspond to Sony's de jure standard, which is based on the capability of a technology of noninfringing use. It resembles two other familiar lines of analysis: that of Napster and that of the Sony dissent.[108]

The Seventh Circuit, on appeal, affirmed the judgment, though on a different basis.[109] The court rejected Aimster's argument that it was unable to identify infringing conduct due to the encryption built into its code, viewing the encryption as "[w]illful blindness."[110] Furthermore, the Seventh Circuit held that an ongoing service would be entitled to the Sony safe harbor only if no alternative design for the service was available at a reasonable cost.[111] This requirement originates in the general tort law of secondary liability, but the Sony majority did not adopt it, though it was offered in the dissent.[112]

***128** Aimster, like Napster before, created obstacles that go beyond Sony. Each of these opinions chipped away at Sony's doctrine from a different angle, and it has become impossible for future innovators to piece a comprehensive standard together. For example, Napster interpreted Sony as granting lesser protection to services than to products, while Aimster applied Sony equally to both.[113] On the other hand, Aimster applied the requirement to reduce the harm to plaintiffs and the willful blindness theories, while Napster imposed no such constraints.[114] Future innovators, however, cannot predict a future lawsuit's jurisdiction and so must be aware of the different standards. The Sony standard has become even vaguer, with

varying definitions and fluid boundaries.

In 2005, the Supreme Court handed down its unanimous decision in Grokster.[115] While Grokster could have cleared up the aura of ambiguity, it instead reinforced the transition of the law to an open-ended, unpredictable standard, driving legal uncertainty to a higher level.

In Grokster, the defendants' distribution of free file-sharing software led to a secondary liability suit by music and movie copyright owners.[116] However, unlike their predecessors, the defendants Grokster and Streamcast utilized no central servers whatsoever, and their sites did not index file names.[117] Rather, their sole contact with the user was at the point of downloading the software.[118] Accordingly, in the district court and in the Ninth Circuit, the defendants were granted summary judgment based on the Sony safe harbor.[119]

The Supreme Court, however, vacated the Ninth Circuit's judgment.[120] Though outwardly upholding Sony, the Court was reluctant to apply it to the crux of ***129** the matter because of the egregious conduct of the defendants.[121] Such conduct included advertisements comparing the service to the illegal Napster and showing availability of copyrighted works, internal materials indicating intent to allow copyright infringement, advertisement revenue dependency (a model based on large volume of users), and absence of any filtering mechanism.[122] Tying these factors together, the court concluded that they amounted to inducement of copyright infringement, and denied the defendants the application of the Sony doctrine.[123]

Not only did Grokster not help to clarify the law that preceded it, it is also open to various interpretations itself. While one view holds that inducement liability is a subspecies of contributory liability,[124] another view sees it as a third, independent doctrine alongside contributory and vicarious liability.[125] Further, the status of products actually used for infringement remains unclear. Under one interpretation of Grokster, intention that the product will be used for infringement may suffice for liability to attach.[126] A narrower interpretation finds that active steps to encourage infringement are required to establish liability in addition to the provider's intent.[127]

Commentators are likewise divided over the interrelation between Sony and Grokster. On the surface, the immediate effect of Grokster was the creation of an exception to Sony in cases where the provider induces infringement.[128] However, ***130** the facts of the cases undermine that supposedly obvious reading. Indeed, the Court in Sony could have concluded that the defendant engaged in inducement had it found such a discovery relevant.[129] As Justice Blackmun pointed out in his dissent, Sony openly sponsored advertisements calling for the recording of programs and the creation of private video libraries for multiple viewing.[130] Nonetheless, the important factor in Sony was not the manufacturer's intent, but rather the character of the product itself.[131]

Perhaps the single most blatant deviation of Grokster from Sony is the shift of focus from the capabilities of the technology to its actual use. Justice Breyer concluded that Sony does not apply to technologies actually used "almost exclusively" for infringing purposes,[132] and Justice Ginsburg precluded technologies that have "overwhelming use" for infringement.[133] Although this deviates from the Sony doctrine as it is widely understood,[134] Sony itself did discuss the actual use of the VCR as well, concluding that it was primarily time-shifting, and thus fair use.[135] This left some doubt about whether Sony itself really applied the rule it announced regarding merely potential uses. Whatever the case may be, Grokster has a vital role in re-carving the boundaries of the Sony doctrine and crafting an open-ended liability standard.

***131** The open-ended nature of the secondary liability standard renders it difficult, if not impossible, to predict the results of future cases or even the theories upon which they would be decided.[136] Interestingly, both the courts and Congress (as shown below) not only avoided explicitly challenging Sony, but also outwardly emphasized its importance as a safe harbor that assures innovation is not hindered by the copyright laws.[137] At the same time, the Sony safe harbor never has been fully applied or clearly defined, and subsequent measures added qualifications eroding it and reshaping its boundaries. The net result of the judiciary process is a de facto open-ended standard for secondary liability, as each case and act developed a theory of its own regarding the meaning of the Sony doctrine.

3. The Role of Congress in Crafting an Open-Ended Standard

While the secondary liability standard is principally judge-made, Congress has also extensively regulated it. The mosaic of acts and regulations, the formation of the legislation (often a compromise between different industry players),[138] and the fact that the legislation only partially corresponds to the judicial standards add to the complexity and uncertainty that characterizes the law.

Indirect liability found its way into legislation by implication when Congress amended the 1976 Copyright Act to apply liability not only to actual infringers but also to those who authorize infringement.[139] Legislative history shows that Congress designed this addition specifically to acknowledge contributory infringement.[140] It further reveals that the Judiciary Committee considered and rejected a proposition to abandon vicarious liability, effectively sustaining the case law on ***132** this topic as well.[141] Notably, however, the Committee, caught in the paradigm of the traditional model of ballroom or night club, did not envision the technology provider model, which poses different challenges for copyright secondary liability as elaborated above.[142]

Driven by interest groups from both sides, Congress' involvement in crafting rules pertaining to technologies increased following the Sony decision.[143] The congressional acts that accompanied the rise of the Internet have adopted a rather copyright-protective approach that restricted innovation more than Sony's de jure standard requires.[144]

A congressional attempt to create a safe harbor regime for the liability of technology providers occurred in 1998 with the enactment of the DMCA.[145] However, not only is the DMCA disharmonious with Sony, further weakening its power as a safe harbor, it has also been proved ineffective in offering reliable safe harbors to contemporary technologies that emerged after its enactment.

The DMCA was the result of a study by the Clinton administration and consists in part of a compromise between copyright owners and ISPs, which have become a susceptible target for copyright lawsuits.[146] In essence, the DMCA encompasses dual functions, both affecting technology providers considerably. The first ***133** is what is now § 1201 of the Copyright Act, which sets the "anti-circumvention rule" of devices that copyright owners install to protect their materials.[147] Section 1201 has drawn vast criticism, to the extent that only five years after its enactment officials stated that it would have probably been impossible to enact it at that time.[148] The second is now § 512, and sets the "notice and takedown rule," which protects services from liability, direct or derivative, for monetary damages if they expeditiously block access to infringing materials.[149]

Section 1201 bans the circumvention of technological measures that control access to digital files, the paradigmatically Digital Right Management (DRM) devices.[150] It further forbids the manufacturing of any device designed, used, or marketed primarily to support circumvention or has only limited legal purposes.[151] This definition of illegality evidently covers technologies that are capable of substantial noninfringing uses (if they are capable of such use yet designed primarily for circumvention purposes), and are thus lawful under Sony. As articulated by Lemley and Reese, "[t]he DMCA's anticircumvention provisions expressly rejected the 'substantial noninfringing use' test in favor of one much more generous to copyright owners."[152]

***134** The DMCA's second function, now § 512, offers safe harbors to shield Online Service Providers (OSPs) from liability for copyright infringement.[153] These harbors may apply to some technology providers, but certainly not to all of them.[154] Eligibility for the safe harbors is limited to providers who qualify as OSPs[155] and who meet the following criteria: first, they must apply a policy of termination of repeat infringers; and second, they must apply standard technical measures that protect copyrighted works.[156] If the providers meet these prerequisites, four safe harbors apply, each subject to specific conditions as well.[157] The first harbor, in 17 U.S.C. § 512(a), protects services that are mere conduits for digital transmissions. The second harbor, in 17 U.S.C. § 512(b), shields against liability for temporarily storing online material. A third harbor, 17 U.S.C. § 512(c), applies to services that store data at the direction of a user, such as sites that store users' websites. Finally, the fourth harbor, in 17 U.S.C. § 512(d), protects "information location tools," such as search engines. Notably, the Sony safe harbor, for services that are capable of noninfringing use, is absent from this list of DMCA safe harbors though it preceded the legislation by more than a decade.

Enacted in 1998, the DMCA preceded the peer-to-peer revolution as well as other important technological advances of the new millennium. This fact alone is a source of confusion in its application to contemporary technologies. For example, the law often excludes current technologies, like many peer-to-peer applications, from the DMCA safe harbors either because they do not qualify as OSPs, or because their conduct does not fall under any of the four categories to which safe harbors apply.[158] That exclusion, however, does not reflect a deliberate decision, but rather the obvious lack of predictive powers.

***135** Congress was called upon to intervene after the peer-to-peer revolution as well, initiating new acts, though most of them did not directly influence secondary liability.[159] Following the district court's Grokster decision, Congress attempted to legislate "inducement infringement," and to impose liability on technologies that can be viewed as encouraging copyright infringement.[160] The Computer and Communications Industry Association and the Consumer Electronics Association opposed

these efforts and this bill is still in the pipeline of Congress.[161]

The above legislative acts, as well as other statutes, which directly or indirectly influence technology providers' liability, are only partially harmonious with the judicial standards pertaining to secondary liability.[162] Thus, for example, the AHRA[163] is divorced from the Sony rule, as many of the devices outlawed in the former are certainly capable of substantial noninfringing uses. Similarly uncertain is the relationship between judicial standards for secondary liability and the DMCA, codified at both § 512 and § 1201. While § 1201 virtually ignores Sony, it remains unclear whether compliance with § 512 shields technology providers from ***136** liability stemming from the Napster, Aimster, and Grokster theories.[164] While technology companies claim that DMCA compliance entirely shields them from liability, copyright owners often view the judicial standards as a parallel, alternative basis for litigation.[165]

The case law is not settled in this regard. In California, Columbia Pictures Industries et al v. Fung held on summary judgment that technologies that induce copyright infringement are, categorically, not eligible for the DMCA safe harbor.[166] In Viacom International Inc. v. YouTube, Inc., a New York district court granted summary judgment for YouTube, holding that it complies with the notice and take-down mechanism of the DMCA,[167] and is immune from liability.[168] While it remains to be seen how the case fares on appeal, the case distinguished Grokster as irrelevant to a case where defendants are entitled to DMCA protections.[169]

To be sure, there is nothing problematic per se about Congress making changes to the law after the Sony decision, especially when Sony itself implied that Congress may reconsider the balance the court sets.[170] Yet the fact that Congress has made these changes while outwardly upholding Sony, yet in fact deviating from its path, is what gives rise to possible confusion and to the distorted market described below.

***137** The net result of the law is an open-ended liability rule, which entails no clear boundaries for liability. Both judges and legislatures have diminished Sony, the de jure primary safe harbor. The law has become a collage of standards whose applications are uncertain and to a large part, circuit-specific. As analyzed below, from the point of view of market players, this open-endedness translates into uncertainty and creates a distorted reaction to the law that places copyright enforcement--the very goal of secondary liability--at critical risk.

III. The Ineffectiveness of the Open-Ended Secondary Liability Standard

A. The Dichotomous Reaction of the Market to the Law

The shift from a supposedly safe harbor regime to an open-ended standard had a twofold effect. First, it expanded the scope of liability to reflect lawmakers' attempts to strengthen copyright enforcement. Second, it added a dimension of vagueness to secondary liability law and made it a patchwork of standards, arrangements, and specific laws--partially parallel, partially congruent to each other. Thus, the big promise of the Sony rule--to render innovators immune from liability based on circumstances that are not under their control--became the first casualty of the new legal environment.

In the marketplace, innovators developed two alternative reactions to this reality. The first was to behave over-protectively: obtain a license from copyright owners even if legally unnecessary and take down content uploaded by users even if its infringing nature was uncertain or unlikely.[171] The second course of action, principally taken in the peer-to-peer arena, was to routinely continue the unauthorized use of copyrighted materials while making it complicated or costly to identify the operation and take legal action against it--usually by means of decentralizing, encoding, and shifting operations abroad.

While the first path points to the distortion of the traditional balance between copyright owners and users, the second sheds light on the ineffectiveness of this standard in coping with digital infringement via alterative platforms, such as peer-to-peer networks. As analyzed below, this polarized effect renders the goals of secondary liability unfulfilled.

***138** 1. The Risk-Minimizing Path and the Cost of Overcompliance

Conventional wisdom says that uncertainty tends to induce actors into being overly cautious.[172] When the scope of legal risk is not clear, even risk-neutral actors tend to overcomply by avoiding actions that may draw them into court.

James Gibson persuasively describes the chronicle of overcompliance in copyright-based industries and its influence towards an accretive expansion of copyright entitlements.[173] According to Gibson's analysis, the ambiguity of copyright law, together with the high penalties it entails, motivates rational players to license content from copyright owners even if--as a matter of law--they are entitled to use the content without a license.[174] This repetitive behavior has created a market practice that influences successive legal analyses to view the uses covered by licenses as if actually covered by the positive copyright law.[175]

Although Gibson focuses on direct liability and on the market of derivative works, his analysis is applicable in the context of secondary liability of technology providers. Imagine an entrepreneur who reasonably fears that her content-neutral technology will actually be used, inter alia, for infringing purposes. Creating the technology requires a vast investment of money, time, and energy for several years. The process may be accompanied by risk-averse investors whose principal incentive is to return their investment and who also possess some decision-making power over the project.[176] The entrepreneur's lawyer advises her that a successful secondary ***139** infringement lawsuit may lead to injunction[177]--the ultimate end of the entire project. The lawyer will be less certain of the likelihood of success of such a lawsuit,[178] but this does not matter that much. Litigation itself may terminally delay the project and substantially increase its cost.[179] In such a scenario, the entrepreneur may well prefer to err on the side of over-compliance by licensing content from copyright owners, or otherwise create a stake for them in the project in order to avoid litigation.

