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Why Is Betamax an Anachronism in the Digital Age?

Erosion of the Sony Doctrine and Indirect Copyright Liability of Internet Technologies

By Jiarui Liu*

The copyright bar widely recognizes *Universal City Studios v. Sony Corporation of America* ("Sony")¹ as a landmark of indirect copyright liability.² When copyright holders cried doom for the advent of a new communications technology, namely the Betamax Video Tape Recorder ("VTR"), the Supreme Court decided to preserve the delicate balance between important competing interests: the need to retain incentives to intellectual creation in works of authorship and the desire to enhance technological innovation in other areas of commerce. On the one hand, the Court held that the absence of any explicit language in the Copyright Act did not preclude the possibility of indirect copyright liability.³ On the other hand, by analogizing the "staple article of commerce" theory in the Patent Act,⁴ it refrained from imposing indirect copyright liability on providers of copying technologies that may be used to infringe copyright on the grounds that the technology is also capable of substantial noninfringing uses.⁵ A prosperous home entertainment market, from which both copyright holders and VTR manufacturers greatly benefited,

later proved the wisdom of such holdings.⁶

Twenty years later, confronted with another edge-cutting information technology featuring digitalization and the Internet, copyright holders once again resort to an indirect copyright theory of liability against technology providers,⁷ such as those operating electronic bulletin board systems ("BBS")⁸ or peer-to-peer file sharing systems.⁹ Accordingly, the *Sony* case unsurprisingly has become one of the most frequently quoted cases by courts of Internet-related copyright cases. However,

“Although the entertainment industry now appears to regard peer-to-peer file sharing as unprecedented and outrageous piracy, it must have had no less a strong feeling toward Betamax VTRs twenty years ago.”

it appears that the essence of the *Sony* doctrine appears is not followed faithfully all of the time. Some lower courts have conjured various formulas to narrow, or even preclude, the application of the *Sony* doctrine, including the dichotomies of contributory infringement versus vicarious liability, products versus services, and actual knowledge versus constructive knowledge.

This Article aims to examine whether, as some courts indicate, the *Sony* doctrine is largely irrelevant in cyberspace. If the answer is no, how should courts properly apply the *Sony* doctrine to protect copyright holders' legitimate interests and further the innovation and prosperity of Internet technologies? This Article argues that the *Sony* doctrine should be given the widest application possible and not be subject to any preconceived formula. In the digital age, the test of "capable of substantial noninfringing uses" is still well suited to advance the ultimate objective of copyright law contemplated by the Supreme Court as well as by the Constitution: "promot[ing] the Progress of Science and useful Arts."¹⁰

Section I begins with a historic brief of the *Sony* case, the real image of which might have been blurred by fragmentary or even manipulative quotations in numerous subsequent cases. Section II analyzes some lower courts' readings of the *Sony* doctrine, elucidates their misapplication of the doctrine, and proposes a better application. Section III discusses the relevance of the *Sony* doctrine in the digital age and argues that it should remain one of the most favorable and forceful safeguards for the general public's interests in technology innovation and free flow of information. Section IV summarizes the main points of this Article and presents several policy recommendations.

I. Revisiting the *Sony* Legacy

Although the entertainment industry now appears to regard peer-to-peer file sharing as unprecedented and outrageous piracy, it must have had an equally strong feeling toward Betamax VTRs twenty years ago.¹¹ Many studios feared that the home-taping of television programs would replace real-time television viewing, dissuade people from going to the cinema, and altogether cause a catastrophe to filmmaking

businesses.¹² Jack Valenti, the president of Motion Pictures Association, alleged that "the VTR is to the American film producer and the American public as the Boston Strangler is to the woman alone."¹³

Consequently, Universal and Walt Disney, the copyright holders of works in certain television programs, did not wait long to sue Sony, the manufacturer of Betamax VTRs, based on contributory infringement and vicarious liability theories, claiming that Sony sold products which enabled consumers to infringe the plaintiffs' copyrights.¹⁴ The District Court for the Central District of California denied any of the relief that the plaintiffs sought. It held that most consumers used VTRs for the purpose of time-shifting,¹⁵ which was a fair use under the copyright law.¹⁶ Furthermore, the District Court held that Sony could not be held contributorily and vicariously liable for copyright infringement even if the home use of a VTR was considered an infringing use. It reasoned that imposing liability on staple articles of commerce that have substantial noninfringing uses went beyond precedent and arguably judicial management.¹⁷

On appeal, the Court of Appeals for the Ninth Circuit entirely reversed and remanded the case to the District Court to determine relief. The Court of Appeals held that consumers' home recordings did not constitute fair use.¹⁸ It also rejected the argument about the exemption for staple articles of commerce.¹⁹ Since Betamax VTRs were manufactured, advertised, and sold for the primary purpose of reproducing television programming, and virtually all such programming was copyrighted material, the Court of Appeals found them unsuited for substantial noninfringing uses.²⁰ Ul-

"Although VTRs could be used for such an infringing purpose as making tape libraries, they could also be used for authorized taping of television programs or for such a fair use as time-shifting."

timately, the Supreme Court endorsed the holdings of the District Court and rejected the plaintiffs' copyright infringement claims.²¹ It first indicated that the Copyright Act did not expressly provide for vicarious or contributory liability for copyright infringement, but that the absence of such a provision did not preclude liability.²² Then the Supreme Court, by turning to the Patent Act as the closest analogue,²³ adopted the "staple article of commerce" theory as the appropriate means of evaluating claims of vicarious liability or contributory infringement. The doctrine holds that "the sale of copying equipment, like the sale of other articles of commerce, does not constitute contributory infringement if the product is widely used for legitimate, unobjectionable purposes. Indeed, it need merely be capable of substantial noninfringing uses."²⁴ Although VTRs could be used for such an infringing purpose as making tape libraries, they could also be used for authorized taping of television programs or for such a fair use as time-shifting. The latter two noninfringing uses were substantial enough to absolve Sony of any indirect copyright liability.²⁵ The Supreme Court also articulated the policy underpinning of such a holding: "The staple article of commerce doctrine must strike a balance between a copyright holder's legitimate demand for effective – not merely symbolic – protection of the statutory monopoly, and the rights of others freely to engage in substantially unrelated areas of commerce."²⁶

II. Misapplication of the *Sony* Doctrine in Recent Internet-related Cases

In the recent decade, the traditional copyright landscape has been drastically changed by the advent of digital technology. Digital technology empowers average consumers to make near-perfect unauthorized copies of copyrighted works and distribute such copies globally merely with several clicks on computer keyboards.²⁷ Therefore, it would be prohibitively expensive for copyright holders to police all the computer users in the privacy of their homes or initiate lawsuits against thousands of infringers one by one.²⁸ Even though copyright enforcement actions against individual infringers are practically feasible, the lim-

ited financial capabilities of most infringers would render ostensible litigation victories mostly futile.²⁹ Moreover, the scenario of big conglomerates versus small individuals would probably result in negative publicity, which could consequently undermine copyright industries' customer base and political sympathy.³⁰ For those practical and political concerns, copyright holders find themselves chasing direct copyright infringements largely in vain, with every end user being a potential infringer.

To surmount such difficulties arising from digital technology, many right holders seek to change their enforcement strategies. They, *inter alia*, increasingly assert indirect liabilities of technology providers who make end user infringements possible and who tend to be more readily identifiable and have deeper pockets. Facing this new wave of claims for indirect copyright liability, courts heavily rely on the seminal *Sony* case for guidance on how to reconcile the relationship between copyright protection and technological advances. However, among a variety of applications by lower courts, a few, including *MAPHIA*,³¹ *Netcom*,³² and *Napster*,³³ were arguably inconsistent with the essence of the *Sony* doctrine. This section will discuss why those cases should be considered diversions from the teachings of the Supreme Court, and meanwhile explore the original implications of the *Sony* doctrine.