The likelihood of an actor behaving over-cautiously is a function of various conditions. First is the probability that the technology actually will be used for infringing uses, and that such uses will be detected. A higher probability increases both the chances of litigation and the innovator's inclination to over-comply. Second, high upfront costs of the project may push innovators towards a risk-minimizing course. Indeed, high sunk-costs, i.e., resources that providers already incurred and cannot recover, will discourage the innovator from risking the project, and spur her to appease potential copyright-owner plaintiffs beforehand. Perhaps most significantly, innovators who have deep pockets are much more likely to adopt a risk-minimizing approach, as they are more likely to face a lawsuit and be found liable.[180]

A number of factors intensify this behavior in copyright-intense markets. First and foremost, litigation in the technological realm may have extremely devastating consequences for defendants. The implications of a successful copyright lawsuit can be completely destructive to a project,[181] drastically increasing the risk ***140** litigation presents.[182] Moreover, even if such a lawsuit eventually proves to be unsuccessful, in the competitive and rapidly changing technological market, a delay in launching a project may prove to be an insurmountable barrier to the project.

Second, dominant market figures are often simultaneously present on both sides of the divide. Sony, for example, is a giant technology company, and yet--through its subsidiaries--it is also deeply involved as a copyright owner in the music and film industries.[183] Similarly, technology companies are often interested in the expansion of the copyright scope that protects their software[184] and are not enthusiastic about promoting policies that would protect technologies if these technologies may ultimately put their products at risk.[185] This phenomenon reinforces the inclination of such companies to be overly cautious, fearing harm to themselves if they help trim down copyright in favor of technology.

Finally, this process is self-perpetuating. It is well established that in the absence of clear legal norms, market players tend to interpret a legal standard using market norms and behavioral regularities.[186] Thus, the more technologies behave over-protectively of copyright law, the more likely it is that other companies will follow suit.

Examples supporting the above analysis of over-compliance abound. Players in copyright-based industries--especially those who have deep pockets, whose products are prone to infringement, and who incur considerable upfront costs-- dominantly pursue a risk-minimizing track. In recent decades, this strategy has often come into play through profit-sharing models between technology providers ***141** and copyright owners, that exceed the legal requirements. Thus, prior to launching technologies whose use is expected to involve copyrighted works, technology companies have entered deals with copyright owners in order to minimize the risk of secondary liability litigation. Further, they employed mechanisms to filter out copyrighted works.

In 1999, TiVo involved Hollywood in its digital video recorder (DVR) project from the very beginning, by raising capital from and splitting commercial revenues with them.[187] This path was pursued although the regular uses of the DVR have probably been time-shifting (or perhaps space-shifting) and thus may be fair use.[188] At the very least, the DVR most likely would have been found legitimate under Sony, as it was at least capable of substantial noninfringing use such as time-shifting. However, TiVo preferred to go hand-in-hand with Hollywood and not risk litigation.[189] This case is especially

interesting because the market provides us with a control group: TiVo's competitor, ReplayTV. ReplayTV pursued a different path; it did not negotiate a license from Hollywood, and included applications such as commercial-skipping and content-sharing.[190] The foreseeable lawsuit against ReplayTV was not long in coming,[191] and ReplayTV, which based its defense on Sony, ***142** fatefully went bankrupt during the proceeding--in large part due to lawsuit expenses.[192] Indeed, the risk that TiVo's risk-minimizing path prevented was not the loss in court, but rather the litigation itself, which proved destructive in the case of its competitor, ReplayTV.

More recently, Apple, reasonably assuming that consumers would likely use its iPod for unauthorized copying,[193] faced a similar dilemma. Apple could have sought shelter behind Sony to claim that a substantial, perhaps even the primary function of the iPod is space-shifting and thus noninfringing.[194] Instead, Apple splits the revenue pie with record labels and media giants. While not sharing the revenues from the device itself, Apple operates the iTunes music store, which it claims generates minimal revenue for Apple,[195] and avoids litigation over the legality of the music player itself.[196] This co-operation has led to further collaboration between Apple and the big record companies, who are now launching Cocktail--a ***143** mutual project that will add interactive features to the albums sold on iTunes.[197]

MySpace agreed to a comparable deal in 2008, spinning out its MySpace Music service as an independent joint venture in partnership with three of the "big 4" record labels.[198] The fourth, EMI Group, is expected to join the venture at a later time.[199] MySpace was a harder nut to crack--the prospect of a hypothetical lawsuit did not pull it into a risk-minimizing path.[200] An actual secondary copyright infringement lawsuit that Universal filed against MySpace in 2006, and was settled and dropped during the transaction talks, pushed the deal forward.[201]

Likewise, YouTube reportedly reached deals with leading copyright holders that provide for sharing of advertising revenues.[202] Google has further developed a filtering mechanism for YouTube to screen out copyrighted works, despite YouTube's own view that liability would have been negated had the issue actually come to court, as YouTube is covered under § 512.[203]

Alternatively, and perhaps more regretfully from a societal point of view, other technologies preferred to completely abandon their intended projects rather than ***144** risk litigation. The lawsuits against RecordTV[204] and Scour,[205] for example, pulled the plug on these initiatives,[206] fulfilling scholars' gloomy predictions of a chilling effect on innovation.[207]

An additional variant of the risk-minimizing behavior is the alignment of various services' policies towards user-generated content with the interests of copyright owners. The fear of litigation drove services to err on the side of over-protection, religiously applying the DMCA take-down policy, and taking down any user-generated content accused of being infringing.[208] Even the 40th anniversary video of my in-laws was taken down from YouTube because of the music played in its background. Services diligently cut off users who receive multiple claims.[209] Indeed, services take all the measures required to be certain to fall under the DMCA safe harbors. Such a policy has generally been implemented by "[e]very Internet company in the United States that deals with content of third-party users--companies such as Amazon, AOL, CNN, eBay, Facebook, Google, MySpace, YouTube, and numerous startups aspiring to become just as successful."[210] As Edward Lee has observed, "it would be foolish, if not a breach of corporate fiduciary duty, for any such company not to do so."[211]

The DMCA notice and take down mechanism is vulnerable to manipulation. Manifestly, in 2009, Warner Music Group strategically amplified DMCA notices-- even on obvious fair-use materials following a licensing quarrel with YouTube.[212] ***145** On another rather famous occasion, Universal Music Group demanded that YouTube take down a video of a dancing baby.[213] This time, the baby's mother, who uploaded the music, sued Universal and prevailed in the preliminary stages.[214] Most users, however, do not sue nor even protest the removal of their materials, and when they do sue they do not sue the service provider but rather the copyright owner who initiates the take-down notice. The asymmetric risk of litigation has structured a distorted incentive system for services to be more concerned with copyright infringement than with users' interests in legitimate use of copyrighted materials.

Moreover, it has become standard for services to develop, install and run filtering mechanisms of their own.[215] As a matter of law, however, copyright owners bear the responsibility to identify copyrighted materials that they want removed.[216] Indeed, there is no affirmative duty for services to take any filtering measures themselves, unless there is a "red flag" ,[217] and services are only obligated not to interfere ***146** with copyright owners' efforts to identify or block the access to their works.[218]

Over-cautiousness to copyright protection may often be unfavorable. Filtering mechanisms bear the risk of jeopardizing fair use, since filters cannot accurately distinguish copyright infringement from legitimate uses of copyrighted material for fair

use purposes.[219] In addition, transactions between copyright owners and technology companies, though probably brilliant from a risk-analysis perspective, entail negative externalities and may be detrimental from a broad-spectrum point of view. While transactions in the free market are thought to promote efficiency, this is not the case with transactions that stem from legal uncertainty and are entered into simply because the parties cannot reasonably assess the risk of litigation or identify the cases in which liability does not arise. In fact, such transactions may distort otherwise efficient market behaviors.[220]

The straightforward risk pertaining to these transactions is their implications on those who are not invited to the negotiation table in the first place. Specifically, the incentives to over-protect copyrights, both by over-licensing and by undue management of user-generated material, carry sizable costs to the interests of end-users. First, paid services are likely to raise their service price to reflect the cost of the license they acquire from copyright owners. Such a price hike may place access-barriers and result in a suboptimal number of users.[221] Setting an entry point for users via secondary liability copyright liability is undesired for both users and copyright owners. For users, the centrality of digital services as platforms for social and cultural involvement renders exclusion from them severely harmful. For copyright owners, the further this exclusion goes, the more appealing and morally accepted alternative, illegal services appear.[222]

***147** Furthermore, with regards to the second variant of the risk-minimizing path, commentators have already warned against the impediment of free speech and creativity under the limits of copyright law resulting from the censorship on speech that incorporates copyrighted works.[223] Expanding censorship beyond the defined limits of the law is not desired.[224] The more speech-enabler companies are motivated to censor excessively users' speech, the greater the harm to free speech becomes. Yet, the open-ended standard for secondary liability provides the very incentive for companies to do just that, even when censorship is not required by pure copyright law.

An additional, often overlooked implication of these transactions is their influence on the balance of power within copyright-based industries. Deals involving leading technology companies empower those who are parties to such deals (typically industry giants) over other industry players (usually indie labels, small, independent studios, and authors themselves).[225] By overemphasizing the interests of the already influential players, such deals reinforce the current power structure in copyright-based industries, often to the detriment of authors and other less fortunate groups.

***148** The music industry provides a typical example of the detrimental nature of these transactions to artists. As is gradually becoming apparent, standard record contracts grant musicians extremely unfavorable conditions.[226] While internet technologies have been viewed as an "escape route" for musicians from these contracts and from relying on record labels, by opening up alternatives for distribution,[227] transactions between leading technologies and record labels spur musicians to stay under these detrimental contracts, thus reinforcing the traditional balance of power within the music industry against the artists themselves.

Perhaps unsurprisingly, the more expensive, restrictive, and displeasing that authorized services become, the more lucrative the option to engage in illegal services appears to users. As shown below, to the frustration of copyright owners, there is no shortage in such services. Therefore, paradoxically, the increasing grip of copyright owners on technology markets also becomes the driving force for the unauthorized markets that they attempt to stifle.

2. Legal Escapism and the Futility of Efforts to Reduce Digital Infringement

As described above, the enhanced liability for secondary infringement, combined with considerable legal uncertainty, drove companies to avoid projects that involve unauthorized use of copyrighted material, even when, in pure legal terms, such avoidance is unnecessary. Other market players took the opposite route. Most ***149** dominantly, driven by the enormous demand in the market, file-sharing services continue their unauthorized activities while adopting sophisticated measures to avoid potential legal consequences. Although peer-to-peer file-sharing is emblematic of this trend, other services, such as file hosting, blogs, and Internet sites, pursue this path as well.[228]

If one's source of information is the annual reports of the International Federation of the Phonographic Industry (IFPI) or the RIAA, she may have the impression that the fight against peer-to-peer services may have actually borne fruit. Indeed, after the issuing of the Grokster decision, courts and copyright owners compelled various file-sharing services, including BearShare, eDonkey, and SoulSeek to meet the demands of copyright owners, to settle for high dollar amounts, and ultimately to cease their operations.[229] Building on that claimed success against peer-to-peer services, copyright owners pushed for the creation of "legit" (i.e., RIAA-MPAA-authorized)[230] file-sharing services based on a pay-per-download system instead of a free scheme. A number of services, including IMesh, BearShare, and--most remarkably--Napster, transformed

into smaller-scale legit operations following secondary liability lawsuits.[231] Other networks, such as FurthurNet, proactively acquired copyright owners' authorization without first being sued.[232]

***150** Indeed, at present, only two large unauthorized peer-to-peer services remain operating in the United States: LimeWire and BitTorrent. A recent court case has declared the former illegal.[233] As to the latter, copyright owners worldwide are fighting BitTorrent trackers[234] that are being used for infringement.[235] At first blush, it may appear that the open-ended secondary liability standard has achieved the desired effect of strengthening digital copyright enforcement.

A deeper examination reveals, however, a diametrically opposed reality. Apparently, though efforts to combat it have consistently continued, the file-sharing phenomenon has not only persisted but has significantly proliferated. Indisputably, the number of users in peer-to-peer networks steadily and substantially increased, concurrent with the expansion of the secondary liability rule.[236]

This is not to say that the nature of file-sharing has not been affected by the open-ended secondary liability rule. It has in fact, been tremendously affected. The impact, however, did not follow the path that copyright owners and lawmakers delineated for it. Instead of stifling the incentive for creation of file-sharing services, the law incentivized such service providers to transform in order to keep operating despite the enhanced liability. The transformation has taken two main forms: functionally, systems have incorporated liability-escaping features into the technology itself; structurally, much of the operation has shifted to small, short-lived companies ***151** or to overseas locations, still enabling access to an increasing volume of users globally.[237]

Functionally, file-sharing services have developed various liability-escaping channels. Some networks, such as BitTorrent, have decentralized their operations, thus complicating detection of infringement.[238] Others, such as DirectConnect, WASTE, and AllPeers, have created closed, encrypted peer-to-peer circles for groups of friends.[239] Other means are employed by technologies such as MUTE and Freenet, which transfer content through a number of intermediate points in order to obfuscate its source and protect users' anonymity.[240] Peer-to-peer users can further use programs such as Tor,[241] which protect anonymity of online activity by obscuring IP addresses.[242] Paradoxically, these modifications only complicated copyright enforcement on both direct and indirect infringers, the facilitation of which constituted the justification for indirect liability in the first place.[243]

These functional evolutions do not come without costs. Services have been led by legal considerations to adopt inferior functions--a phenomenon termed by Niva Elkin-Koren as the "dialectic relation between liability rules and design."[244] An example of this pattern is Napster's abandonment of its search mechanism ***152** based on indexing songs, in favor of passing a search request throughout the network in current services.[245] Despite being significantly more efficient in time and resources, Napster's mechanism had the service itself more involved in the process, and therefore more vulnerable to liability. Newer networks have abandoned this mechanism.

The second impact the law has had on the file-sharing market, as mentioned above, is structural. Here, the file-sharing market has undergone a process of relocation overseas[246] and is shifting to operating through small, thinly-resourced companies.[247] This shift should not come as a surprise. Developing unfiltered peer-to-peer software is well within the capabilities of small offshore companies, or even within the capabilities of individual hobbyist programmers. As noted in a report by the Electronic Frontier Foundation (EFF), "After all, a college student was able to create Napster in mere months, and BitTorrent was largely the handiwork of one unemployed software developer working in his spare time."[248] The open source code--basis of many of these services--renders it rather common to see a service shut down and a new-but-old one emerge soon thereafter.[249] Such moves place only minor barriers for users to access the services. They do, however, render any enforcement an unlikely dream.[250]

The reaction of the peer-to-peer community to the 2009 Swedish ruling against The Pirate Bay, the world's largest BitTorrent tracker at the time, reflects a prominent example of such a structural effect. The Swedish court held that The Pirate Bay was secondarily liable for the transfer of numerous copyrighted files between ***153** its users.[251] Not only did The Pirate Bay itself refuse to cease its operation after the ruling,[252] but the ruling did not lead to any decrease in infringement industry-wide. Within the peer-to-peer community, the point of failure the lawsuit revealed was the centralized structure of the trackers' configuration, which led to excessive dependence on The Pirate Bay. From this point of view, the solution is to divide the task of free torrent traffic between a number of services already lining up to share The Pirate Bay's mission.[253] Moreover, BitTorrent methods that do not rely on trackers, such as DHT, PEX, and Magnet Links, are rampant and may prove to be the future.[254] Users can--and do--continue their actions nearly undisturbed. Law enforcement measures, on the other hand, are

desperately disturbed by the further decentralization of the market, which renders enforcement extremely unlikely.

Even the "success stories" of copyright litigation and settlements have a different narrative within the peer-to-peer community. Although copyright owners view the formation of legit peer-to-peer services as a strategic success, web traffic analyzers indicate that the volume of activity is exceptionally low.[255] Likewise, it has been suggested that the eDonkey service was already dying when the RIAA "killed" it; and eMule and its variants began supplementing eDonkey by the time ***154** the agreement with the RIAA was reached.[256] Thus the agreement had little, if any, practical effect. Moreover, various Internet sites still host free versions of BearShare and KaZaA, and though not actively maintained, their software is used to pirate music--perhaps at this very moment. Even Grokster, despite the legal commotion it created, was not perceived as a substantial loss to the peer-to-peer society.[257] Throughout its years of operation, Grokster was regarded as a second-rate service due to its extensive use of spyware and adware and it attracted fewer users than competing services. One commentator described the Grokster decision as finally taking "[t]his menace . . . out of its misery."[258]

The development of file-sharing into a "shadow industry" does not benefit society. It drives good minds to the unproductive course of liability escapism, leads to an absence of responsible players from the field, and criminalizes otherwise law-abiding citizens,[259] all without any sign of improvement in coping with the enforcement crisis of digital infringement.[260]

The open-ended secondary liability standard discourages responsible and law-abiding players from autonomously creating technologies that may involve copyrighted content, while leaving the wrongdoers intact. In fact, this liability standard and the risk-minimizing front it created indirectly strengthened enforcement challenges ***155** by driving technologies and users that resist over-compliance to hunt for alternatives, which they found in the legal escapism path. On the whole, this polarized market reaction is an anomaly that proves the law has failed in its main role: to adequately direct the conduct in the market.

B. The Ineffectiveness of the Open-Ended Secondary Liability Standard

All told, the open-ended standard for secondary copyright liability has created a distorted online market for copyrighted works with costs reflected in the suboptimal level of enforcement on the one hand, and in the yielding of individuals' rights and other societal interests on the other. To complete the analysis from a normative standpoint, this Part examines the effects of the secondary liability standard on the realization of the goal of secondary liability--namely, to promote the effective and efficient enforcement of copyright law.

Secondary liability is perceived to be an effective enforcement vehicle for three main reasons. First, it can provide a more cost-effective mechanism for litigation in place of suing countless unknown direct infringers. Second, it can provide an effective compensation system for defendants through the deep pockets of secondary infringers. Third, it can utilize potential secondary infringers as gatekeepers against infringement by direct users. Gatekeepers can either modify their technology to impede infringement (e.g., by filtering out copyrighted content), or utilize the fee charged to users as a means to both compensate copyright owners and perhaps to deter infringement. In reality, however, the market reaction to the open-ended secondary liability standard doomed these objectives and the main goal of effective enforcement to failure.

1. Cost Effectiveness

Probably the most straightforward advantage of a secondary liability rule is that a case against one secondary infringer is simply more cost-effective than a large number of cases against direct infringers.[261] Theoretically, one successful indirect suit renders suing numerous unidentified users unnecessary and kills an infinite ***156** number of infringing birds with one stone.[262] To complete this argument, as analyzed below, the return on a secondary liability ruling assumedly exceeds the return on direct liability lawsuits, as secondary infringers often generate income from the infringement and are further believed to have deep pockets.

On the surface, this cost-effectiveness rationale appears applicable, perhaps even intensified, in the context of digital copyright infringement.[263] Identifying and prosecuting the large and increasing population of individual infringers may well appear cost-prohibitive.[264] Each of these lawsuits comprises two phases: the "John Doe," or ex parte discovery phase intended to reveal the user's identity; and the "named defendant" phase, where the actual suit commences against the individual whose identity was previously revealed.[265] Shifting to secondary infringement liability would simplify the process and render redundant this onerous two-phased litigation process.[266]

In fact, secondary liability litigation is likely to be more costly and time consuming than litigation against individuals, as the suit is more complex and the defendants are more likely to defend themselves in court.[267] While most cases against individuals settle before reaching a trial on the merits,[268] suits against technology ***157** providers rarely settle early.[269] Moreover, as a result of the dynamics of the peer-to-peer market,[270] locating secondary infringers and litigating with them has become-- as in the case of direct infringers--even more complicated and expensive. Such services, if at all registered in the United States, are innumerable, intentionally feeble and short-lived. These characteristics diminished the gap between the cost-effectiveness of direct and secondary liability litigation.

That said, the problem with applying the cost effectiveness argument to the online infringement context is not merely the doubtful cost-effectiveness of secondary liability lawsuits; rather, it is more fundamental. The validity of the cost-effectiveness argument depends on the assumption that a successful suit against a secondary infringer actually eliminates or at least substantially reduces the scope of direct infringements, and consequently, the need to pursue direct infringement suits against end-users. This rationale stands only if the framework of online infringement allowed, at least partially, for substitution of direct infringement litigation with secondary infringement litigation. In reality, secondary liability is not an alternative, but rather an additional procedure, and as noted above, a particularly complicated one. If that is the case, the cost-effectiveness of secondary liability of technology providers is practically undercut.

In fact, as shown above, such a substitution effect is blatantly absent in the context of digital infringement. The enhanced, open-ended secondary liability standard has not reduced the need to litigate direct infringement. Instead, the opposite has occurred. Despite the heavy hand on secondary infringers, the dimensions of digital infringement have grown exponentially since 2001, when copyright owners began litigating against providers of digital technologies.[271] This reality brought ***158** about the need to escalate not only the litigation campaign against secondary infringers but also the campaign against direct infringers themselves.[272] Secondary liability litigation therefore complements, and does not supersede, direct liability litigation.

Moreover, the number of secondary infringers has also increased over this period, and the services developed characteristics similar to those that made direct infringers unpalatable targets for litigation. Thus, as described above, the structural changes in the peer-to-peer industry led to the construction of scores of file-sharing services as a reaction to the destruction of fewer predecessors.[273] Today, these services are almost as numerous, evasive, and feeble as direct infringers, further undermining the case of cost-effectiveness in attaching open-ended secondary liability to technologies that are used for infringement.

The fact that infringement became more difficult via risk-minimizing might drive users to find alternative services in their pursuit of copyrighted works. This ironically strengthens the legal escapism route that the law seeks to defy. Thus, not only has the risk-minimizing route not enhanced the cost-effectiveness, it has also indirectly harmed it.

In sum, beyond the uncertainty of the relative efficiency of secondary liability litigation (in terms of actual litigation costs), the goal of cost-effectiveness appears demonstrably unfulfilled in the context of digital infringement. In fact, the growing number of direct infringers functions as a double-edged sword in the framework of this argument. Theoretically, the high--and growing--number of direct infringers provides a justification for viewing secondary liability as the cost-effective choice for litigation.[274] In reality, however, the fact that this number continues to grow--secondary liability litigation notwithstanding--is compelling evidence that the secondary liability standard has not promoted cost-effectiveness as a tangible outcome.

2. Deep Pocket Defendants

An additional, closely related objective to secondary liability is to place the burden of damages on defendants who are likely to have the ability to pay for ***159** them.[275] If secondary infringers earn money from their activity, it seems fair to follow the monies that were received for their activity. Moreover, direct infringers are often judgment-proof--namely, they lack the resources to pay the damages for their own misconduct.[276] Therefore, going after direct infringers exclusively is likely to fail to compensate plaintiffs and to provide sufficient incentives for users to refrain from committing such misconduct.[277] To a large extent, this argument complements the rationale of cost-effectiveness: beside the high volume of direct infringement, it is the low return on direct infringement litigation that renders it more cost-effective to aim litigation at secondary infringers.[278]

This rationale assumes that secondary infringers have more resources than individual infringers, and therefore is only partially applicable to the framework of online infringement. The supra-compensatory nature of copyright remedies reduces the likelihood that individual defendants will be able to afford the full damages that plaintiffs are entitled to by law.[279] Indeed,

although copyright law entitled copyright owners to statutory damages of up to $150,000 per work infringed,[280] in reality, the majority of the direct infringement cases in the music industry settle for ***160** amounts ranging from $2,000 to $5,000.[281] Larger verdicts may be impossible to collect.[282] In comparison, because copyright owners are not required to prove actual damages in order to recover money,[283] secondary infringement lawsuits and settlements have resulted in large amounts of compensation.[284]

The polarized market reaction that resulted from the open-ended secondary liability rule has had an adverse effect on the chances of extracting money from secondary infringers as well. In general, potential defendants who have deep pockets usually turn to a risk-minimizing track, leaving the litigation platform almost exclusively to small and financially limited entities.[285] However, the current structure of the peer-to-peer market creates a strong incentive for services to become even smaller and more financially incapable. The more the operation shifted to numerous small companies instead of a limited number of responsible, well-financed companies, the more implausible achieving adequate compensation through secondary liability litigation became. Yet, the law has incentivized services to pursue this path. This process renders the rationale of deep pockets increasingly less applicable to the digital infringement context.

Occasionally, the deep pocket rationale can be a valid ground for litigation and can support instigation of lawsuits such as Viacom v. YouTube,[286] as well as tertiary ***161** infringement litigation, such as suits against investors and credit card companies of secondary infringers, which indeed have deep pockets.[287] However, even in those cases, it is important to bear in mind the open-ended liability brought upon by the legal escapism dynamic in the peer-to-peer market, invalidating this rationale in that context. As the price of hardware and storage devices steadily declines, this scenario is not unimaginable in equivalent markets. For example, although Google, YouTube's parent company, is a deep pocket, and so the Viacom v. YouTube case makes sense in terms of this rationale, YouTube is not the only game in town. Yahoo! Video,[288] Revver,[289] and VMIX,[290] to name a few, allow users to upload, store, and distribute videos and embed them in other Web sites. The stricter the copyright policy Google adopts, the stronger the appeal of alternative video sites for users becomes. If over-litigation causes users and services to switch to litigation-safe channels to evade the law, copyright owners may find themselves once again facing a decentralized shadow market with no light of enforcement at the end of the tunnel.

3. Secondary Infringers as Gatekeepers

Perhaps the main appeal for technology providers' liability stems from the perceived function of technology providers as gatekeepers--controllers of passageways that are essential to engaging in infringement.[291] Imposing liability on technology providers for their users' infringement supposedly aligns their interests ***162** with those of copyright owners and encourages them to police their users' conduct.[292]

The first assumption within this framework is that providers can design their technologies to be more copyright-friendly. They can, for example, focus on technologies that do not potentially interfere with copyright. Alternatively, they can design the technologies in a manner that will allow tracking of users' conduct ex post (during or after use) or, even better, that will impede infringement ex ante, such as through filtering out copyrighted materials.[293]

The second assumption suggests that technology providers can serve as cost-spreading mechanisms as well as infringement barriers by raising their service fees to reflect the shifting of the risk of liability from users to the technology providers. Secondary liability would then be equivalent to imposing a tax on the use of the technology, which would redistribute income to copyright-owners.[294] Technology providers can further create a differential fee for users who are assumed to be prone to infringement (perhaps users who have infringed copyrights in the past), thus achieving both a just distribution of the "'tax" and deterrence from misuse of the technology. Obviously, tailoring fees to each user's likelihood of infringement presents prospective costs,[295] and it is unclear what level of proof should be required to identify users as "risky." Some variables, such as age, may appear discriminatory, while deducing risk levels from take-down notices copyright owners ***163** send may be too excessive to serve as a clear indication, given copyright owners' vested interests.[296]

As convincing as they may appear in theory, when these theoretical assumptions are tested in reality, the idyll collapses. Although risk-minimizing players are partially fulfilling gatekeeping functions--policing infringement and distributing wealth to copyright owners--the availability of the parallel legal escapism path renders all these efforts fruitless in the big picture. The main Achilles heel of the gatekeeping aspiration is the existence of alternative, "keeperless" gates for widespread infringement. The more decentralized the digital market is, the wider the breach in the dam becomes. Since lawmakers have generally applied an "ostrich policy" to the nature of the online market, they have failed to notice that instead of effective enforcement, the open-ended liability standard has generated, on the whole, an effect of market substitution.

The expectation that liability would affect the design of technologies has partially been fulfilled among risk-minimizing market players, but it gives an interesting twist on the legal escapism path. As demonstrated by the foregoing discussion, risk-minimizing players implemented copyright-friendly features in their businesses beyond the requirements of the law, such as filtering mechanisms.[297] In at least two cases, liability pushed providers to fully shun projects that affect copyright owners' interests.[298]

Conversely, in the legal escapism realm, efforts were directed toward creating mechanisms to avoid the law rather than to better comply with it. Thus, some entities have implemented migration, encryption, decentralization, and various other mechanisms to protect users' anonymity and to evade the law.[299] Thus, although liability has influenced the design and function of technologies throughout the market, and perhaps has set market-entry points for innovation, this influence took different forms between the two types of affected market players, leading not to the disappearance of infringement, but rather, to a shift of platforms for its execution.

***164** The second gatekeeping function is only partially applicable, even to the risk-minimizing framework. No service I know of scrutinizes prospective clients to determine their 'risk-level' as to copyright compliance, or utilizes its service-fee to regulate users' compliance with copyright law. It is also difficult to observe an increase in overall fees in the absence of data regarding what the prices would have been were it not for liability. In this regard, many services have remained free. As a clear effect, however, services, ranging from social networks to hardware manufacturers to YouTube, have entered deals that redistribute wealth to copyright owners,[300] pointing to the applicability, though confined, of the distributive part of this rationale in the risk-minimizing framework.