A. Does the *Sony* Doctrine Apply to Contributory Infringement as Well as Vicarious Liability?

Indirect copyright liability basically consists of two branches: contributory infringement and vicarious liability. In addition to the occurrence of at least one direct infringement,³⁴ each of these two theories requires two additional prongs. Contributory infringement arises when the defendant "induces, causes or materially contributes to the infringing conduct of another," with actual or constructive knowledge of the infringing activity.³⁵ Vicarious liability arises when the defendant possesses "the right and ability to supervise the infringing conduct" and has "an obvious and direct financial interest in the exploitation of copyrighted materials."³⁶ More often than not, contributory infringement and vicarious liability are jointly al-

leged or even merged in practice.³⁷

In the recent *Napster* case, the appellate court interpreted the *Sony* doctrine as "having no application to [the defendant's] potential liability

for vicarious copyright infringement," since doctrines of vicarious liability "were not before the Supreme Court."³⁸ In other words, the *Sony* doctrine provides a defense only to contributory infringement, not to vicarious liability. However, a more cautious reading of the *Sony* case may not lead to such a conclusion. As indicated by many commentators,³⁹ the Supreme Court used the terms "vicarious liability" and "contributory infringement" interchangeably throughout the opinion, in a generic sense which was broad enough to cover both branches of indirect copyright liability.⁴⁰ For example, the Supreme Court stated that "vicarious 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."⁴¹ More importantly, the Supreme Court even explicitly indicated in a footnote that, given that "the lines between direct infringement, contributory infringement and vicarious liability are not clearly drawn...the reasoned analysis of respondents' unprecedented contributory infringement claim necessarily entails consideration of arguments and case law which may also be forwarded under the other labels."⁴²

Aside from this express language in the *Sony* opinion, the policy underpinning of the *Sony* doctrine also supports its application to vicarious liability. The Supreme Court made it clear that copyright monopolies could not be unduly extended to block the "wheels of commerce."⁴³ However, the *Napster* court's denial of the *Sony* defense to vicarious liability, coupled with its heavy reliance on the widely criticized *Fonovisa* test,⁴⁴ may virtually expose all Internet

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technologies to vicarious liability. Under the *Fonovisa* test, the first prong of vicarious liability, namely "financial interest," can be satisfied by showing that the infringing uses of a technology "act as a draw for customers," or in other words, "enhance the attractiveness of a venue."⁴⁵ This interpretation basically renders this prong superfluous, since even household articles like a knife and paper can also arguably have some "draw" to potential wrongdoers due to their capability of misuse. The second prong, the "right and ability to supervise direct infringers," can be established by relying on findings that the defendant reserved its right to block its service to any consumer at will.⁴⁶ However, almost all software providers may legally reserve such termination rights via shrink-wrap or click-wrap license,⁴⁷ and due to the high manipulability of computer software, may exercise such rights without substantial technical difficulty.⁴⁸

The looming clouds of vicarious liability will coerce Internet technology providers to extensively monitor and censor online content distributions.⁴⁹ Because of the complexity of copyright doctrines⁵⁰ and the sheer volume of digital transmission, any policing of online copyright infringement must involve considerable financial and human resources.⁵¹ Technology providers will therefore suffer a significant increase in their operation costs. As to small Internet start-ups, such a burden may even constitute an unsurpassable barrier for market access.⁵² Furthermore, since the *Sony* doctrine has released most analog technologies from indirect copyright liability, the threat of vicarious liability will be tantamount to a medium-discriminative burden on all digital technologies. The Internet industry as a whole will

be severely hampered by this unequal, unprecedented treatment. In addition, the harsh imposition of vicarious liability on technology providers may also conflict with the ultimate public interests promoted by copyright law. On one hand, it would raise private censorship to such a socially undesirable level that it would place an undue constraint on information access and free speech⁵³ in cyberspace. On the other hand, ensuing intense investigations can potentially cause excessive intrusion into consumers' privacy.⁵⁴

B. Does the *Sony* Doctrine Apply to Products as Well as Services?

Sega Enterprises, Limited v. MAPHIA, one of the earliest Internet-related copyright cases, failed to apply the *Sony* doctrine to continuing BBS services and only analyzed the noninfringing uses associated with freestanding software copiers.⁵⁵ Likewise, the district court in *Napster* tried to distinguish the *Sony* case on the ground that the defendant here exercised "on-going control" over its service by retaining the ability to block access to subscribers, while *Sony* controlled its users only at the point of sale.⁵⁶ This holding obviously endorsed the plaintiff's assertion that "Napster is not the same, legally, as the VTR, because it is a service, rather than an 'article of commerce,' a product."⁵⁷

direct infringement, to which the *Sony* doctrine is of course unavailable.⁵⁹ However, if it were said that the *Sony* doctrine should never have any application beyond the narrow fact-pattern of product manufacture or distribution, such a contention would be troubling in four respects at least.

First, as mentioned above, the *Napster* court went to great lengths to ascertain the distinction between contributory infringement and vicarious liability, noting "that *Sony's* 'staple article of commerce' analysis has no application to *Napster's* potential liability for vicarious copyright infringement."⁶⁰ However, "on-going control" is not an intrinsic consideration in the context of contributory infringement, but is traditionally seen as one of the two prongs for vicarious liability.⁶¹ By extending this vicarious liability prong into the arena of contributory infringement, the *Napster* court appeared to cause the sort of confusion it had tried to warn against and prevent.

Second, this "on-going control" test is exactly the same as the depiction in the classic indirect trademark infringement case of *Inwood Laboratories, Inc. v. Ives Laboratories, Inc.*⁶² However, the Supreme Court in *Sony* explicitly rejected the analogy of indirect trademark infringement by saying that "given the fundamental differences between copyright law and trademark law, in this copyright case we do not look to the standard for contributory infringement

set forth in [trademark cases]."⁶³ Therefore, *Napster's* usage of the "on-going control" prong may be directly at odds with the *Sony* doctrine contemplated by the Supreme Court.

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This approach of the service/product dichotomy does have some merit,⁵⁸ to the extent that it correctly indicates that *Sony* might not be an excuse for active participation in infringing activities; such participation often takes the form of continuing service. In many cases, active participation itself can plainly be held as

Third, one can hardly draw a clear line between service and product by the criterion of "on-going control." In many events, a "service" provider, despite the retention of a theoretical right to terminate consumer access to its service, may act even more passively than a "product" provider, and vice versa. For ex-

ample, while you may safely characterize power supply as a service and water supply as a product, how can you determine which provider would have more control? Arguably, even Sony could also exercise considerable control over VTRs by installing a jamming system to control recording or simply keeping its products off the market, both of which were actually projected by the plaintiffs but rejected by the district court in *Sony*.⁶⁴ In terms of computer software technologies, courts have long struggled with the difficulty in classifying them either as freestanding products or as on-going services.⁶⁵ Especially upon the arrival of the Internet, whether software is freestanding or under the on-going control of the author/owner depends merely on whether it is hooked online.⁶⁶ In short, the dichotomy of service/product may add more confusion than guidance to the already muddied rules of the *Sony* doctrine.

Finally, in cyberspace, classifying digital technologies as services or products will only lead to two extremes. On one end is the boom of decentralized software applications like Gnutella and Freenet.⁶⁷ To avoid any "on-going control," providers of such technologies cut off any contact with consumers upon delivery. The products are presented as pure products without any central server, without technical support, and even without after-sale service. However, in the long run, consumers will encounter more difficulty in seeking reliable software providers. On the other end is the chilling scenario that no digital technology evades the doom of being considered an on-going service. As described above, in order to preclude copyright liabilities, technology providers are forced to intervene with private content distributions, which drives consumers' interests largely out of the picture.⁶⁸

C. Is Actual or Constructive Knowledge Relevant to the *Sony* Doctrine?

The appellate court in *Napster*, quoting *Netcom*,⁶⁹ stated: "We observe that [the defendant]'s actual, specific knowledge of direct infringement renders *Sony's* holding of limited assistance to [the defendant],"⁷⁰ and "we agree that if a computer system operator learns of specific infringing material available on its

system and fails to purge such material from the system, the operator knows of and contributes to direct infringement."⁷¹ In effect, this holding inserted a "lack of actual knowledge" element into the *Sony* doctrine, irrespective of any substantial noninfringing use. Thus, *Napster* transforms the *Sony* doctrine, which denies any indirect copyright liability if the accused technology is "merely ... capable of substantial noninfringing uses,"⁷² into a rebuttable presumption that simply places a notice requirement on the plaintiff.

It is questionable whether one can read out of the *Sony* opinion such an intention to associate the application of "substantial noninfringing uses" with the "knowledge" prong in contributory infringement.⁷³ One can hardly imagine that Sony would have been held liable if it proceeded to engage in the VTR business upon receipt of notice from copyright holders.⁷⁴ In the *Sony* opinion, the Supreme Court never elaborated on actual knowledge or any other prong of vicarious liability or contributory infringement. This may indicate that, as many commentators⁷⁵ and the district court in *Napster*⁷⁶ assent, the Supreme Court only intended the *Sony* doctrine to be an affirmative defense to any indirect copyright liability instead of some evidential instrumentality. Even if all three requirements for either contributory infringement or vicarious liability were met, a technology provider would nevertheless be free from liability for offering the technology capable of substantial noninfringing uses.⁷⁷ To the contrary, some lower courts properly interpret the *Sony* doctrine as an affirmative defense. For instance, in *Vault Corporation v. Quaid Software Limited*,⁷⁸ the Fifth Circuit quoted the *Sony* case in holding that a software manufacturer was not liable for contributory infringement on the basis that the accused infringing program could also be used to make archive copies as plainly allowed under the Copyright Act.⁷⁹ The court reached this conclusion in spite of the fact that the manufacturer explicitly conceded that it had actual knowledge that its products were used to make unauthorized copies of copyrighted material.⁸⁰

Another problem with the "actual knowledge" analysis is whether receipt of notice from copyright holders can be equal to technology providers' actual knowledge.⁸¹ As the

court in *Netcom* admitted, even after the Internet service providers had received actual notice from copyright holders of a particular allegedly infringing activity, such knowledge was insufficient for contributory infringement where the providers could not “reasonably verify a claim of infringement, either because of a possible fair use defense, the lack of copyright notices on the copies, or the copyright holder’s failure to provide the necessary documentation to show that there is a likely infringement.”⁸² Besides, it would be naïve of a court to preclude the possibility that copyright holders may maliciously assert false information, say, for the purpose of intervening others’ business operations. When copyright holders’ notice is inconsistent with the truth, technology providers as a matter of fact receive no actual knowledge upon receipt of notice. It appears that, absent such complicated notice and take-down procedures as described in the Digital Millennium Copyright Act (“DMCA”) safe harbors,⁸³ the “actual knowledge” approach could incur many controversies while being implemented.

D. What Does It Mean to be Capable of Substantial Noninfringing Uses?

The *Sony* doctrine largely hinges on the meaning of “capable of substantial noninfringing uses.”⁸⁴ Unfortunately, the Supreme Court failed to provide a clear-cut definition of that phrase in the *Sony* opinion. One may only find some clues in its uses of other terminology apparently describing the same thing: “capable of commercially significant noninfringing uses”⁸⁵ and when “a significant number of [uses of the product] would be noninfringing.”⁸⁶

In the face of this problem, one can first

think of varied technologies as falling along a continuum ranging from those having only infringing uses to those having only legitimate uses. If all technologies appear on the two ends of the continuum, we will have little difficulty in defining their legal statuses. In reality, most innovative technologies will have a place somewhere in the middle, having both legitimate and illegitimate uses. To draw the line between the two extremes, courts and commentators conceived of many options. The following four are normally deemed as representative.⁸⁷

1. Primarily Used for Infringing Purposes

The district court in *Napster* held that fair uses of a file-sharing technology were “not substantial enough to preclude indirectly liability” when the traffic to its website resulted chiefly from the technology’s ability to assist copyright infringement.⁸⁸ In addition, the court rejected an obvious noninfringing use as irrelevant under the *Sony* doctrine because it was an afterthought that was not launched until the plaintiffs filed the suit.⁸⁹ In sum, if an Internet technology is primarily used for infringing purposes *at the time of the lawsuit*, none of its emerging or future noninfringing uses could be considered commercially significant.⁹⁰

This approach appears to be a very restrictive reading of the *Sony* doctrine, as it arguably inserts an unusual timing requirement that did not exist in the original *Sony* holdings.⁹¹ Taken literally, the wording “*capable of* substantial noninfringing uses” (emphasis added) instead of “*currently used for* substantial noninfringing uses” indicates that the Supreme Court intended the *Sony* doctrine to be a forward-looking flexible test. In applying this doctrine, courts are

required to consider the full technical capability and market potential of a new technology.⁹² Accordingly, the assessment of noninfringing uses necessarily encompasses all

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the current and future uses of the technology, regardless of whether they are pre-existing, an afterthought, or even non-existing at the time of lawsuit. To otherwise arbitrarily curb the test at any given time, courts would run the risk of depriving many innovative technologies of the opportunity to mature into mainstream and predominantly legitimate tools after the initial stage of being misused by some consumers.⁹³

To put an end to the chaos sparked by the “primarily used for infringing purposes” ap-

proach,⁹⁴ the appellate court in *Napster* explicitly rejected the district court’s reasoning and criticized its analysis for “ignoring the system’s capabilities” and “plac[ing] undue weight on the proportion of current infringing use as compared to current and future noninfringing use.”⁹⁵

2. Substantial Infringing Use

Addressing the *Sony* doctrine, Professor Goldstein advocated that “courts should . . . apply a comparative, rather than an absolute, measure in determining whether an infringing use is substantial, and should hold the defendant [liable] for infringement only if the infringing uses of its material or equipment are substantial as compared to their noninfringing uses.”⁹⁶ The essence of his proposal is to compare all the potential uses for infringing and noninfringing purposes, then determine which one is predominant in quantity and/or in significance. To the extent that this approach does not freeze the *Sony* test with any artificial timing, it has manifest superiority over the “primarily used for noninfringing purposes” approach.

However, this approach appears to have its own difficulties. First, in such a fast-growing area as the Internet,⁹⁷ any prediction on whether an emerging technology will later turn out to be predominantly infringing would be

highly speculative, if not entirely impossible. It is particularly true that the judiciary, limited by its constitutional authority, is notoriously ill-equipped to make any technical or business judgment with a profound impact on social interests beyond the confines of the courtroom.⁹⁸ As a result, this difficulty in applica-

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tion could add much uncertainty, inconsistency, and unpredictability to the *Sony* doctrine.

Secondly, this approach is in effect analogous to the dissenting opinion in the *Sony* case.⁹⁹ The majority in *Sony* explicitly held that “in order to resolve that question [of substantial noninfringing uses], we need not explore *all* the different potential uses of the machine and determine whether or not they would constitute infringement.”¹⁰⁰ The majority also quoted the district court, stating, “[w]hatever the future percentage of legal versus illegal home-use recording might be, an injunction which seeks to deprive the public of the very tool or article of commerce capable of some noninfringing use would be an extremely harsh remedy, as well as one unprecedented in copyright law.”¹⁰¹ These holdings signal the Supreme Court’s preference to weigh all the potential noninfringing uses of a technology in isolation, not in comparison to its other infringing uses.

Thirdly, the “staple article of commerce” theory in the patent context, in which the *Sony* doctrine is deeply rooted, implicates a rather low threshold for “substantial noninfringing uses.” Patent cases generally find a technology capable of substantial noninfringing uses, unless it is “unsuited for any commercial noninfringing use” or has “no use except through practice of the patent method.”¹⁰²

Furthermore, the Supreme Court based its finding of substantial noninfringing uses alternatively and sufficiently on authorized time-shifting uses, which only accounted for 7.3% of total uses.¹⁰³ This also suggests that even a minority use of a technology may be "substantial" enough for the purpose of the *Sony* doctrine.¹⁰⁴

3. Staple Article of Commerce

Many cases after the *Sony* decision have attempted to narrow its holdings to specific facts only concerning "staple articles of commerce." For example, one court indicated that "the *Sony* doctrine only applies to 'staple articles or commodities of commerce,' such as VCRs, photocopiers, and blank, standard-length cassette tapes. Its protection would not extend to products specifically manufactured for counterfeiting activity, even if such products have substantial noninfringing uses."¹⁰⁵ In other words, "staple article of commerce" constitutes a new prong for the *Sony* doctrine in addition to "capable of substantial noninfringing uses."

This proposal will meet with an obvious problem of eggs and chickens. When a new technology comes out, it is only a fancy machine that people know very little about, with an unpredictable fate in the courtroom as well as the marketplace. If the technology is later held to be an infringing article, it would probably be eliminated from the market and never have the opportunity to grow into a staple article of commerce. Only if it enjoys shelter from fatal legal claims can it possibly enter into the mainstream of commerce. When this "staple article of commerce" approach requires us to first determine its market status and then, based on that, determine its legal status, courts may find themselves in an endless circle of reasoning.