In the legal escapism realm, neither function has been assumed. Consider the reaction of the peer-to-peer market to the attempt to apply at least the distributive element of this rationale to the file-sharing market. As discussed above,[301] in a number of out-of-court settlements, copyright owners have converted free file-sharing services to gatekeepers. These services, including iMesh, BearShare, and eDonkey, began to require registration, add content filtering mechanisms, and charge for sharing. Users, for the most part, have simply substituted the modified services for other ones, usually further decentralized services that offer identity-protection. Overall, the peer-to-peer market has not begun to play by the new rules. Infringement never ceased because services have neither allowed the tracking of users nor have they made them pay for file-sharing, as the technologies-as-gatekeepers theory suggests they should. Rather, they have transformed themselves and decentralized to allow the free model to continue undisturbed as much as possible.

This should not come as a surprise. The effectiveness of a gatekeeping policy depends on the gatekeeper's services being necessary for entering the market.[302] At the very least, the cost of entering the market without the gatekeeper's services must be high enough to keep users under the gatekeeper's control despite the costs staying under the gatekeeper entails. This is not the reality in the online infringement context. From a user's perspective, the cost of shifting from a gatekeeper-controlled platform to an alternative one is virtually zero. Alternative services are easy to locate and use, and users incur no considerable shifting costs in the process.

***165** Overall, instead of effective enforcement, the secondary liability regime has led to market substitution as infringement shifted from risk-minimizing services to services of the legal escapism dominion. The more copyright-aware gatekeepers have become, the more appealing their alternatives appear to users. Today, if a movie is unobtainable on YouTube, it is likely available on eMule. If iTunes' price-scale or inventory is unsatisfactory, BitTorrent and various other platforms offer the full version of virtually every musical piece for free. If an e-book on Amazon comes protected by burdensome DRM, it is often available free of charge and free of DRM on RapidShare, a German file-hosting company based in Switzerland.[303] While unauthorized use of copyrighted materials has become difficult or risky through established companies, alternative routes still provide an easy, accessible, and morally accepted[304] haven for infringement. This market substitution explains the escalation of the infringement scale despite copyright owners' efforts to put gatekeepers in place.

This is not to say that, in principle, a secondary liability regime is harmful or unfeasible in the context of digital technologies. The dual path market behavior is not predestined and could have been avoided had the law provided a reasonably predictable standard, as Sony intended to establish. In order to encourage users to obtain services from controllable gatekeepers and discourage the creation of businesses built on the legal escapism model, a more predictable and less complex standard is crucial.[305] Had the law provided a clear standard, established companies would not have been spurred to over-comply at the expense of users' interests; services that almost categorically operate outside of the limits of the law could have found room within the limits of the law. Such a shift would have discouraged users from fleeing to paths that ultimately disregard the law

and could have prevented the snowball of decentralization in the peer-to-peer industry. There is a crucial need for lawmakers to restore certainty and predictability in this realm and to provide clear guidelines to the innovators of today and to those of tomorrow.

*166 IV. Conclusion

Much electronic ink has been spilled over portraying, mourning, or attempting to solve the crisis of copyright enforcement in the digital age. However, the attempt to strengthen enforcement by employing an open-ended standard on the secondary liability of technology providers has been a futile measure, which has resulted in a distorted market for copyright-affected technologies, a surrendering of individual rights, and has showed no sign of coping with the increasing rates of digital copyright infringement.

In reality, instead of enhanced enforcement, applying an open-ended standard for secondary liability of technology providers results in market substitution in which infringement only shifts from one platform to another.

An open-ended standard for third party liability may perhaps be effective in areas that comprise a confined group of players that are defined by territorial boundaries and few alternatives to effective gatekeepers. Technology in a globalized world does not have such characteristics. Therefore, there is a pressing need to rethink the standard for technologies in the secondary liability context and to restore a clear, predictable standard in order for the law to remain viable in an era of rapid technological changes.

Footnotes

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1 See infra Part II.B.

2 See, e.g., Religious Tech. Ctr. v. Netcom On-Line Commc'n Servs., Inc., 907 F. Supp. 1361 (N.D. Cal. 1995).

3 See, e.g., Universal City Studios, Inc. v. Corley, 273 F.3d 429 (2d Cir. 2001); 321 Studios v. Metro-Goldwyn-Mayer Studios, Inc., 307 F. Supp. 2d 1085 (N.D. Cal. 2004); RealNetworks, Inc. v. Streambox, Inc., No. 2:99CV022070, 2000 WL 127311 (W.D. Wash. Jan. 20, 2000).

4 See, e.g., Kelly v. Arriba Soft Corp., 336 F.3d 811 (9th Cir. 2003).

5 See, e.g., United States v. Elcom Ltd., 203 F. Supp. 2d 1111 (N.D. Cal. 2002).

6 Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 442 (1984).

7 See infra Part II.B.1. The one case that shielded a technology based on the Sony standard was invalidated by Congress later on. Id.

8 Digital Millennium Copyright Act, 17 U.S.C. §§1201-05 (2006).

[9] See infra Part III.B for a discussion of these objectives.

[10] See infra Part III.

[11] See, e.g., Robert A. Gorman & Jane C. Ginsburg, Copyright: Cases and Materials 752-68 (5th ed. 1999) (discussing individual, vicarious, and contributory liability). Also note that some commentators view the inducement theory as a third, independent secondary liability doctrine. See infra note 125 and accompanying text.

[12] See, e.g., Ted Browne Music Co. v. Fowler, 290 F. 751, 754 (2d Cir. 1923) ("Courts have long recognized that infringement of a copyright is a tort."); Lawrence v. Dana, 15 F. Cas. 26, 61 (C.C.D. Mass. 1869) ("[W]hoever invades [copyright] ... commits a tort."); Gorman & Ginsburg, supra note 11, at 782 ("It must always be remembered that copyright infringement is in the nature of a tort.").

[13] Vicarious liability in tort law, for example, is a general name for indirect liability, Restatement (Third) of Torts: Apportionment of Liability §13 (2000), and similarly, "contributory" in tort law usually refers to negligence of the plaintiff, which contributed to her own harm, Restatement (Second) of Torts §463 (1965). See Charles W. Adams, Indirect Infringement from a Tort Law Perspective, 42 U. Rich. L. Rev. 635, 637 n.8 (2008) (arguing that courts should refer to tort law principles when analyzing secondary liability of intellectual property, and conform to them in the absence of persuasive counter reasons).

[14] Gershwin Publ'g Corp. v. Columbia Artists Mgmt., 443 F.2d 1159 (2d Cir. 1971).

[15] Id. at 1162.

[16] See Scribner v. Straus, 210 U.S. 352 (1908); Kalem Co. v. Harper Bros., 222 U.S. 55, 62-63 (1911).

[17] See, e.g., Fonovisa, Inc. v. Cherry Auction, Inc., 76 F.3d 259, 264 (9th Cir. 1996) (discussing the origins of contributory infringement in tort law); Cable/Home Commc'n Corp. v. Network Prods., Inc., 902 F.2d 829, 845 (11th Cir. 1990) (providing a background and a test for contributory infringement); Religious Tech. Ctr. v. Netcom On-Line Commc'n Servs., Inc., 907 F. Supp. 1361, 1373 (N.D. Cal. 1995) (describing contributory infringement); Demetriades v. Kaufmann, 690 F. Supp. 289, 293 (S.D.N.Y. 1988) (laying out the elements of contributory infringement); see also Peter S. Menell & David Nimmer, Legal Realism in Action: Indirect Copyright Liability's Continuing Tort Framework and Sony's De Facto Demise, 55 UCLA L. Rev. 143, 153 (2007) ("[T]he law of indirect copyright liability was firmly established by the 1970's.").

[18] This interpretation was based on Gershwin's reading of previous cases, and the application of this reading later on. See Ellison v. Robertson, 357 F.3d 1072, 1076 (9th Cir. 2004); Casella v. Morris, 820 F.2d 362, 365 (11th Cir. 1987); Gershwin, 443 F.2d at 1162-63.

[19] Ellison, 357 F.3d at 1077.

[20] See Sverker K. Högberg, Note, The Search for Intent-Based Doctrines of Secondary Liability in Copyright Law, 106 Colum. L. Rev. 909, 919-21 (2006).

[21] Perfect 10, Inc. v. Visa Int'l Serv. Ass'n, 494 F.3d 788, 802 (9th Cir. 2007); Fonovisa, 76 F.3d at 261-62.

[22] Shapiro, Bernstein & Co., Inc. v. H.L. Green Co., Inc., 316 F.2d 304 (2d Cir. 1963).

[23] Id. at 307; see Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 930 (2005) (noting that vicarious liability "allows imposition of liability when the defendant profits directly from the infringement and has a right and ability to supervise the direct infringers").

[24] Fonovisa, 76 F.3d at 263-64; see B. Kolsun & J. Bayer, Indirect Infringement and Counterfeiting: Remedies Available Against Those Who Knowingly Rent to Counterfeiters, 16 Cardozo Arts & Ent. L.J. 383, 409-10 (1998) (discussing the holding in Fonovisa).

[25] A & M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir. 2001).

[26] Id. at 1023 ("Napster's future revenue is directly dependent upon 'increases in userbase.'").

[27] See Douglas Lichtman & William Landes, Indirect Liability for Copyright Infringement: An Economic Perspective, 16 Harv. J.L. & Tech. 395, 404 ("[Napster's] analysis seems to blur the line between the requirement under contributory infringement that a culpable party have knowledge of the direct infringement and the requirement under vicarious liability that a culpable party have control over the specific infringer.").

[28] Id.; see Grokster, 545 U.S. at 930 ("One infringes contributorily by intentionally inducing or encouraging direct infringement."). Note that this interpretation omits the prongs of material contribution, causation, or knowledge.

[29] However, note that some view inducement theory as an independent source of liability. See, e.g., Adams, supra note 13, at 649 (noting that "if a manufacturer or distributor intentionally induces another to infringe a trademark ... [they are] contributorily responsible for any hard done as a result of the deceit" (citing Inwood Labs., Inc. v. Ives Lab., Inc., 456 U.S. 844, 853-54 (1982)); Rebecca Giblin, A Bit Liable? A Guide to Navigating the U.S. Secondary Liability Patchwork, 25 Santa Clara Computer & High Tech. L.J. 7, 39-44 (discussing the application of vicarious liability to copyright law) (2008).

[30] See Elizabeth Miles, Note, In re Aimster & MGM, Inc. v. Grokster, Ltd.: Peer-to-Peer and the Sony Doctrine, 19 Berkeley Tech. L.J. 21, 23 (2004) ("Sony was the first and remains the only Supreme Court decision to apply secondary liability to technology ....").

[31] See Joe B. Richardson, The Law of Copyright 5-14 (1913) (discussing the Stationer's Company); see also Edward Lee, Freedom of the Press 2.0, 42 Ga. L. Rev. 309, 309 (2008) (noting that the "[s]tationers ... ran the printing presses in England with the Crown's backing").

[32] See Lasercomb Am., Inc. v. Reynolds, 911 F.2d 970, 974 (4th Cir. 1990) (noting the Stationers' role in the "censorship of Protestant materials").

[33] See Statute of Anne, 1710, 8 Anne, c. 19 (Eng.).

[34] Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 331-32 (S.D.N.Y. 2000).

[35] See Miles, supra note 30, at 23. ("Sony was the first ... Supreme Court decision to apply secondary liability to technology--the capabilities of machines rather than the conduct of people.").

[36] Martin F. Halstead, The Regulated Become the Regulators--Problems and Pitfalls in the New World of Digital Copyright Legislation, 38 Tulsa L. Rev. 195, 210 (2002).

[37] See, e.g., infra Part II.B.2 (discussing Grokster and the underlying technology at issue).

[38] See Lichtman & Landes, supra note 27, at 397 ("The benefits in terms of increased copyright enforcement come at too high a cost in terms of possible interference with the sale of a legitimate product.").

[39] See, e.g., Matthew Fagin et al., Beyond Napster: Using Antitrust Law to Advance and Enhance Online Music Distribution, 8 B.U. J. Sci. & Tech. L. 451, 500 (2002) ("Innovation in the technologies of distribution will decline markedly if potential new innovators are chilled by a threat of legal action or believe they will not be able to attain access to works for their networks."); Mark Lemley & R. Anthony Reese, Reducing Digital Copyright Infringement Without Restricting Innovation, 56 Stan. L. Rev. 1345, 1388 (2004) ("Over and above the direct restrictions on innovation, the threat of lawsuits or criminal prosecutions against innovators is likely to deter a significant amount of innovation, some of which would unquestionably have been legal.").

[40] See Tim Wu, The Copyright Paradox, 2005 Sup. Ct. Rev. 229, 231 (2006) ("How comfortable are we with the federal courts ... using the copyright code to set market-entry policy for new technologies at all?").

[41] Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417 (1984).

[42] Id. at 457 (describing the "introduction of the home videotape recorder (VTR) upon the market").

[43] Sony, 464 U.S. at 421-22.

[44] The lawsuit was filed against Sony Corp., the Sony Corp. of America, Sony's advertising agency, VCR retailers, and a private VCR owner who was included in order to prove direct infringement. Universal City Studios, Inc. v. Sony Corp. of Am., 480 F. Supp. 429, 432 (C.D. Cal. 1979).

[45] Id. at 451.

[46] Id. at 469.

[47] Id. at 442, 456.

[48] Id. at 431.

[49] Universal City Studios, Inc. v. Sony Corp. of Am., 659 F.2d 963, 974 (9th Cir. 1982).

[50] See id. at 974-76 (imposing liability on Sony under the contributory infringement theory only).

[51] Sony Corp. of Am. v. Universal City Studios, Inc., 102 S. Ct. 2926 (1982).

[52] Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 421 (1984).

[53] Sony, 464 U.S. at 434-36 (citing 35 U.S.C. §271(c) (2006), which shields sellers of "a staple article or commodity of commerce suitable for substantial noninfringing use" from liability for contributory infringement of a patent).

[54] Sony, 464 U.S. at 456.

[55] Id. at 454-56.

[56] See id. at 491-93 (Blackmun, J., dissenting).

[57] Id. (calling for remand to allow the district court to issue findings on "the percentage of legal versus illegal home-use recording").

[58] Pamela Samuelson, The Generativity of Sony v. Universal: The Intellectual Property Legacy of Justice Stevens, 74 Fordham L. Rev. 1831, 1850 (2006) ("The most obvious and most commercially significant legacy of Sony is the safe harbor it established for technologies having or capable of having substantial non-infringing uses.").

[59] Jessica Litman, The Sony Paradox, 55 Case W. Res. L. Rev. 917, 951 (2005). Among copyright lawyers and the copyright bar, and clearly the-- Motion Picture Industry, the decision was, however, objectionable. See Jessica Litman, The Story of Sony v. Universal Studios: Mary Poppins Meets the Boston Strangler, in Intellectual Property Stories 358, 382-83 (Jane C. Ginsburg & Rochelle Cooper Dreyfuss eds., 2006).