4. Independent Justification of Noninfringing Use

Professor Dogan proposed that being "capable of substantial noninfringing uses" for purposes of the *Sony* doctrine should mean that the noninfringing use alone would justify the development and distribution of the product; otherwise the public is not being deprived of a neutral staple, but of a product that is made

possible solely by infringement.¹⁰⁶ This approach seems to make the most sense since it corresponds to the Supreme Court's objective to protect the legitimate interest of "substantially unrelated areas of commerce."¹⁰⁷ If a technology cannot possibly achieve any commercial significance independent of its infringing use, it should not be qualified as an unrelated area of commerce. However, if the noninfringing use alone can still justify the development or exploitation of the technology, such technology should be deemed to be among the "useful arts" promoted by the Congress.¹⁰⁸

This approach has actually been applauded by several federal courts, which concluded that if a product had little likelihood of market success based solely on the noninfringing use, its provider should not escape indirect copyright liability of the infringing uses.¹⁰⁹ The *Sony* case itself, on one occasion, also seemed to imply this approach by stating that when the authorized uses of VTRs are in such a significant number as to "create a substantial market for a noninfringing use . . . the legitimacy of that market is not [to be] compromised."¹¹⁰

One may argue that this approach will allow a new technology to be marketed even if it has substantial infringing uses. The technology provider would then be able to derive profits not only from its own contributions to the technology, but also from some unauthorized uses of copyrighted works of authorship.¹¹¹ This is tantamount to compelling authors to subsidize the information technology industry. However, such an unfortunate sacrifice appears to be unavoidable as a necessary social cost to stimulate technology innovations. To stipulate otherwise, authors would conversely capture involuntary subsidies from a technology's noninfringing uses such as copying public domain works.¹¹² The more substantial the noninfringing uses are, the more impediments such subsidization would create to the technology. In the face of the dilemma between full protection of authors' interests and availability of substantially unrelated technologies, many courts are prone to resolve the tension in favor of technological innovation.¹¹³

Moreover, absolving some technology providers from indirect copyright liability does not mean that copyright holders are totally de-

void of remedies for the unlawful copying their works via those technologies. They may seek deterrence of direct infringements with the aid of other enforcement strategies, such as enhanced criminal penalties¹¹⁴ and technological self-help.¹¹⁵

III. Why Is the *Sony* Doctrine Still Relevant in the Digital Age?

One may argue that the advent of digital technology and the Internet has drastically revolutionized the landscape of information generation and flow. Accordingly, most traditional copyright doctrines, which largely aimed to cope with out-of-date analog media problems, seem archaic in the digital age.¹¹⁶ During the last decade, the Copyright Act experienced numerous modifications, including the enactment of the DMCA of 1998.¹¹⁷ Given this background, one should question what role the nearly twenty-year-old *Sony* doctrine should still play in this so-called digital millennium. The following section demonstrates at least three reasons why the aging *Sony* doctrine should retain its vitality.

A. The DMCA Does Not Supersede the *Sony* Doctrine

The DMCA provides four safe harbors for so-called “service providers.”¹¹⁸ Complying with the requirements of a safe harbor will purportedly absolve a service provider of any direct or indirect copyright liability.¹¹⁹ At the same time, the DMCA stipulates, “The failure of a service provider’s conduct to qualify for limitation of liability under this section shall not bear adversely upon the consideration of a defense by the service provider that the service provider’s conduct is not infringing under this title or any other defense.”¹²⁰ In other words, the DMCA does not preempt any traditional copyright defense. Thus, the *Sony* doctrine may

come into play side-by-side with the DMCA safe harbors.

The DMCA safe harbors hardly bear any superiority over the *Sony* doctrine, let alone preempt it. The first two safe harbors, for “transitory digital network communications”¹²¹ and “system caching,”¹²² seem to be of little assistance to the technology providers addressed in this Article, as they mainly engage in software developments. By definition, these two safe harbors were aimed to protect providers of Internet hardware infrastructures such as wires, circuits, or servers.

The other two safe harbors¹²³ may squarely apply to certain software technology providers, yet they are to a great extent only illusory in the context of indirect copyright liability. To qualify for these two safe harbors, among other things, a service provider, (1) must not have actual knowledge that the material or

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activity is infringing and not be aware of facts or circumstances from which infringing activity is apparent, and (2) must not receive a financial benefit directly attributable to the infringing activity, in a case in which the service provider has right and ability to control such activity.¹²⁴ Astonishingly, the first requirement is just one of the prongs for contributory infringement; the second requirement includes both prongs of vicarious liability.¹²⁵ A service provider will be sheltered from indirect copyright liability only if it is actually not liable for any indirect copyright liability in the first place.

The above analyses illustrate an irony in that, although technology providers as well as copyright holders fought hard for the passage of the DMCA, most of the digital copyright cases still call for application of pre-DMCA

copyright regimes such as the *Sony* doctrine.¹²⁶

B. *Sony* Has Proven to be a Wise Win-Win Decision

As mentioned above, to many copyright holders' despair, the Supreme Court in *Sony* opted to foster the unfettered development and commercialization of new technology as an effort to strike the balance between effective copyright protection and freedom of engaging in substantially unrelated areas of commerce.¹²⁷

Nevertheless, the predicted box-office collision never happened to the motion picture industry, and the total value of box-office sales has stably grown from four billion to nine and a half

billion dollars since *Sony*.¹²⁸ Moreover, movie studios found themselves with a new and enormously profitable channel of distribution, made possible entirely by the widespread introduction of VTRs. In the late 1990s, the rentals and sales of video cassettes exceeded six million units each year.¹²⁹ In this sense, the wisdom of the *Sony* doctrine actually gave birth to two dynamic new industries: the home electronic industry for technology providers and the home entertainment industry for copyright holders.

Internet technologies, such as BBS and peer-to-peer file sharing, definitely have the potential to grow into digital versions of VTR. Although the copyright industry tends to depict many Internet technologies as piracy havens and authors' worst nightmares, probably as a courtroom strategy, such technologies may turn out to confer substantial benefits on authors and other copyright holders.¹³⁰ For example, Internet technologies open new market horizons for alternative or young artists by making their works available to millions of consumers without relying on mainstream channels such as major record labels or publishing houses.¹³¹ Even established artists may also gain a greater share of copyright revenues, while

direct Internet communications between artists and consumers diminish the market power of intermediaries.¹³² Moreover, authors and copyright owners would generally be able to eliminate vast marginal costs associated with traditional hard copy distribution, such as transportation, storage and display costs.¹³³

What makes the *Sony* doctrine most significant is that the judicial endorsement of technology innovations, whether last century's VTR or more recently the Internet, will eventually

“...some lower courts have properly interpreted the *Sony* doctrine as an affirmative defense.”

offer enormous benefits to the general public. As the Supreme Court articulated in *Sony* as well as on numerous other occasions, in order to fulfill the Constitution's objective,¹³⁴ copyright law must preserve the delicate balance between “the interest of the writer in the control and exploitation of his intellectual property . . . and the competing interest of society in the untrammelled dissemination of ideas.”¹³⁵ It is even repeatedly asserted that copyright law merely “makes reward to the owner a secondary consideration,” and that “the sole interest of the United States and the primary object in conferring the copyright monopoly lies in the general benefits derived by the public from the labors of authors.”¹³⁶ Liberating information technology from overstretched copyright liability will notably increase the likelihood of building a decentralized communications infrastructure and promoting the public interests in free flow of information.¹³⁷ Traditional mass media, like journalism or television, entail substantial financial resources that only a limited number of entrepreneurial intermediaries can afford. As the Internet and other digital technologies dramatically lower the threshold costs for public communication, they enable indi-

vidual consumers to communicate information directly to the general public. In this sense, average people gain more realistic opportunities to participate in social discourse and fully exercise their freedom of speech. Consequently, digital technologies enormously augment the quantity and diversity of information available to the public, in that multiple information sources are substituted for the bottleneck created by conventional intermediaries.¹³⁸ Yet, an overbroad copyright regime may perpetuate the information bottleneck and diminish the social benefits brought by decentralized communications in cyberspace. For instance, undue expansion of indirect copyright liability would have a chilling effect on technology providers.¹³⁹ As a result, technology providers would be compelled to censor too much information flow on the Internet and would become a new generation of centralized intermediaries. In addition to thwarting information production, over-censorship would result in high operation costs associated with online services, which consequently would inflate the price of information access to the general public.¹⁴⁰

In a nutshell, the lasting vitality of the *Sony* doctrine lies in its particular mindfulness of the delicate balance between authors' interests in control and exploitation of their intellectual creations, unfettered technology innovations in means of dissemination, and the ultimate public interest in the free flow of information.¹⁴¹ In increasingly frequent confrontation with novel copyright issues generated by emerging technologies, modern courts can still learn from the wisdom of the *Sony* doctrine and its underlying win-win philosophy.

In addition to establishment of the *Sony* doctrine, another significant contribution of the *Sony* case is that it provided compelling strategic teachings for courts facing the challenge of a new technology. The Supreme Court repeatedly counseled that,

Congress has the constitutional authority and the institutional ability to accommodate fully the varied permutations of competing interests that are inevitably implicated by such new technology . . . The judiciary's reluctance to expand the protections afforded by the copyright without explicit legislative guidance is a

recurring theme . . . Sound policy, as well as history, supports out consistent deference to Congress when major technological innovations alter the market for copyrighted materials.¹⁴²

The judiciary's conservative role in reconciling copyright and technology developments rests on policy reasons beyond the canon of *stare decisis*. As the Restatement of Unfair Competition notes, rule-making in intellectual property law is best left to legislation because of the area's inherent intricacy and subtlety.¹⁴³ For instance, any rule-making initiative to expand exclusive rights must begin with an investigation of whether the current legal regime has already caused underproduction in information.¹⁴⁴ One must then ascertain whether any alternatives exist, such as contracts or encryption, with which producers may utilize self-help measures to cure the problem.¹⁴⁵ Third, assessment of possible legal impacts on technological innovations requires sophisticated understanding of the various technology issues that are involved. The above investigations could be so time-consuming and prohibitively expensive that any court could hardly afford to carry them out during relatively short periods of individual actions.¹⁴⁶ Moreover, expansion of property rights in information may affect a wide variety of interest groups, including educational entities, libraries, research institutes, and even governmental bodies. Therefore, to accommodate all the competing interests to the greatest extent, rule-makers must establish a forum for wide social discourses. Because the disputes in action are usually narrowed between parties in the courtroom, courts systematically tend to overlook interests outside the courtroom and potential costs to society as a whole.¹⁴⁷ In light of those institutional limitations in the judiciary, self-empowered rule-makings will add to the uncertainty of law and jeopardize the integrity of legal system.

Ultimately, a cautious lower court that is confronted with thorny problems imposed by new technologies should not harshly extend the statutory copyright monopoly to stifle the technological innovation, but should preserve the balance achieved by statutes and precedents between the competing interests of encouraging copyright holders and furthering the pub-

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lic welfare. Until the *Sony* case is overruled by the Supreme Court or by a legislative instrument,¹⁴⁸ a lower court should faithfully follow the holdings of the *Sony* case and be mindful of its constitutional role in the legal system.

IV. Conclusion

Copyright law history has witnessed the emergence of an endless line of technologies that facilitate more efficient reproduction, manipulation, and dissemination of copyrighted works of authorship. In the past, piano rolls,¹⁴⁹ cable television,¹⁵⁰ photocopiers,¹⁵¹ VTRs,¹⁵² and MP3 players¹⁵³ all sparked much debate on their formidable threats to meaningful copyright protection. In each instance, however, courts managed to assimilate the new technology into the existing legal framework, often creating an unexpected but lucrative avenue of profits for copyright holders.¹⁵⁴ The wisdom of these successful cases lies, *inter alia*, in its particular attentiveness to the inherent balance in copyright law—the balance between authors' interests in control and exploitation of their intellectual creations and the unfettered technology innovations in means of dissemination and the ultimate public interest in free flow of information.

As the *Sony* doctrine is undoubtedly among the best reflections of the balancing philosophy in copyright law, this Article suggests that courts should give it the utmost respect. To reestablish the *Sony* doctrine in an unambiguous and consistent way, Congress may consider codifying the doctrine alongside the DMCA safe harbors. Alternatively, the Supreme Court may refresh and further clarify the *Sony* doctrine to curb the chaotic applications of lower courts. The essence of the *Sony* doctrine should at least include the following maxims or guidelines:

- A. It applies to both contributory infringement and vicarious liability;
- B. It applies to both service providers and product providers;
- C. It is an affirmative defense for indirect copyright liability instead of a rebuttable presumption;
- D. "Capable of substantial noninfringing uses" should mean that

the noninfringing uses would alone justify the development and distribution of the product; and

E. Its policy underpinning is to strike a balance between a copyright holder's legitimate demand for effective, not merely symbolic, protection of the statutory monopoly, and the rights of others to freely engage in substantially unrelated areas of commerce.

Of course, this Article is not an attempt to foreclose further debates on the validity and interpretation of the *Sony* doctrine. Arguably, more evidence will soon emerge showing that the fast growth of information technologies has outstripped the *Sony* doctrine, or that the *Sony* doctrine is not the right place to draw the copyright balance between competing social interests. Nevertheless, even if the time finally comes to declare the *Sony* doctrine an anachronism in cyberspace, it should be Congress that informs the judiciary—not vice versa.

ENDNOTES

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¹ See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984) [hereinafter *Sony*].

² By "indirect liability," this article refers to such a legal notion that one, without direct involvement in the infringing activity, is held accountable for the infringement conducted by another party. To this extent, "indirect liability" is in most cases interchangeable with "third-party liability" or "secondary liability." See, e.g., Edward A. Cavazos and G. Chin Chao, *System Operator Liability of a User's Copyright Infringement*, 4 TEX. INTELL. PROP. L.J. 13, 14 (1995) (system operators "are susceptible to both claims of direct infringement and the various forms of third-party liability, such as contributory in-

fringement and vicarious liability.”); Stacey L. Dogan, *Infringement Once Removed: The Perils of Hyperlinking to Infringing Content*, 87 IOWA L. REV. 829, 832 n.4. (2002) (“‘Secondary liability’ refers to liability for acts of infringement committed by another party.”).

³ See *Sony*, 464 U.S. at 442.

⁴ See 35 U.S.C. § 271(c) (“Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.”). The Supreme Court in *Sony* named it the “staple article of commerce” doctrine. See *Sony*, 464 U.S. at 491. In order to differentiate between copyright and patent doctrines, this article refers to it as the “*Sony* doctrine” in the context of copyright law.

⁵ *Sony*, 464 U.S. at 442.

⁶ For *Sony*'s influences on the marketplace, see *infra* notes 127–29 and accompanying text.

⁷ In this article, the collective term “Internet technology providers” basically refers to providers of software technology, like Internet Explorer, Real player and Napster, rather than providers of hardware infrastructure, like wires and servers. In this sense, Internet technology providers are substantially distinct from “service providers” as defined by the Digital Millennium Copyright Act of 1998 (“DMCA”). See 17 U.S.C. § 512(k) (an online service provider is “a provider of online services or network access, or the operator of facilities therefor” and includes entities engaged in transitory digital network communications).

⁸ A bulletin board system (“BBS”) is a set of “electronic storage media, such as computer memories or hard disks, which are connected to telephone lines by modem devices, and are

controlled by a computer. Users of BBSs can transfer information from their own computers to the storage media on the BBS by a process known as ‘uploading.’ Users can also retrieve information from the BBS to their own computer memories by a process known as ‘downloading.’ “ See *Sega Enter. Ltd. v. MAPHIA*, 948 F. Supp. 923, 927 (N.D. Cal. 1996).

⁹ Peer-to-peer file sharing is a computer software technology by which individuals can search for and share files that reside on the hard drives of other personal computers connected to the Internet. See *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896 (N.D. Cal. 2000), *aff'd in part, rev'd in part*, 239 F.3d 1004 (9th Cir. 2001).

¹⁰ See U.S. CONST. art. I, § 8, cl. 8 (“The Congress shall have Power ... [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”).

¹¹ For more illustrations of factual similarity between *Sony* and recent Internet technologies, see *infra* notes 127–33 and accompanying text.

¹² See *Universal City Studios, Inc. v. Sony Corp. of America*, 480 F. Supp. 429, 451 (C. D. Cal. 1979) (weighing the potential harms of VTRs to filmmakers’ copyrights, as part of the four prongs in a fair use analysis).

¹³ See *Home Recording of Copyrighted Works: Hearings Before the House Committee on the Judiciary*, 97th Cong., 8 (1982), available at <http://www.gnu-darwin.org/hrcw-hear.htm>.

¹⁴ See *Universal City Studios, Inc.*, 480 F. Supp. at 432. In fact, the plaintiffs also sued a number of retailers that sold the Betamax VTRs, an advertising agency that promoted it, and an individual who used the device in his home to record the plaintiffs’ programs for his own personal use.

¹⁵ *Id.* “Time-shifting” refers to the practice of

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taping a television program to view it once at a later time. Time-shifting enables viewers to see programs they otherwise would miss because they are not at home, are occupied with other tasks, or are viewing a program on another station at the time of a broadcast that they desire to watch.

¹⁶ “Fair use” refers to “a privilege in others than the owner of a copyright to use the copyrighted material in a reasonable manner without his consent, notwithstanding the monopoly granted to the owner by the copyright”. See PAUL GOLDSTEIN, *COPYRIGHT: LAW, POLICY AND PRACTICE* § 10.1 (1996).