[60] Sony, 464 U.S. at 439.

[61] See Adams, supra note 13, at 668 ("Had the Court relied on general tort law instead of the patent statute, it would have reached the same result ....").

[62] Peter S. Menell, Indirect Copyright Liability: A Re-examination of Sony's Staple Article of Commerce Doctrine 1 (U.C. Berkeley Pub. Law & Legal Research Working Paper Series, Paper No. 682051, 2005), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=682051 ("Whereas patent law seeks to promote technological innovation ... copyright law seeks to promote cultural and social progress, manifesting a more cautious stance toward technological dissemination, particularly where a technology threatens widespread piracy of expressive works.").

[63] Remarkably, the Staple Article of Commerce Doctrine was not incorporated from the Patent Act into the 1976 Copyright Act, implying a willful omission of this doctrine. See Adams, supra note 13, at 668 ("[T]here is no evidence of any legislative intent for applying the patent statute to copyright law.").

[64] Menell, supra note 62, at 10.

[65] Sony, 464 U.S. at 442.

[66] See, e.g., id. at 435 ("[V]icarious liability is imposed in virtually all areas of the law, and the concept of contributory infringement is merely a species of the broader problem of identifying the circumstances in which it is just to hold one individual accountable for the actions of another.").

[67] Compare In re Aimster Copyright Litig., 334 F.3d 643, 654 (7th Cir. 2003) ("[T]he Court ... treat[ed] vicarious and contributory infringement interchangeably [and] held that Sony was not a vicarious infringer either." (citations omitted)), and Lemley & Reese, supra note 39, at 1356 ("[T]he opinion strongly suggested that its analysis applied to secondary liability for copyright infringement generally and ... would bar using ... vicarious liability doctrine."), with Metro-Goldwyn-Mayer Studios, Inc. v. Grokster Ltd., 380 F.3d 1154, 1164 (9th Cir. 2004) ("Sony-Betamax 'has no application to ... vicarious copyright infringement' because the issue of vicarious liability was 'not before the Supreme Court' in that case." (quoting A & M Records, Inc. v. Napster Inc., 239 F.3d 1004, 1022 (9th Cir. 2001))), and Napster, 239 F.3d at 1022-23 ("[W]hen the Sony Court used the term 'vicarious liability,' it did so broadly and outside of a technical analysis of the doctrine of vicarious copyright infringement.").

[68] See Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 930 (2005) (treating contributory and vicarious liability together).

[69] See, e.g., Menell & Nimmer, supra note 17, at 156 ("In reaching its Sony decision, the Supreme Court turned not to tort law but to patent law. That resolution has produced unnecessary distortion in copyright doctrine.").

[70] Jonathan Band & Andrew J. McLaughlin, The Marshall Papers: A Peek Behind the Scenes at the Making of Sony v. Universal, 17 Colum.-VLA J.L. & Arts 427, 432 (1993).

[71] Id.

[72] Id. at 446-47.

[73] Id. at 448-50.

[74] For example, Justice Stevens's opinion was initially based, not on the doctrine of fair use, but on the theory that private copying is noninfringing. Ultimately, it was amended, inter alia, to incorporate the compromise offered by Justice White and to accommodate Justice O'Connor's position. Id. at 429, 439-47; see Randal C. Picker, Rewinding Sony: The Evolving Product, Phoning Home and the Duty of Ongoing Design, 55 Case W. Res. L. Rev. 749, 752 (2005) ("The internal history of the Sony opinion makes concrete the fundamental ambivalence that the Court faded--and that we still face--about the right way to frame the test in this situation.").

[75] See Menell & Nimmer, supra note 17, at 177-88 (discussing recent secondary liability cases).

[76] Id.

[77] Vault Corp. v. Quaid Software Ltd., 847 F.2d 255 (5th Cir. 1988).

[78] The Vault court ruled for a provider of decryption software for lockout of copied diskettes, as the software could potentially be used for substantial noninfringing purposes. Id. at 262. However, the DMCA now forbids providing unauthorized decryption methods, rendering this case obsolete. Menell & Nimmer, supra note 17, at 174.

[79] Metro-Goldwyn-Mayer Studios, Inc. v. Grokster Ltd., 380 F.3d 1154 (9th Cir. 2004); Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 259 F. Supp. 2d 1029 (C.D. Cal. 2003).

[80] Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 927, 940 (2005).

[81] See Menell & Nimmer, supra note 17, at 184-85.

[82] Id. at 173-88 (cataloging secondary liability cases from 1987-2000 and post-2000).

[83] Id.

[84] RCA Records v. All-Fast Sys., Inc., 594 F. Supp. 335 (S.D.N.Y. 1984).

[85] Cable/Home Commc'n Corp. v. Network Prods., Inc., 902 F.2d 829, 846 (11th Cir. 1990).

[86] A & M Records, Inc. v. Abdallah, 948 F. Supp. 1449, 1456-57 (C.D. Cal. 1996); see also Matthew Bender & Co. v. West Publ'g Co., 158 F.3d 693 (2nd Cir. 1998) (providing refuge to the declaratory plaintiff based on the actual noninfringing uses of the product and not on its potential use).

[87] Peer-to-peer technology uses a distributed architecture in which computers communicate directly with each other, not through central servers. Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 919-20 (2005).

[88] See Grokster, 545 U.S. at 929-30 ("When a widely shared service or product is used to commit infringement, it may be impossible to enforce rights in the protected work effectively against all direct infringers, the only practical alternative being to go against the distributor of the copying device for secondary liability ...." (emphasis added)).

[89] A & M Records, Inc. v. Napster Inc., 239 F.3d 1004 (9th Cir. 2001).

[90] In re Aimster Copyright Litig., 334 F.3d 643 (7th Cir. 2003).

[91] Grokster, 545 U.S. 913.

[92] A & M Records, Inc. v. Napster Inc., 114 F. Supp. 2d 896, 900, 902-03 (N.D. Cal. 2000).

[93] See id. at 905-08 (describing Napster's technology).

[94] Id. at 900.

[95] Id. at 900-01.

[96] Napster's "New Artist" function allowed new artists to post a page in return for allowing users to share their music. Id. at 907.

[97] Id. at 912.

[98] A & M Records, Inc. v. Napster, Inc., 239 F.3d 1004, 1021, 1029 (9th Cir. 2001).

[99] Napster, 239 F.3d at 1020 (quoting Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 442 (1984)).

[100] See id. at 1020-23.

[101] Lemley & Reese, supra note 39, 1357-58.

[102] Napster, 239 F.3d at 1020-23.

[103] See In re Aimster Copyright Litig., 334 F.3d 643 (7th Cir. 2003).

[104] Id. at 645.

[105] Id. at 645-46.

[106] In re Aimster Copyright Litig., 252 F. Supp. 2d 634, 653 (N.D. Ill. 2002).

[107] Id.

[108] In Napster, the court created the distinction between a product and a service. See supra note 99 and accompanying text. In Sony's dissent, the actual use of the technology was examined. See supra notes 56-57 and accompanying text.

[109] In re Aimster Copyright Litig., 334 F.3d 643, 656 (7th Cir. 2003).

[110] Id. at 650-51.

[111] Id. at 653.

[112] See Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 494 (1984) ("Even were an appropriate remedy not available at this time, the Court should not misconstrue copyright holders' rights in a manner that prevents enforcement of them when, through development of better techniques, an appropriate remedy becomes available.").

[113] Aimster, 334 F.3d at 648-49; see also Jonathan Zittrain, A History of Online Gatekeeping, 19 Harv. J.L. & Tech. 253, 278 (2006) (discussing how the Ninth Circuit was careful in how it described Napster).

[114] Compare Aimster, 334 F.3d at 650, with A & M Records, Inc. v. Napster Inc., 114 F. Supp. 2d 896 (N.D. Cal. 2000). It is possible, however, to view the Napster requirement of filtering technology as a requirement to reduce the harm to plaintiffs.

[115] Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913 (2005).

[116] Id. at 919-21.

[117] Id. at 921-22.

[118] Id.

[119] Id. at 927.

[120] Id. at 943.

[121] Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 936-40 (2005).

[122] Id. at 939-40.

[123] Id. at 940.

[124] See, e.g., Perfect 10, Inc. v. Amazon.com, Inc., 487 F.3d 701, 726 (9th Cir. 2007) ("Liability ... may be predicated on actively encouraging (or inducing) infringement ... or on distributing a product distributees use to infringe ....").

[125] See, e.g., Adams, supra note 13, at 636 ("Copyright law has three separate doctrines for third-party liability: vicarious infringement; contributory infringement; and inducing infringement."); Giblin, supra note 29, at 15 ("[I]nducement liability is the newest addition to the secondary liability toolkit.").

[126] Jane C. Ginsburg & Sam Ricketson, Inducers and Authorisers: A Comparison of the US Supreme Court's Grokster Decision and the Australian Federal Court's KaZaA Ruling, 11 Media & Arts L. Rev. 2, 5 (2006), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=888928.

[127] See Wu, supra note 40, at 246-47.

[128] Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd., 545 U.S. 913, 934-35 (2005); see Jane Ginsburg, Separating the Sony Sheep from the Grokster Goats: Reckoning the Future Business Plans of Copyright-Defendant Technology Entrepreneurs, 50 Ariz. L. Rev. 577, 583 (2008) ("Sony standard does not even come into play when the defendant is 'actively inducing' copyright infringement."). The court in Arista Records LLC v. Lime Group LLC, No. 06 Civ. 5936(KMW), 2010 WL 2291485 (S.D.N.Y. May 25, 2010), implemented this view. The court granted summary judgment to the plaintiffs against the file-sharing service LimeWire based on inducement theory, while positing as to contributory liability, that it "cannot determine, as a matter of law, whether LimeWire is capable of substantial noninfringing uses." Id. at 15, 21.

[129] See Litman, supra note 59, at 360-61.

[130] Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 459 (1984) (Blackmun, J., dissenting).

[131] See id. at 442 (ruling that in order to be protected from secondary liability, a product "need[s] merely [to] be capable of substantial noninfringing uses").

[132] Grokster, 545 U.S. at 957 (Breyer, J., concurring); but see id. at 944 (J. Ginsburg, concurring) ("Sony, as I read it, contains no clear, near-exclusivity test. Nor have Courts of Appeals unanimously recognized Justice Breyer's clear rule.").

[133] Id. at 947 (Ginsburg, J., concurring). Justice Ginsburg further rejected the relevance of equivalent technologies, thus placing significantly less focus on potential uses, which can be derived from studying similar products. See id. at 948.

[134] See supra note 58 for more on how Sony is widely understood.

[135] Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 454-55 (1984).

[136] For example, in the case of Warner Bros. v. SeeqPod, record labels argued before a district court in California that the defendant, which facilitates music search for streaming, is not merely a search engine, but rather "an unlawful music service that directly engages in, encourages, and facilitates the mass infringement of ... copyrighted works." Complaint for Direct, Contributory, and Vicarious Copyright Infringement, Inducement of Copyright Infringement, Misappropriation and Unfair Competition at 16-17, Warner Bros. Records, Inc. v. SeeqPod, Inc., No. 08 CV 00335 (C.D. Cal. Jan. 18, 2008), 2007 WL 4837988.

[137] See infra Part II.B.3.

[138] See Jessica Litman, The Politics of Intellectual Property, 27 Cardozo Arts & Ent. L.J. 313, 314-15 (2009) (discussing the various players involved in the drafting of copyright legislation).

[139] 17 U.S.C. §106 (2006).

[140] See H.R. Rep. No. 94-1476, at 61 (1976), reprinted in 1976 U.S.C.C.A.N. 5674 (stating that the insertion was designed "to avoid any questions as to the liability of contributory infringers").

[141] See H.R. Rep. No. 94-1476, at 159-60. ("The committee has considered and rejected an amendment to this section intended to exempt the proprietors of an establishment, such as a ballroom or night club, from liability for copyright infringement committed by an independent contractor, such as an orchestra leader.... The committee has decided that no justification exists for changing existing law, and causing a significant erosion of the public performance right.").

[142] See supra Part II.B.2.

[143] See Joseph P. Liu, Regulatory Copyright, 83 N.C. L. Rev. 87, 88-89 (2004) (arguing that as a general matter, copyright law increased the use of legislative, detailed, industry-specific regulations).

[144] See, e.g., Audio Home Recording Act of 1992, Pub. L. No. 102-563, §2, 106 Stat. 4237, 4240 (1992) (codified at 17 USC §§1001-10 (2006)). Aiming to strike a balance between the competing interests, the Audio Home Recording Act (AHRA) entitled copyright owners (and performers) to royalties for every sale of a digital audio technologies (DAT) device in return for limited rights for users to create first-generation, noncommercial copies for personal use. Id. Importation, manufacture or distribution of DAT devices that allowed second-generation copies was outlawed. Id. This departs from the Sony rule, as the outlawed devices are capable of potentially substantial noninfringing uses, including, for example, recording of noninfringing content.

[145] Digital Millenium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified in scattered sections of Title 17 of the United States Code).

[146] See Niva Elkin-Koren, Making Technology Visible: Liability of Internet Service Providers for Peer-to-Peer Traffic, 9 N.Y.U. J. Legis. & Pub. Pol'y 15, 26 (2006) (discussing the exemptions for ISPs).

[147] 17 U.S.C. §1201 (2006).

[148] See Marybeth Peters, Brace Memorial Lecture: Copyright Enters the Public Domain, 51 J. Copyright Soc'y U.S.A. 701, 711 (2004) ("[I]t would be impossible to enact the DMCA today."). The core critique of the DMCA is rooted in the view that it expands copyright's control beyond the Copyright Act. See Glynn S. Lunney, Jr., The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act, 87 Va. L. Rev. 813, 814 (2001) ("COPYRIGHT is dead. The Digital Millennium Copyright Act ('DMCA') has killed it."); Neil W. Netanel, Locating Copyright within the First Amendment Skein, 54 Stan. L. Rev. 1, 75 (2001) ("The 'paracopyright' provided for under the DMCA expands content provider control over content significantly beyond that which has traditionally [been] obtained under the Copyright Act."); but see June M. Besek, Anti-Circumvention Laws and Copyright: A Report from the Kernochan Center for Law, Media and the Arts, 27 Colum. J.L. & Arts 385, 390 (2004) (emphasizing that the DMCA "includes a 'safety valve'--in addition to several exemptions set out in the law, the Copyright Office can create new exemptions through its rulemaking proceeding").

[149] 17 U.S.C. §512 (2006).

[150] Id. at §1201(a).

[151] Id. at §1201(a)(2).