¹⁷ *Universal City Studios, Inc.*, 480 F. Supp. at 442–56. The district court took typewriters, cameras, and photocopying machines as other examples of staple articles of commerce with substantial noninfringing uses.

¹⁸ See *Sony Corp. of America v. Universal City Studios, Inc.*, 659 F.2d 963, 969–71 (9th Cir. 1982).

¹⁹ See *supra* note 4 and accompanying text.

²⁰ *Sony Corp. of America*, 659 F.2d at 975.

²¹ See *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984).

²² One commentator pointed out that the Copyright Act grants the copyright owner, among other rights, the exclusive right to authorize others to exercise the various other exclusive rights arising under the copyright (See 17 U.S.C. § 106). This provision could be deemed as the statutory support of indirect copyright liability. See MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT*, § 12.04(A) (2001).

²³ See 35 U. S. C. § 271(c) (2005).

²⁴ See *Sony*, 464 U.S. at 442.

²⁵ *Id.* at 443–56.

²⁶ *Id.* at 442.

²⁷ See RONALD H. BROWN & BRUCE A. LEHMAN, IN-

TELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE 114, 124 (1995) available at <http://www.uspto.gov/web/offices/com/doc/ipnii/ipnii.pdf> (describing the development of the need for strict liability to Internet service providers for subscriber copyright infringement).

²⁸ See, e.g., Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 818–19 (2001) (“In the face of widespread private copying, copyright’s traditional approach of direct legal action against each individual infringer would likely prove ineffective.”).

²⁹ See Michael B. Ruter, *The ASCAP Licensing Model and the Internet: A Potential Solution to High-Tech Copyright Infringement*, 39 B.C. L. REV. 1061, 1070 (1998) (stating that the damages recoverable from individual defendants would be minimal, even if a suit against individual users were successful).

³⁰ See Jon Healey, *Labels May Face Risk in Piracy Suits*, L.A. TIMES, June 27, 2003 at C1 (The article notes that the copyright suits could raise sympathy for the file sharers and decrease support for the RIAA in Congress.).

³¹ See *Sega Enters., Ltd. v. MAPHIA*, 948 F. Supp. 923 (N.D. Cal. 1996) (holding the defendants liable for providing BBS services to aid Internet distribution of game software and providing specially made copiers to enable software to be copied from diskettes and posted on the BBS).

³² See *Religious Tech. Ctr. v. Netcom On-Line Communication Servs., Inc.*, 907 F. Supp. 1361 (N.D. Cal. 1995) (holding that an Internet access provider should be acquitted of vicarious liability, but might be liable for contributory infringement when acquiring actual knowledge of direct infringement).

³³ See *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 910 (N.D. Cal. 2001), *aff’d in part and rev’d in part*, 239 F.3d 1004 (9th Cir. 2001) (holding a provider of file-sharing technology liable for its users’ copyright piracy, on

the grounds of contributory infringement and vicarious liability).

³⁴ However, joining the direct infringer as defendant in the action is not necessary for claims of indirect liability. *See, e.g., Danjaq, S. A. v. MGM/UA Communications Co.*, 773 F. Supp. 194, 201 (C.D. Cal. 1991).

³⁵ *See Gershwin Publ'g Corp. v. Columbia Artists Mgmt., Inc.*, 443 F.2d 1159, 1162 (2d Cir. 1971) (holding that an artist manager and concert promoter was liable for infringing performance of a music group).

³⁶ *See Shapiro, Bernstein & Co. v. H.L. Green Co.*, 316 F.2d 304, 307 (2d Cir. 1963) (concluding that a store owner who retained supervision of and received a share of the profits derived from the sale of bootleg records was liable for copyright infringement occurring in the store).

³⁷ *See, e.g., Fonovisa, Inc. v. Cherry Auction, Inc.*, 76 F.3d 259, 261–62 (9th Cir. 1996) (a swap meet operator was held contributorily and vicariously liable for independent vendors' sales of infringing goods in the swap meet).

³⁸ *See A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1022 (9th Cir. 2001).

³⁹ *See Richard H. Stern, On Defining the Concept of Infringement of Intellectual Property Rights in Algorithms and Other Abstract Compute-related Ideas*, 23 AIPLAQJ 401, n.82 (1995) ("As the Supreme Court used the term in *Sony*, vicarious liability is a generic concept including any form of liability imposed on one having a culpable relationship to another's unlawful acts, and contributory infringement is a species or subset of vicarious liability"); *see also* Charles J. Meyer, Note, *National and International Copyright Liability for Electronic System Operations*, 2 IND. J. GLOBAL LEGAL STUD. 497, 508 (1995) ("The Supreme Court explained the concepts of contributory and vicarious liability in *Universal City Studios v. Sony Corporation of America*.").

⁴⁰In actuality, the generic use of the terminology "contributory infringement" or "vicarious

liability" was by no means a novel creation of the Supreme Court, but rather a common practice among copyright literature, especially in the 1980s. *See, e.g., Telerate Sys., Inc. v. Caro*, 689 F. Supp. 221, 228 (S.D.N.Y. 1988) (stating that in the intellectual property context vicarious liability and contributory infringement are one and the same); *Universal City Studios, Inc. v. Nintendo Co.*, 615 F. Supp. 838, 857 (S.D.N.Y. 1985), *aff'd*, 797 F.2d 70 (1986) (stating that a party establishes vicarious liability by showing that "a party, with knowledge of the infringing activity, induces, causes or materially contributes to the infringing conduct of another.").

⁴¹ *See Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 435 (1984).

⁴² *Id.* at 435 n.17.

⁴³ *Id.* at 441.

⁴⁴ *See Fonovisa, Inc. v. Cherry Auction, Inc.*, 76 F.3d 259, 261–62 (9th Cir. 1996). For scholarly criticisms on this case, *see* Kenneth A. Walton, *Is a Website Like a Flea Market Stall? How Fonovisa v. Cherry Auction Increases the Risk of Third-Party Copyright Infringement Liability for Online Service Providers*, 19 HASTINGS COMM. & ENT. L.J. 921, 924 (1997) (arguing that the Fonovisa analysis was flawed and might be used unfairly against online service providers); *see also* David Nimmer, *Brains and Other Paraphernalia of the Digital Age*, 10 HARV. J.L. & TECH. 1, 34 (1996) (warning that applying vicarious infringement liability to online service providers invited "massive lawsuits ... suffocating the Net through the blind flailing of pre-cyberspace principles").

⁴⁵ *See Fonovisa, Inc.*, 76 F.3d at 263–64.

⁴⁶ *See A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1023 (9th Cir. 2001).

⁴⁷ The prototypical example of "shrink-wrap license" is license terms that have been wrapped in transparent plastic along with one or more software disks; a user may accept these terms by tearing the plastic wrap. "click-wrap license", often deemed as digital progeny of "shrink-wrap license", refers to such license

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terms that are displayed in a computer interface; a user may accept these terms by clicking on the "YES" button therein. For a nice treatment of related legal issues, see Mark A. Lemley, *Intellectual Property and Shrinkwrap Licenses*, 68 S. CAL. L. REV. 1239 (1995).

⁴⁸ For instance, it was once reported that Windows 98 could be used to monitor users' behavior through a unique identification number that would be automatically created on every computer that uses the operating system. See Alfred C. Yen, *Internet Service Provider Liability for Subscriber Copyright Infringement, Enterprise Liability, and First Amendment*, 88 GEO. L.J. 1833, 1864 (2000).

⁴⁹ See Assaf Hamdani, *Who's Liable for Cyberwrongs?*, 87 CORNELL L. REV. 901 (2002) (articulating that, from a law and economic perspective, because the incentives of Internet service providers diverge from those of their users, subjecting them to full liability would produce excessive censorship of Internet communication).

⁵⁰ See, e.g., *Artists Music, Inc. v. Reed Publ'g, Inc.*, 31 U.S.P.Q.2d 1623, 1627 (S.D.N.Y. 1994) (considering such policing impractical because the defendant "would have had to hire several investigators with the expertise to identify music, to determine whether it was copyrighted, to determine whether the use was licensed, and finally to determine whether the use was a 'fair use'").

⁵¹ Notably, it is exactly the same difficulty in online enforcement that induced copyright holders to change their enforcement strategies by claiming indirect liability to technology providers. It is arguably unreasonable to shift onto technology providers the burdens of copyright enforcement incident to copyright ownership as well as its benefits. See *supra* notes 27-30 and accompanying text.

⁵² It was reported that Napster has been forced by lawsuits to declare bankruptcy, and the brand "Napster" as well as all its other assets has been transferred to another company. See generally John Borland, *Napster's Bankruptcy Road Nears End*, CNET news.com, at [\[news.com.com/2100-1023-955823.html?tag=bplst\]\(http://news.com.com/2100-1023-955823.html?tag=bplst\) \(August 28, 2002\).](http://</p></div><div data-bbox=)

⁵³ The *Sony* doctrine's effects on consumers' interests in free flow of information and First Amendment rights will be further explored in Section IV, Part B, *infra*.

⁵⁴ Over-censorship may be in direct conflict with such statutes as the Electronic Communication Privacy Act of 1986, which protects consumers' interests in the privacy of their communications. See 18 U.S.C. §§ 2510-2710. For more information, see generally Patrick J. Leahy, *New Laws for New Technologies: Current Issues Facing the Subcommittee on Technology and the Law*, 5 HARV. J. L. & TECH. 1, 10-13 (1992).

⁵⁵ 948 F. Supp. 923, 935 (N.D. Cal. 1996); see *Religious Tech. Ctr. v. Netcom On-Line Communication Servs., Inc.*, 907 F. Supp. 1361, 1365 (N.D. Cal. 1995) (This court did not take the *Sony* doctrine into account at all in determining indirect copyright liability of Internet service providers).

⁵⁶ See *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 916-17 (N.D. Cal. 2000). The appellate court in *Napster* seemed to at least moderately side with the district court on the position that "ability to block access" plus "actual knowledge" would disqualify the defendant for the immunity of the *Sony* doctrine. See *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1022 (9th Cir. 2001) ("The record supports the district court's finding that Napster has actual knowledge ..., that it could block access to the system by suppliers of the infringing material, and that it failed to remove the material.").

⁵⁷ See *Sam Costello, How VCRs May Help Napster's Legal Fight*, Network World Fusion, available at <http://www.nwfusion.com/news/2000/0725napstervcr.html> (July 25, 2000).

⁵⁸ Long before the *Napster* case, some commentators had already proposed the service/product dichotomy while applying the *Sony* doctrine to cases concerning BBS copyright liabilities. See Kelly Tickle, Comment, *The Vicarious Liability of Electronic Bulletin Board Operators*

for the Copyright Infringement Occurring on Their Bulletin Boards, 80 IOWA L. REV. 391, n.151 (1995) (While weighing the application of the Sony doctrine, it is necessary to analyze the question, "Does the BBS operator offer services or a type of cyber product?").

⁵⁹ See *RCA Records v. All-Fast Sys., Inc.*, 594 F. Supp. 335, 339 (S.D.N.Y. 1984) (A retail copy service was held liable where it not only provided access to a machine capable of making copies of cassette tapes, but also had its employees perform the actual copying at the requests of customs); *A & M Records, Inc. v. Gen. Audio Video Cassettes, Inc.*, 948 F. Supp. 1449 (C.D. Cal. 1996) (holding that the Sony doctrine could not exonerate the defendant when his action went far beyond merely selling blank, time-loaded tapes).

⁶⁰ See *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1022 (9th Cir. 2001).

⁶¹ See *supra* note 36 and accompanying text.

⁶² See *Inwood Laboratories, Inc. v. Ives Laboratories, Inc.*, 456 U.S. 844, 854 (1982) (observing that a manufacturer or distributor could be held liable for contributory infringement "if it continues to supply its product to one whom it knows or has reason to know is engaging in trademark infringement.").

⁶³ See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 439 (1984).

⁶⁴ See *Universal City Studios, Inc. v. Sony Corp. of Am.*, 480 F. Supp. 429, 432, 462 (C.D. Cal. 1979) ("Whether or not such jamming is technologically feasible, this 'supervision' would not be within the power of these defendants. ... Plaintiffs, however, have cited no case in which a defendant's 'power to supervise' was based on his ability to terminate the business.").

⁶⁵ See generally Jennifer B. Cannata, Note, *Time Is Running Out for Customized Software: Resolving the Goods versus Service Controversy for Year 2000 Contractual Disputes*, 21 CARDOZO L. REV. 283 (1999) (introducing the difficulty in defining customized software as product or as service in the context of Uniform Commercial

Code).

⁶⁶ See Laurence F. Pulgram, *Beyond Napster: Debating the Future of Copyright on the Internet*, 50 AM. U. L. REV. 389, 404-05 (2000) ("Whether it is characterized as a product, or as a service, or as a device, or a network, doesn't really matter. Look, AOL can supervise its users, so can a search engine That doesn't make it incapable of substantial non-infringing uses or not eligible for that defense. I really think that one is a place where the law clearly is going to move, as we recognize that any Internet service is going to include continuing relationships between the provider and the consumer.").

⁶⁷ See Janelle Brown, *The Gnutella Paradox*, Salon.com, at http://dir.salon.com/tech/feature/2000/09/29/gnutella_paradox/index.html (Sept. 29, 2000) (introducing the new decentralized generation of file-sharing software).

⁶⁸ See *supra* note 53-54 and accompanying text.

⁶⁹ See *Religious Tech. Ctr. v. Netcom On-Line Communication Servs., Inc.*, 907 F. Supp. 1361, 1374 (N.D. Cal. 1995).

⁷⁰ See *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1020 (9th Cir. 2001).

⁷¹ *Id.* at 1021.

⁷² See *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984) (emphasis added).

⁷³ For an introduction of contributory infringement prongs, see *supra* note 35 and accompanying text.

⁷⁴ See Hisanari Harry Tanaka, *Post-Napster: Peer-to-Peer File Sharing Systems Current and Future Issues on Secondary Liability under Copyright Laws in the United State and Japan*, 22 LOY. L.A. ENT. L. REV. 37, 59 (2001) ("the provider should not be held liable even if the provider later became aware of the actual infringement by the users after the distribution of machinery/goods").

⁷⁵ See Dogan, *supra* note 2, at 876 ("This view of

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Sony—as involving only the question of whether to impute knowledge in contributory infringement cases—is unusual and probably does not reflect what the Supreme Court believed it was doing in *Sony*"); Aaron Johnson, Note, *Privates in Cyberspace: The Copyright Implications of A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896 (N.D. Cal. 2000), 80 NEB. L. REV. 125, 143 (2001) ("Sony also introduced the staple article of commerce doctrine as an affirmative defense to a claim of contributory copyright infringement."); Sarah H. McWane, *Hollywood v. Silicon Valley: DeCSS Down, Napster to Go?*, 9 COMMLAW CONSPICUOUS 87, 89 (2001) (stating that the *Sony* doctrine was as much an affirmative defense as the fair use).

⁷⁶ See *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 912 (N.D. Cal. 2000) (discussing the "Affirmative Defense of Fair Use and Substantial Non-Infringing Use").

⁷⁷ Even assuming the *Sony* doctrine is about any contributory infringement prong, it would seem to be more about "contribution". See *Livnat v. Lavi*, 40 U.S.P.Q. 2d 1300 (S.D.N.Y. 1998) (the court relied on the *Sony* case to hold that "Participation sufficient to establish a claim of contributory infringement may not consist of merely providing the 'means to accomplish an infringing activity'").

⁷⁸ 847 F.2d 255, 266–67 (5th Cir. 1988).

⁷⁹ 17 U.S.C. § 117(a)(2) (2004).

⁸⁰ *Vault Corp.*, 847 F.2d at 262.

⁸¹ See *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1022 (9th Cir. 2001) ("Plaintiffs ... demonstrated that defendant had actual notice of direct infringement because the [plaintiffs] informed it of more than 12,000 infringing files.").

⁸² See *Religious Tech. Ctr. v. Netcom On-Line Communication Servs., Inc.*, 907 F. Supp. 1361, 1374 (N.D. Cal. 1995). For adequacy of notification generally, see RESTATEMENT (SECOND) OF AGENCY § 9 (1958).

⁸³ See 17 U.S.C. § 512(g).

⁸⁴ See *Sony Corp of America v Universal City Studios, Inc.*, 464 US 417, 442 (1984).