[152] Lemley & Reese, supra note 39, at 1390. Interestingly, Congress expressed the view that Sony has been preserved in the DMCA. See, e.g., 144 Cong. Rec. H10621 (1998) (statement of Rep. Klug) ("I'm very pleased that the conferees have meaningfully clarified that the Sony decision remains valid law.").

[153] 17 U.S.C. §512 (2006).

[154] See Lemley & Reese, supra note 39, at 1369 ("Some innovators will likely not meet this definition and therefore not be eligible for the safe harbors at all."); but see Jonathon J. Darrow & Gerald R. Ferrera, Social Networking Web Sites and the DMCA: A Safe-Harbor from Copyright Infringement Liability or the Perfect Storm?, 6 Nw. J. Tech. & Intell. Prop. 1, 13 (2007) ("Courts have consistently applied a broad definition to the term 'service provider' to bring within the definition a wide range of entities, including, Aimster, eBay, and Amazon.").

[155] See 17 U.S.C. §512(k)(1) (2006) (defining "service provider"); see also ALS Scan, Inc. v. RemarQ Cmtys., Inc., 239 F.3d 619, 623 (4th Cir. 2001) (noting that the DMCA defines "service provider" broadly).

[156] 17 U.S.C. §512(i) (2006).

[157] Id. at §512.

[158] See Lemley & Reese, supra note 39, at 1369-72 (discussing eligibility for safe harbors). Other legislation that was aimed to regulate technologies in a very specific way suffered a similar fate. See, e.g., Wu, supra note 40, at 231 n.7 (arguing that the AHRA has also been highly irrelevant as a whole).

[159] See, e.g., No Electronic Theft (NET) Act, Pub. L. No. 105-147, §2(b), 111 Stat. 2678, 2678 (1997) (codified as amended at 17 U.S.C. §506 (2006)).

[160] See A Bill to Amend Chapter 5 of Title 17, U.S.C., Relating to Inducing Infringement of Copyright Act of 2004, S.2560, 108th Cong. (2d Sess. 2004).

[161] See The Library of Congress, http://thomas.loc.gov/cgi-bin/bdquery/z?d108:s.02560: (last visited Sept. 15, 2010) (giving a summary and the status of S.2560, discussed in supra note 160); see also Hannibal Travis, The Future According to Google: Technology Policy from the Standpoint of America's Fastest-Growing Technology Company, 11 Yale J.L. & Tech. 209, 212 (2009) (noting that Google joined the Computer and Communications Industry Association and the Consumer Electronics Association in opposing S.2560). For a review of bills concerning DRM in the 108th Congress, some of which have direct influence on the status of OSPs, see Declan McCullagh & Milana Homsi, Leave DRM Alone: A Survey of Legislative Proposals Relating to Digital Rights Management Technology and Their Problems, 2005 Mich. St. L. Rev. 317, 319-20 (2005).

[162] See, e.g., 1984 Record Rental Amendment of 1984, Pub. L. No. 98-450, §2(2), 98 Stat. 1727, 1727 (1984) (codified at 17 U.S.C. §109(b) (2006)) (prohibiting the rental of sound recordings). This law was extended to software half a dozen years later in Computer Software Rental Amendment Act of 1990, Pub. L. No. 101-650, §802, 104 Stat. 5089, 5134 (1990) (codified as amended at 17 U.S.C. §109(b)), but attempts to extend it to motion pictures were unsuccessful. See Menell & Nimmer, supra note 17, at 157-60 (discussing the attempts to extend the law).

[163] Audio Home Recording Act of 1992, Pub. L. No. 102-563, §2, 106 Stat. 4237, 4240 (1992) (codified at 17 USC §§1001-10 (2006)).

[164] See Ginsburg, supra note 128, at 590-602 (discussing application of the safe harbor provisions to service providers).

[165] See, e.g., Columbia Pictures Indus., Inc. v. Fung, No. CV 06-5578 SVW(JCx), 2009 WL 6355911, at *18 (C.D. Cal. Dec. 21, 2009) (noting that no DMCA safe harbor is available when an alleged infringer is guilty of inducement); Viacom Int'l Inc. v. YouTube, Inc., Nos. 07 Civ. 2103(LLS), 07 Civ. 3582(LLS), 2010 WL 2532404, at *14 (S.D.N.Y. June 23, 2010) (rejecting the plaintiffs', including Viacom, argument that by merely complying with the DMCA, the defendant (YouTube) takes too minor a role in participating in copyright enforcement).

[166] Columbia Pictures, 2009 WL 6355911, at *18. The court held that "[i]n many ways, the Digital Millennium Copyright Act is simply a restatement of the legal standards establishing secondary copyright infringement ... The two sets of rules do not entirely overlap, but this framework is helpful for understanding the Act's statutory text and structure." Id. at *15 (citing A & M Records, Inc. v. Napster, Inc. 239 F.3d 1004, 1025 (9th Cir. 2001)).

[167] See 17 U.S.C. §512 (2006).

[168] Viacom Int'l Inc. v. YouTube, Inc., Nos. 07 Civ. 2103(LLS), 07 Civ. 3582(LLS), 2010 WL 2532404, at *14 (S.D.N.Y. June 23, 2010).

[169] See id. at *11 (maintaining that the Grokster decision, along with others, was of "little application" to the case at bar).

[170] See Sony Corp. of Am. v. Universal City Studios, Inc., at 464 U.S. 417, 456 ("It may well be that Congress will take a fresh look at this new technology, just as it so often has examined other innovations in the past. But it is not our job to apply laws that have not yet been written.").

[171] See infra Part II.A.1.

[172] See Richard Craswell & John E. Calfee, Deterrence and Uncertain Legal Standards, 2 J.L. Econ. & Org. 279, 286 (1986) ("[I]f uncertainty is centered around the optimal value ... small amounts of uncertainty will always lead to overcompliance ...."); see also Tom Baker, Alon Harel & Tamar Kugler, The Virtues of Uncertainty in Law: An Experimental Approach, 89 Iowa L. Rev. 443, 444-49 (2004) (finding that uncertainty increases deterrence but viewing it as a positive outcome in tort law and criminal law).

[173] See James Gibson, Risk Aversion and Rights Accretion in Intellectual Property Law, 116 Yale L.J. 882, 887-906 (2007) (detailing how a feedback loop has caused overcompliance with copyright laws); see also Matthew Africa, Comment, The Misuse of Licensing Evidence in Fair Use Analysis: New Technologies, New Markets, and the Courts, 88 Cal. L. Rev. 1145, 1172 (2000) ("Fear of liability causes users to obtain licenses for borderline uses rather than risk the cost of a lawsuit. This licensing can, in turn, create a market that can be held against subsequent users to disprove the fairness of use.").

[174] Gibson, supra note 173, at 887.

[175] Id. at 887-906; Africa, supra note 173, at 1172.

[176] Banks are traditionally risk-averse, while venture capitalists are generally not. David Rosenberg, Venture Capital Limited Partnerships: A Study in Freedom of Contract, 2002 Colum. Bus. L. Rev. 363, 364 (2002) ("Banks, the traditional institutions from which businesses receive needed funding, are, comparatively speaking, reluctant to take big risks ... Venture capitalists, on the other hand, are drawn to risky propositions....").

[177] See 17 U.S.C. §502 (2006) (detailing injunctions as an available remedy).

[178] See supra Part II for a discussion of the legal uncertainty surrounding this issue.

[179] See Margaret C. McHugh & William T. Gallagher, Strategic Considerations in U.S. Copyright Litigation, FindLaw, 2003, http:// library.findlaw.com/2003/Nov/11/133141.html (discussing copyright litigation costs and potential remedies such as injunctions).

[180] Courts are often, explicitly or implicitly, sympathetic to a deep pockets theory, choosing to place the costs of a victim's loss in the hands of the entity best capable of bearing it. Cf., Richard A. Posner, Economic Analysis of Law §6.8 204-05 (5th ed. 1998) (noting that employers are incentivized to reduce liability by controlling employees behavior).

[181] Most importantly, a successful copyright lawsuit can lead to an injunction. See 17 U.S.C. §502 (2006) (detailing injunctions as an available remedy). Monetarily, copyright remedies include actual damages, statutory damages of up to $150,000 per work infringed, disgorgement of profits, costs, and attorney's fees. See 17 U.S.C. §§504-05 (2006).

[182] See supra Part II for a discussion of the legal uncertainty surrounding this issue.

[183] Sony Music Entertainment (formerly, Sony BMG Music Entertainment) is one of the "big four" record labels, and Sony Pictures Entertainment, Inc. (SPE) is Sony's motion picture unit. Bill Lamb, Top 4 Major Pop Record Labels, About.com, http://top40.about.com/od/popmusic101/tp/majorlabels.htm (last visited Sept. 15, 2010). One explanation for Sony's decision to settle an early 1990's case was its expansion into the music business, which made it sensitive to the interests of the music industry. See Menell & Nimmer, supra note 17, at 190 (noting that one explanation for Sony not continuing the suit was that Sony had "diversified into the film and music industries").

[184] Software is protected as literary work. See 17 U.S.C. §101 (2006).

[185] Technology companies often rigorously and strategically protect the copyright in their software products. See, e.g., Apple, Inc. v. Psystar Corp., 673 F. Supp. 2d 931 (N.D. Cal. 2009).

[186] See Yuval Feldman & Alon Harel, Social Norms, Self-Interest and Ambiguity of Legal Norms: An Experimental Analysis of the Rule vs. Standard Dilemma, 4 Rev. L. & Econ. 81, 89 (2008) ("In the absence of information concerning the result dictated by legal norms with respect to a particular situation, people would seek cheap and available sources of information [such as social norms].").

[187] See Menell & Nimmer, supra note 17, at 194 ("TiVo took the ... conciliatory path, raising investment capital from key content industry players early in its development."); Ashley Dunn, TiVo Woos TV's Big Players With Its Set-Top Box, L.A. Times, July 28, 1999, at C1, available at http:// articles.latimes.com/1999/jul/28/business/fi-60201.

[188] The status of space shifting as fair use is often taken from an analogy to time-shifting. There is, however, no ruling deciding whether space shifting is indeed fair use. See David O. Carson, Making the Making Available Right Available 22nd Annual Horace S. Manges Lecture, February 3, 2009, 33 Colum. J.L. & Arts 135, 138 (2010) ("There are no reported cases deciding whether space shifting is fair use ...."); but see In re Aimster Copyright Litig., 334 F.3d 643, 652 (7th Cir. 2003) ("Someone might own a popular-music CD that he was particularly fond of, but he had not downloaded it into his computer and now he finds himself out of town but with his laptop and he wants to listen to the CD, so he uses Aimster's service to download a copy. This might be a fair use rather than a copyright infringement, by analogy to the time-shifting approved as fair use in the Sony case.").

[189] See Menell & Nimmer, supra note 17, at 194 ("TiVo took the more conciliatory path, raising investment capital from key content industry players early in its development."); see also Jacob Carroll, Note, Digital Recording Devices: How Far Can Copyright Law Be Stretched?, 2001 UCLA J.L. & Tech. Notes 4, 4 (2001) (noting that TiVo responded to a lawsuit regarding a capability that would eliminate revenues for entertainment companies with "we have looked at these capabilities--they are not hard to implement, but we have decided there is no reason to antagonize media companies in this way").

[190] Carroll, supra note 189, at 4.

[191] Menell & Nimmer, supra note 17, at 194; Carroll, supra note 189, at 4.

[192] See Litman, supra note 59, at 952 ("SonicBlue [the second defendant in the Replay litigation, L.H.] ... was unable to survive the motion picture industry's suit against its ReplayTV.").

[193] See Darrow & Ferrera, supra note 154, at 26 ("[A]t $0.99 per song, it would cost nearly $20,000 to fill the iPod to capacity, which is more than fifty times the cost of the iPod itself."); see also Universal Chief May Badger Jobs for Ipod Royalties, AppleInsider, Nov. 28, 2006, http:// www.appleinsider.com/articles/06/11/28/universal_chief_may_badger_jobs_for_ ipod_royalties.html (quoting Universal CEO Doug Morris: "[t]hese devices are just repositories for stolen music and they all know it").

[194] Even the RIAA, though never admitting that copying music for personal use is fair use, asserts that "[r]ecord companies have never objected to someone making a copy of a CD for their own personal use." RIAA, http:// riaa.com/faq.php (last visited July 7, 2010).

[195] It is common wisdom that the iTunes Store has operated around break even since it was launched. See David Kusek, New Artist Model, Future of Music, Oct. 21, 2007, http://www.futureofmusicbook.com/2007/10/new-artist-model/ (asserting that "[t]he value of recorded music is plummeting and not even Apple can make money off of it"). However, a recent estimate by Pacific Crest Securities analyst Andy Hargreaves that Apple has managed to reduce transaction fees with credit card companies and thereby has begun to generate some profit from the iTunes store. Katie Marsal, ITunes Store a Greater Cash Crop than Apple Implies?, AppleInsider (Apr. 23, 2007), http:// www.appleinsider.com/articles/07/04/23/itunes_store_a_greater_cash_crop_than_ apple_implies.html.

[196] Kusek, supra note 196 (stating that iTunes "has just kept Apple out of court with the labels"). The observation that Apple's interest lies in the hardware devices much more than in the iTunes store is strengthened by Apple's strategy to block access of other devices to iTunes--a move that decreases the traffic to the iTunes store, but increases the appeal of its devices over competing ones. See, e.g., Jenna Wortham, Rivalry Between Apple and Palm Intensifies, N.Y. Times, Aug. 4, 2009, at B6, available at http:// www.nytimes.com/2009/08/04/technology/companies/04palm.html?_r=1.

[197] Apple, Labels Stir up Deluxe, Digital Cocktail, PC Magazine, Aug. 2, 2009, http://www.pcmag.com/article2/0,2817,2351088,00.asp.

[198] Brad Stone & Jeff Leeds, MySpace and Record Companies Create Music Site, N.Y. Times, Apr. 3, 2008, http:// www.nytimes.com/2008/04/03/technology/03cnd-myspace.html.

[199] Id.

[200] It has further been assumed that a smaller video-sharing site, Bolt, was pressured to settle a copyright infringement lawsuit in order to put additional pressure on other defendants, including MySpace and YouTube, to settle. See Matthew Belloni, Video-Sharing Site Settles With Universal Music, AllBusiness, Feb. 12, 2007, available at http:// www.allbusiness.com/services/legal-services/4468199-1.html.

[201] See Verdict, Agreement, and Settlement, UMG Recordings, Inc. v. MySpace, Inc., No. CV 06-07361 AHM (AJWx) (C.D. Cal. Apr. 4, 2008), 2008 WL 2071593 (noting the settlement).

[202] See Complaint for Declaratory and Injunctive Relief and Damages at 5, Viacom Int'l Inc. v. YouTube, Inc., No. 1:07-CV-2103 (S.D.N.Y. Mar. 13, 2007), 2007 WL 775611 ("Google has reportedly issued substantial equity and entered into expensive licenses with certain providers of copyrighted content"); Saul Hansell, YouTube's Video Poker; A Bet That Media Companies Will Want to Share Ad Revenue, N.Y. Times, Sept. 30, 2006, http:// www.nytimes.com/2006/09/30/business/30tube.html?ref=saul_hansell (discussing the Warner Music-YouTube deal).

[203] Defendant's Answer and Demand for Jury Trial at 1, Viacom Int'l Inc. v. YouTube, Inc., No. 1:07-CV-02103 (S.D.N.Y. Aug. 30, 2007), 2007 WL 172564.

[204] Complaint, Metro-Goldwyn-Mayer Studios Inc. v. RecordTV.com, No. 00-06443 (C.D. Cal. June 15, 2000), 2000 WL 35449007.

[205] Complaint, Twentieth Century Fox Film Corp. v. Scour, Inc., No. 00-5335 (S.D.N.Y. July 20, 2000), 2000 WL 34016408.

[206] As Jessica Litman explains: "Litigation is expensive ... and angry copyright owners have very deep pockets. RecordTV and Scour.com folded their tents rather than continue ruinous litigation." Litman, supra note 59, at 952.

[207] See sources cited supra note 39 and accompanying text.

[208] E.g., YouTube, Copyright Infringement Notification, http:// www.youtube.com/t/dmca_policy (last visited Aug. 30, 2010)

[209] See, e.g., YouTube, Copyright: Preventing Copyright Infringement on YouTube, http://www.google.com/support/youtube/bin/answer.py? answer=55773&topic=10554 (last visited July 7, 2010) ("User accounts of repeat infringers are automatically terminated.").

[210] Edward Lee, Decoding the DMCA Safe Harbors, 32 Colum. J.L. & Arts 233, 233 (2009).

[211] Id. at 234.

[212] Greg Sandoval, Youtube Users Caught in Warner Music Spat, CNET News, Jan. 27, 2009, http://news.cnet.com/8301-1023_3-10150588-93.html. For additional bogus take-down notices, see Online Policy Group v. Diebold, Inc., 337 F. Supp. 2d 1195, 1201-02 (N.D. Cal. 2004).

[213] Lenz v. Universal Music Corp., 572 F. Supp. 2d 1150, 1151-52 (N.D. Cal. 2008).

[214] Id.

[215] See, e.g., Principles for User Generated Content Services, http:// www.ugcprinciples.com/ (last visited Sept. 1, 2010) (detailing a set of "User Generated Content Principles" which result from a collaboration between copyright owners (including, among others, Disney, Sony, and Viacom) and services (including, among others, Microsoft and MySpace)). The UGC Principles obligate services to employ filtering mechanisms in order to curtail copyright infringement through their sites. Id. YouTube has done just that. See Miguel Helft, YouTube Eases the Way to More Revenue, N.Y. Times, Oct. 6, 2009, at B4, available at http:// www.nytimes.com/2009/10/07/technology/internet/07youtube.html (noting that Google is able to identify copyrighted content soon after it is publicly available); Stacy D. Kramer, Google Will Use Audible Magic Technology For Filtering: Report, PaidContent.org, Feb. 23, 2007, http:// paidcontent.org/article/419-google-will-use-audible-magic-technology-for-filtering-report/ (reporting that Google acquired a company that develops filtering technology).

[216] 17 U.S.C. §512 (2006); see, e.g., Perfect 10, Inc. v. CCBill LLC, 488 F.3d 1102, 1113 (9th Cir. 2007) ("The DMCA notification procedures place the burden of policing copyright infringement--identifying the potentially infringing material and adequately documenting infringement-- squarely on the owners of the copyright.").

[217] The standard for finding a red flag can be quite high. See Perfect 10, Inc. v. CCBill, LLC, at 13-14 (holding that content including

the phrases “stolen” or “illegal” are not necessarily red flags as they may just “be an attempt to increase [the content’s] salacious appeal”).

218 See 17 U.S.C. §512(i) (2006) (noting that to be eligible for safe harbor protections, an entity must not interfere with “technical measures that are used by copyright owners to identify or protect copyrighted works”).

219 See, e.g., Electronic Frontier Foundation, Fair Use Principles for User Generated Video Content, http://www.eff.org/issues/ip-and-free-speech/fair-use-principles-usergen (last visited Sept. 1, 2010) (noting that many pieces of user generated content may fall under a category of fair use and that filtering mechanisms should take certain “precautions ... to ensure that fair uses are not mistakenly caught in them”).

220 See Gibson, supra note 173, at 932 (“A licensing culture that results from risk aversion on the part of the licensee and invites strategic holdout on the part of the licensor is unlikely to promote overall social welfare ....”).

221 Assaf Hamdani, Gatekeeper Liability, 77 S. Cal. L. Rev. 53, 88 (2003).

222 See infra Part III.B.

223 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, 358 (1999) (warning that enclosure of the public domain would convert free speech into a negative liberty); Robert C. Denicola, Copyright and Free Speech: Constitutional Limitations on the Protection of Expression, 67 Cal. L. Rev. 283, 285 (1979) (noting that even though direct censorship of free speech through copyright has ceased, there is still tension between the two); Melville B. Nimmer, Does Copyright Abridge the First Amendment Guarantee of Free Speech and Press?, 17 UCLA L. Rev. 1180, 1181 (1970) (recognizing the paradoz between the first amendment’s prohibition of laws abridging free speech and the enactment of the Copyright Act that seems to do just that); see generally, Jack M. Balkin, The Future of Free Expression in a Digital Age, 36 Pepp. L. Rev. 427 (predicting that free speech and innovation policy will meld together and eventually be viewed as part of a larger picture of knowledge and information policy).

224 See supra note 227 for examples.

225 See, e.g., Stone, supra note 198 and accompanying text. Understandably, stakeholders who have not been invited to the negotiation table, such as book-illustrators in the Google Books project are quite worried. See John Mark Ockerbloom, The Google Books Settlement: A Symposium, and a Call for Library Action, Everybody’s Libraries, Mar. 18, 2009, available at http://everybodyslibraries.com/2009/03/18/the-google-books-settlement-a-symposium-and-a-call-for-library-action/. Note, however, that the plaintiffs in the Google Books case argued for direct infringement, stemming from Google’s copying of the books and not from secondary infringement. Class Action Complaint at 1, Author’s Guild v. Google, Inc., No. 05-CV-8136 (S.D.N.Y. Sept. 20, 2005).

226 See Lital Helman, When Your Recording Agency Turns into an Agency Problem: The True Nature of the Peer-to-Peer Debate, 50 IDEA 49, 93-101 (discussing the nature of the standard framework of recording contracts).

227 From a New York Times article that ran during the summer of 2000: “In the none-too-distant future, techno-visionaries declare, musicians will not need record labels[.] Instead, they will market and sell recordings directly to fans over the Internet. Even the labels that manage to hang on to their artists will find their sales eviscerated by piracy.” Alex Berenson & Matt Richtel, Heartbreakers, Dream Makers: Despite Digital Upstarts, Big Labels Still Rule the Music Industry, N.Y. Times, June 25, 2000, at BIII, available at http://www.nytimes.com/2000/06/25/business/heartbreakers-dream-makers-despite-digital-upstarts-big-labels-still-rule-music.html. A well-known example of the fulfillment of the Internet expectations is Radiohead’s self-released “In Rainbows” album, which was made available for download on their website in 2007 under a “pay what you can” model. Posting of Ernesto to TorrentFreak, RIAA ‘Protects’ Radiohead’s In Rainbows, TorrentFreak (Aug. 1, 2010), http://torrentfreak.com/riaa-protects-radioheads-in-rainbows-100801/. Thus far, the album has sold more than each of their previous albums. Id.; see Memorandum from Mary Madden, Research Special, Pew Internet and Am. Life Project, and & Lee Rainie, Pew Internet Project Dir., Pew Internet and Am. Life Project, Music and Video Downloading Moves Beyond P2P 8-9 (Mar. 2005),

available at http:// www.pewinternet.org/Reports/2005/Music-and-Video-Downloading.aspx (pointing to other platforms utilized by users for online and offline copying).

228 See Madden & Rainie, supra note 227 at 8-9 (noting that while surveys show the percentage of peer-to-peer users are decreasing, "17% cited other music or movie-related websites, such as online magazines, artist homepages[,] or review sites" as places they now turn to).

229 See Dale Dietrich, EDonkey Settles for $30M and Shuts Down after Adverse Ruling, iMedia Law Blog, Sept. 12, 2006, http:// daledietrich.com/imedia/edonkey-settles-for-30m-and-shuts-down-after-adverse-ruling/.

230 The MPAA is the Motion Pictures Association of America, the advocate of the American motion picture, home video, and television industries.

231 See William E. Lee, Cable Modem Service and the First Amendment: Adventures in a "Doctrinal Wasteland," 16 Harv. J.L. & Tech. 125, 131 (2002) (noting that Napster is "now a shadow of its former self following a suit enjoining Napster from downloading, uploading, transmitting, or distributing unlicensed copyrighted sound recordings"); Geoff Duncan, IMesh's BearShare 6.0 Goes Legit, Digital Trends, Aug. 17, 2006, http:// www.digitaltrends.com/computing/imeshs-bearshare-60-goes-legit/ (describing BearShare's attempt to launch a lawful service); Niall McKay, Peer-to-Peer Goes Legit, Wired, Nov. 3, 2005, http:// www.wired.com/entertainment/music/news/2005/11/69457 (describing how iMesh moved from illegal file-sharing to a lawful business).

232 See, e.g., Furthur Network Features Page, http:// www.furthurnet.org/about/features.html (last visited July 5, 2010) (noting that FurthurNet implements strict filtering protocols that limit distribution to the recordings of musicians who permit it); see also Mark F. Schultz, Fear and Norms and Rock & Roll: What Jambands Can Teach Us About Persuading People to Obey Copyright Law, 21 Berkeley Tech. L.J. 651, 681-82 (2006) (noting jambands' and their fans' various proactive efforts to voluntarily comply with intellectual property rules).

233 Complaint for Federal Copyright Infringement, Common Law Copyright Infringement and Unfair Competition, Arista Records LLC v. Lime Wire LLC, 532 F. Supp. 2d 556 (S.D.N.Y. 2007) (No. 06-CV-5936), 2006 WL 2582075.

234 A BitTorrent tracker is a server that assists in the communication between peers using the BitTorrent protocol.

235 See, e.g., Editorial, The Pirate Bay Ruling, L.A. Times, Apr. 18, 2009, http://www.latimes.com/news/opinion/editorials/la-ed-pirate18-2009apr18, 0,3705805.story (describing a Swedish lawsuit against BitTorrent tracker The Pirate Bay).

236 See, e.g., William S. Coats & Melissa Keyes, Recent Developments in Vicarious Liability and Copyright Licensing for Music, 915 PLI/Pat 257, 266 (2007) ("Even in the wake of the Supreme Court's decision in MGM Studios, Inc. v. Grokster, Ltd., peer-to-peer file-sharing networks continue to proliferate and acquire users."); Koleman Strumpf & Felix Oberholzer-Gee, The Effect of File Sharing on Record Sales: An Empirical Analysis, 115 J. Pol. Econ. 1, 2 (2007) (noting a 50% increase in monthly number of files shared compared to two years earlier).

237 RIAA v. Verizon Internet Servs., Inc., 351 F.3d 1229, 1231 (D.C. Cir. 2003) ("[M]illions of people in the United States and around the world continue to share digital .mp3 files of copyrighted recordings using P2P computer programs ...."); Bryan H. Choi, The Grokster Dead-End, 19 Harv. J.L. & Tech. 393, 410 (2006) ("[I]llegal file-sharing has ... continued at ever-increasing rates ...."); Jonathan Zittrain, A History of Online Gatekeeping, 19 Harv. J.L. & Tech. 253, 286 (2006) ("[U]nauthorized file sharing continued unabated, and indeed grew ....").

238 For a discussion about the legal implications of BitTorrent, see Coats & Keyes, supra note 236.

[239] RIAA v. The People: Five Years Later, Electronic Frontier Foundation, http://www.eff.org/wp/riaa-v-people-years-later (last visited Aug. 10, 2010) [hereinafter EFF 2008 Report].

[240] MUTE: Simple, Anonymous File Sharing, http://mute-net.sourceforge.net/ (last visited July 12, 2010); The Freenet Project, http:// freenetproject.org/ (last visited July 12, 2010).

[241] Torproject, http://www.torproject.org/ (last visited July 12, 2010).

[242] See Posting of Ernesto to TorrentFreak, 5 Ways To Download Torrents Anonymously, TorrentFreak (Aug. 19, 2010), http://torrentfreak.com/5-ways-to-download-torrents-anonymously-100819/ (discussing privacy services allowing users to hide their identities online).

[243] See discussion infra Part III.B.

[244] Elkin-Koren, supra note 146, at 59; see Tim Wu, When Code Isn't Law, 89 Va. L. Rev. 679, 717 (2003) ("The technical study of P2P design shows that designing a P2P filesharing network to avoid copyright requires important deviations from the optimal design for speed, control, and usability.").

[245] Elkin-Koren, supra note 146, at 20.

[246] The Swedish Pirate Bay is a good example. Editorial, supra note 235. Some countries may also further restrict the enforcement powers for copyright law. See, e.g., Swiss Supreme Court Orders Company to Stop Snooping on Illegal File-Sharing Suspects, CBOnline, Sept. 8, 2010, http:// www.canadianbusiness.com/markets/market_news/article.jsp?content=D9I3Q6500.

[247] See, e.g., EFF 2008 Report, supra note 239 (describing "private P2P circles).

[248] EFF 2008 Report, supra note 239.

[249] Already at the end of the Grokster year, 2005, four of the five largest peer-to-peer communities (BitTorrent, eDoneky2000, Gnutella, and Ares Galaxy) were based upon open source code. Thomas Mennecke, File-Sharing Winners and Losers of 2005, Slyck, Dec. 24, 2005, http://www.slyck.com/news.php? story=1040.

[250] See Todd Woody, The Race to Kill Kazaa, Wired, Feb. 2003, http:// www.wired.com/wired/archive/11.02/kazaa.html (illustrating sarcastically with regards to KaZaA, "[t]he servers are in Denmark. The software is in Estonia. The domain is registered Down Under, the corporation on a tiny island in the South Pacific. The users--60 million of them--are everywhere around the world. The next Napster? Think bigger. And pity the poor copyright cops trying to pull the plug").

[251] Editorial, The Pirate Bay Ruling, L.A. Times, Apr. 18, 2009, available at http://www.latimes.com/news/opinion/editorials/la-ed-pirate18-2009apr18,0,3705805.story.

[252] Beverley Head, IiNet Claims it Can't Block Pirate Bay, iTWire, Nov. 5, 2009, http://www.itwire.com/content/view/29097/53/.

[253] See Rasmus Fleischer, Address at the Ars Electronica in Linz (Sept. 7, 2009) (transcript available at http://copyriot.se/2009/09/08/ars-electronica-x-thank-you-for-the-5000-euro-we-will-have-to-waste-them-fast-piratbyrans-talk-in-linz/) ("What will come after The Pirate Bay will not be one big ship, but something less centralized, harder to pin down by any legal system."); see also Posting of Ernesto to TorrentFreak, It's Time to Sink The Pirate Bay, and Replace It, TorrentFreak (Sept. 13, 2009), http:// torrentfreak.com/its-time-to-sink-the-pirate-bay-and-replace-it-090913/ (reporting that The Pirate Bay will dissolve, but at least two new services have already emerged).

[254] Posting of Ernesto to TorrentFreak, BitTorrents Future? DHT, PEX and Magnet Links Explained, TorrentFreak (Nov. 20, 2009), http:// torrentfreak.com/bittorrents-future-dht-pex-and-magnet-links-explained-091120/.

[255] E.g., Alexa The Web Information Company, shareza.com, http:// www.alexa.com/siteinfo/shareaza.com (last visited July 12, 2010) (showing a ranking of 464,839 based on web traffic); Compete, bearshare.com http:// siteanalytics.compete.com/bearshare.com/ (last visited July 12, 2010) (showing a compete ranking of 721); see also Posting of Ernesto to TorrentFreak, Mininova Traffic Plummets After Going 'Legal,' TorrentFreak (Dec. 5, 2009), http://torrentfreak.com/mininova-traffic-plummets-after-going-legal-091205/ (noting that after Mininova removed over one million torrent files following a lawsuit, its traffic fell 66% in a manner of days).

[256] See e.g., Jordan Running, Edonkey Shuts Down, Kills Installed Clients, DownloadSquad, Sept. 12, 2006, http:// www.downloadsquad.com/2006/09/12/edonkey-shuts-down-kills-installed-clients/ ("The eDonkey network itself, of course, is decentralized and will live on as long as people keep using it, and given the popularity of eMule and other alternative clients, its vitality does not seem in jeopardy."); Alexandru Macovschi, EDonkey Shuts Down, Sept, 29, 2005, http:// news.softpedia.com/news/eDonkey-Shuts-Down-9528.shtml (stating that MetaMachine's managment, influenced by Grokster and the warning received from the RIAA began closing down).

[257] Mennecke, supra note 249.

[258] Id.

[259] For the increasingly criminal nature of copyright law, see Geraldine Scott Moohr, Defining Overcriminalization Through Cost-Benefit Analysis: The Example of Criminal Copyright Laws, 54 Am. U. L. Rev. 783, 787-805 (2005) ("[T]he possibility that costs of criminalizing personal-use infringement may outweigh its benefits serves as a signal to lawmakers that treating infringement as a crime may not be an effective way to protect the long-term interests of copyright holders or the public."); Lanier Saperstein, Comment, Copyrights, Criminal Sanctions and Economic Rents: Applying the Rent Seeking Model to the Criminal Law Formulation Process, 87 J. Crim. L. & Criminology 1470, 1471 (1997) ("Copyright law is making increased use of criminal sanctions to punish transgression.").

[260] Clearly, a certain degree of enforcement hardships is inherent in the copyright regime due to the non-rivalrous nature of expressive content. Abraham Bell & Gideon Parchomovsky, The Evolution of Private and Open Access Property, 10 Theoretical Inquiries L. 77, 92-93 (2009). Moreover, technological developments have also adversely impacted copyright enforceability. Id.

[261] Richard J. Gilbert & Michael L. Katz, When Good Value Chains Go Bad: The Economics of Indirect Liability for Copyright Infringement, 52 Hastings L.J. 961, 962 (2001) ("[T]he social choice is between identifying direct infringers at large costs and taking actions against activities at other stages in the value chain at potentially smaller costs."); Lemley & Reese, supra note 39, at 1349 ("The high volume of illegal uses, and the low return to suing any one individual, make it more cost-effective to aim litigation at targets as far up the chain as possible.").

[262] Randal C. Picker, Copyright as Entry Policy: The Case of Digital Distribution, 47 Antitrust Bull. 423, 442 (2002) ("Chasing individual consumers is time consuming and is a teaspoon solution to an ocean problem ....").

[263] See, e.g., Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 929-30 (2005) ("When a widely shared service or product is used to commit infringement, it may be impossible to enforce rights in the protected work effectively against all direct infringers, the only practical alternative being to go against the distributor of the copying device for secondary liability ...." (emphasis added)).

[264] Lichtman & Landes, supra note 27, at 397 ("[T]he costs of tracking down that many [direct infringers], gathering evidence as to the specific activities of each, and then litigating that many separate lawsuits would likely make it uneconomical for [the copyright holder] to enforce its copyright.").

[265] Ray Beckerman, Large Recording Companies v. the Defenseless: Some Common Sense Solutions to the Challenges of the RIAA Litigations, 47 Judges' J. 20, 22 (2008).

[266] See Lemley & Reese, supra note 39, at 1376-77 (noting that "suing even a fraction of the end users could bankrupt the content industries").

[267] Anthony Ciolli, Lowering the Stakes: Toward a Model of Effective Copyright Dispute Resolution, 110 W. Va. L. Rev. 999, 1002 (2008).

[268] See Ray Beckerman, How the RIAA Litigation Process Works, Ray Beckerman PC, Apr. 9, 2008, http://beckermanlegal.com/howriaa.htm.

[269] See, e.g., Gary Gentile, Details of Grokster Settlement Emerge, Law.com, Nov. 9, 2005, http://www.law.com/jsp/article.jsp?id=900005440761 (stating that Grokster settled only after the Supreme Court decision).

[270] See supra Part III.A.2.

[271] Although there is no consistency as to the rates of file-sharing or the ways in which to measure the rate of file-sharing, the consensus is that the number of file-sharers is ever-growing. See Stan J. Liebowitz, File Sharing: Creative Destruction or Just Plain Destruction?, 49 J. Law & Econ. 1, 5 (2006) ("[T]he number of file sharers continued its upward trend within months of Napster's shutdown."); see also id. at 7-13 (summarizing data regarding rates of file-sharing). The Grokster year (2005) opened with 8.4 million calculable U.S. peer-to-peer users. By June of 2005, this number had grown to 8.9 million, and by the end of 2005 it reached 9.4 million, excluding BitTorrent users. Mennecke, supra note 249; see also Sudip Bhattacharjee et al., Impact of Legal Threats on Online Music Sharing Activity: An Analysis of Music Industry Legal Actions, 49 J. Law & Econ. 91, 92-93 (2006) (noting the potential growth in file-sharing activity).

[272] The music industry, which was the first to be threatened by file-sharing and thus led the fight against it, has filed more than thirty thousand lawsuits against file-sharers to date. EFF 2008 Report, supra note 239.

[273] See discussion supra Part III.A.2.

[274] See supra note 264 and accompanying text.

[275] See Lichtman & Landes, supra note 27, at 398-99 (noting the deep pockets rationale as a reason for vicarious liability).

[276] See Hamdani, supra note 221, at 65 (noting the theoretical importance of assuming that direct infringers are judgment-proof); see also Alfred C. Yen, A Preliminary Economic Analysis of Napster: Internet Technology, Copyright Liability, and the Possibility Of Coasean Bargaining, 26 Dayton L. Rev. 247, 252 (2001) ("Internet users may be difficult to identify or find, and their pocketbooks often are not deep enough to pay for monetary judgments.").

[277] See Hamdani, supra note 2211, at 65 ("Under this assumption, primary liability ... would fail to prevent wrongdoers from committing misconduct."); but see Matthew Sag, Piracy: Twelve Year-Olds, Grandmothers, and Other Good Targets for the Recording Industry's File Sharing Litigation, 4 Nw. J. Tech. & Intell. Prop. 133, 134 (2006) (arguing that suing end users makes sense in a rational choice model).

[278] See Lemley & Reese, supra note 39, at 1349 ("The high volume of illegal uses, and the low return to suing any one individual, make it more cost-effective to aim litigation at targets as far as up the chain as possible.").

[279] Cf. Hamdani, supra note 221, at 65 (asserting that the "wrongdoers are judgment proof ... they will have no assets to pay the penalty or the damages for misconduct" and thus, in such situations, "primary liability ... would fail to prevent wrongdoers from committing misconduct").

[280] 17 U.S.C. §504(c)(2) (2006).

[281] J. Cam Barker, Note, Grossly Excessive Penalties in the Battle Against Illegal File-Sharing: The Troubling Effects of Aggregating Minimum Statutory Damages for Copyright Infringement, 83 Tex. L. Rev. 525, 528 n.19 (2004).

[282] See, e.g., Nate Anderson, Thomas Verdict: Willful Infringement, $1.92 Million Penalty, ArsTechnica, June 18, 2009, http://arstechnica.com/tech-policy/news/2009/06/jammie-thomas-retrial-verdict.ars (noting the response of Jammie Thomas "that the recording industry would never collect [and stating,] 'Good luck trying to get it from me... it's like squeezing blood from a turnip,"' after her loss in the infamous copyright lawsuit over downloaded music, Capitol Records Inc. v. Thomas, 579 F. Supp. 2d 1210, 1228 (D. Minn. 2008)).

[283] 17 U.S.C. §504(c)(1) (2006).

[284] The settlements with BearShare, Grokster, and similar services were estimated to be in the millions. How close these figures are to the actual sums received by copyright owners is unclear. On paper, judgments against individuals granted the plaintiffs high amounts as well, yet they could not be enforced. See, e.g., Mike Harvey, Single-Mother Digital Pirate Jammie Thomas-Rasset Must Pay $80,000 Per Song, Times (London), June 19, 2009, http:// technology.timesonline.co.uk/tol/news/tech_and_web/article6534542.ece (describing a jury verdict awarding record companies $1.92 million).

[285] See discussion supra Part III.A.

[286] See Complaint for Declaratory and Injunctive Relief and Damages at 1-2, Viacom Int'l Inc. v. YouTube, Inc., No. 1:07-CV-2103 (S.D.N.Y. Mar. 13, 2007), 2007 WL 775611 (stating that "[e]ntrepreneurs have made fortunes providing the networks ... YouTube is one such entity"). However, it should be noted that the court granted summary judgment for YouTube holding that it complies with DMCA notice and take down requirements. Viacom Int'l Inc. v. YouTube, Inc., Nos. 07 Civ. 2103(LLS), 07 Civ. 3582(LLS), 2010 WL 2532404, at *14 (S.D.N.Y. June 23, 2010).

[287] See, e.g., In re Napster, Inc. Copyright Litig., 479 F.3d 1078, 1083 (9th Cir. 2007) (discussing suit filed against investors); Perfect 10 v. Visa Int'l Serv. Ass'n, No. C04-0371JW, 2004 WL 1773349, at *1 (N.D. Cal. 2004) (noting the suit was filed against both Visa and Mastercard); see generally William S. Coats, Mark Weinstein & Eric R. Zimmerman, Pre- and Post-Grokster Copyright Infringement Liability for Secondary and Tertiary Parties, 877 Practicing L. Inst. 323 (2006).

[288] Yahoo! Video Blog, About Yahoo! Video, http:// www.yvideoblog.com/blog/about/ (last visited Aug. 29, 2010).

[289] Revver, About Revver, http://revver.com/about/ (last visited Aug. 29, 2010).

[290] VMIX, Video Sharing, Distribution and Syndication Software, http:// www.vmix.com/video-sharing.php (last visited Aug. 29, 2010).

[291] See Reinier Kraakman, Gatekeepers: The Anatomy of a Third-Party Enforcement Strategy, 2 J.L. Econ. & Org. 53, 54 (1986) (noting that the passageways are "usually a specialized good, service, or form of certification that is essential for [a] wrongdoing to succeed").

[292] See Hamdani, supra note 2211, at 63-82 ("Gatekeepers can often take a variety of steps to prevent their clients from acting unlawfully."); Wu, supra note 40, at 247-48 (discussing the possibility of technologies to filter out infringing content); see also Lichtman & Landes, supra note 27, at 409 ("[T]hese parties ... are typically in a good position to either prevent copyright infringement or pay for the harm it causes.").

[293] See Lichtman & Landes, supra note 27, at 398 ("In some cases it may be possible for the equipment maker ... to redesign its product in a way that would eliminate or greatly reduce the level of infringement.").

[294] Id. at 405; see Louis Kaplow & Steven Shavell, Why the Legal System is Less Efficient than the Income Tax in Redistributing Income, 23 J. Legal Stud. 667, 667 (1994) (analyzing the proper role of distributional goals in designing liability regimes).

[295] In particular, there is an asymmetric benefit for users and services in using and providing digital services. With the exception of services that depend on infringement, risky users generate little utility for services and represent high costs. Therefore, services may be inclined to excessively purge risky users from their system, causing more costs than benefits. Cf., Criminal Law in Cyberspace, 149 U. Pa. L. Rev. 1003, 1007-08 (2001) (raising a similar argument regarding ISP liability for cybercrime).

[296] See supra Part II.

[297] See supra Part III.A.

[298] See sources cited supra notes 39, 206 and accompanying text.

[299] See supra Part III.A.2.

[300] See supra Part III.A.1.

[301] See supra Part III.B.

[302] See Kraakman, supra note 292, at 77 (discussing the creation of gatekeepers in various markets)..

[303] RapidShare, http://rapidshare.com/ (last visited July 12, 2010).

[304] See, e.g., Online Survey by Angus Reid Strategies, File Sharing Has Become the "New Normal" for Most Online Canadians, Vision Critical, Mar. 13, 2009, http://www.visioncritical.com/2009/03/file-sharing-has-become-the-new-normal-for-most-online-canadians (finding that 45% of participants agreed "file sharers who download music and movies are regular Internet users doing what people should be able to do on the Internet," and only 3% agreed that "file-sharers are criminals who should be punished by law").

[305] See Kraakman, supra note 292, at 77 (noting the risk that gatekeeper liability will lead clients to waive the use of gatekeeper services).