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ This list of various interpretations of "capable of substantial noninfringing uses" is not intended to be exclusive. This article omitted those not in direct relation to Internet technologies. Besides, in most cases, those omitted are either only academic hypotheses with no statutory or case-law support or step out of boundary even further than the scenarios having been rejected by this article. See, e.g., Ariel B. Taitz, Note, *Removing Road Blocks Along the Information Superhighway: Facilitating the Dissemination of New Technology by Changing the Law of Contributory Copyright Infringement*, 64 GEO. WASH. L. REV. 133, 159 (1995) (advocating a "non-trivial infringing uses" doctrine, which held the manufacturer of the equipment liable "if the equipment is capable of an infringing use that is not *de minimis*", and admitting that this doctrine changed the essence of "capable of substantial noninfringing uses"); Michael J. McCambridge, *Contributory Infringement by Providing the Means: The Staple Article of Commerce Doctrine and An Alternative Analysis for Copyright Law*, 18 J. MARSHALL. L. REV. 703, (proposing a four-factor weighing analysis for the *Sony* doctrine, which included "the public interest in the device used as a means for infringement, the probable damage that continued infringement would cause to the public interest in access to the copyrighted works, the copyright owner's interest in continued reward for his creative endeavor, and the similar interest of the alleged contributory infringer in legitimately profiting from the means for infringement which he provided"; no courts seemed to have followed this fair use-like analysis yet.).

⁸⁸ See *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 916 (N.D. Cal. 2000).

⁸⁹ *Id.* at 917 (Napster's "New Artists Program", which engaged in authorized promotion of new artists not represented by major labels, "was an afterthought, not a major aspect of the

Napster business plan" and therefore did not help preclude contributory infringement or vicarious liability).

⁹⁰ This approach was upheld by several district courts even before the Napster case. See *Cable/Home Communication Corp. v. Network Prods., Inc.*, 902 F.2d 829, 846 (11th Cir. 1990) (holding the defendant liable for contributory infringement for promotion and sale of chips used to descramble cable television programs, because the defendant "utilized and advertised these devices primarily as infringement aids and not for legitimate, noninfringing uses"); *A&M Records, Inc. v. Gen. Audio Video Cassettes, Inc.*, 948 F. Supp. 1449, 1456 (C.D. Cal. 1996) ("[A]lthough time-loaded cassettes can be used for legitimate purposes, these purposes are insubstantial given the number of Mr. Abdallah's customers that were using them for counterfeiting purposes.").

⁹¹ See, e.g., Peter Jaszi, *Beyond Napster: Debating the Future of Copyright on the Internet*, 50 AM. U. L. REV. 389, 397-98 (2000) ("Whatever we mean by capability, the term suggests a standard which has some dynamic quality, rather than one that is applied to and only to a static snapshot of the situation as the court finds it at the time of decision. This however seems to have been Judge Patel's method of decision.").

⁹² See A. Samuel Oddi, *Contributory Copyright Infringement: the Tort and Technological Tensions*, 64 NOTRE DAME L. REV. 47, 103 (1989) ("In sum, the technical capability standard for contributory infringement establishes a fair, workable, and tension-relieving balance between the sometimes competing interests of copyright and technology creators.").

⁹³ In this sense, Betamax VTRs are the best example of a technology that was initially characterized as an infringing tool, but later turned out to be enormously beneficial to copyright holders. For the long-term influence of VTRs on the marketplace, see *infra* notes 127-129 and accompanying text.

⁹⁴ In addition to the timing requirement, this approach implicates a comparative test of infringing and noninfringing uses. For the pros

and cons of such a comparative test, see *infra* notes 96-104 and accompanying text.

⁹⁵ See *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1021 (9th Cir. 2001).

⁹⁶ See PAUL GOLDSTEIN, *supra* note 16, § 6.1.2.

⁹⁷ Although still in its infancy, the Internet has already experienced a series of transformations, from a medium originally designed for defense purposes to a medium of communication for academics, to a medium of unprecedented, interactive mass communication, and now, most recently, to a medium of vast commercial potential. For a brief history of the development of Internet technologies, see RONALD H. BROWN & BRUCE A. LEHMAN, *supra* note 27, at 179-82.

⁹⁸ For a lengthier discussion of the judiciary's role in regulating new technologies and copyright law, see *infra* notes 142-148 and accompanying text.

⁹⁹ See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 492-93 (1984) (Blackmun, J., dissenting) (arguing that the factual question of the percentage of legal versus illegal home-use recording is essential for the outcome).

¹⁰⁰ *Sony*, 464 U.S. at 442.

¹⁰¹ *Universal City Studios, Inc. v. Sony Corp. of Am.*, 480 F. Supp. 429, 468, *quoted in Sony*, 464 U.S. at 444.

¹⁰² See, e.g., *Dawson Chem. Co. v. Rohm & Hass Co.*, 448 U.S. 176, 198-99 (1980).

¹⁰³ See *Sony*, 464 US at 494 (1984).

¹⁰⁴ Several lower courts have held that a single substantial noninfringing use would suffice to acquit technology providers from indirect copyright liability. See, e.g., *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255, 266-67 (5th Cir. 1988) (a technology that permitted copying of software did not contributorily infringe copyright where it could be used to make archival copies, without regard to the relative magnitude of the lawful use); see also Matthew Bender

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& Co. v. West Publ'g Co., 158 F.3d 693, 707 (2d Cir. 1998) (the insertion of West's star pagination in its CD-ROM compilation of judicial opinions qualified for the *Sony* doctrine, as long as it can be used substantially, if not overwhelmingly, as a tool for research and citation).

¹⁰⁵ A & M Records, Inc. v. Gen. Audio Video Cassettes, Inc., 948 F. Supp. 1449, 1456 (C.D. Cal. 1996) (the defendant was held liable where he provided his customers with both a tape duplicating machine and thousands of blank tapes timed to specific lengths).

¹⁰⁶ See Stacey Dogan, *Is Napster a VCR?: The Implications of Sony for Napster and Other Internet Technologies*, 52 HASTINGS L.J. 939, 953 (2001) (introducing a market access approach to determine the applicability of the *Sony* doctrine).

¹⁰⁷ See *Sony*, 464 U.S. at 442.

¹⁰⁸ See U.S. CONST. art. I, § 8, cl. 8.

¹⁰⁹ See, e.g., *Worlds of Wonder, Inc. v. Vector Intercontinental, Inc.*, 1 U.S.P.Q.2d (BNA) 1982, 1984 (N.D. Ohio 1986) (holding defendant liable for contributorily infringing the plaintiff's copyright and granting permanent injunction, damages, and attorney's fees).

¹¹⁰ See *Sony*, 464 US at 446.

¹¹¹ GOLDSTEIN, *supra* note 16, § 6.1.2.

¹¹² *Id.*

¹¹³ See Jane C. Ginsburg, *Copyright and Control over New Technologies of Dissemination*, 101 COLUM. L. REV. 1613, 1616 (2001) ("[o]ne might therefore conclude that when copyright and new technology conflict the copyright owner's right to control the disposition of the work must yield to a greater public interest in promoting [the technology's] unfettered ... dissemination. ").

¹¹⁴ For example, Congress in 1997 passed the No Electronic Theft Act, amending the Copyright Act by removing the requirement that the defendant have realized or anticipated some fi-

nancial gain to be criminally charged. See Pub. L. No. 105-147, 111 Stat. 2678 (codified as amended in scattered sections of 17, 18, and 28 U.S.C.).

¹¹⁵ See Eric Schlachter, *The Intellectual Property Renaissance in Cyberspace: Why Copyright Law Could Be Unimportant on the Internet*, 12 BERKELEY TECH. L.J. 15, 38-40 (1997) (describing all kinds of technological measures to secure copyright in a digital environment, such as copy protection, encryption and date bomb); Jonathan Weinberg, *Hardware-Based ID, Rights Management, and Trusted Systems*, 52 STAN. L. REV. 1251, 1255-59 (2000) (introducing a technology-powered "trusted systems" to control distribution of information on the Internet).

¹¹⁶ See generally Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 HARV. L. REV. 501 (1999) (stating that content subject to copyright can not be controlled on the Internet, and authors would have to find new ways to make money in cyberspace); John Perry Barlow, *The Economy of Ideas: A Framework for Rethinking Patents and Copyrights in the Digital Age*, WIRED, Mar. 1994, at 85, available at <http://www.eff.org/~barlow/EconomyOfIdeas.html> (arguing that traditional copyright law may not withstand the digitalization, as it was developed to convey forms and methods of expression entirely different from digital medium).

¹¹⁷ See Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended at 17 U.S.C. § 512).

¹¹⁸ See 17 U. S. C. § 512(k).

¹¹⁹ See *id.* § 512(a)-(e).

¹²⁰ *Id.* § 512(i).

¹²¹ *Id.* § 512(a).

¹²² *Id.* § 512(b).

¹²³ *Id.* § 512(c) ("information residing on systems or networks at direction of users") and (d) ("information location tools").

¹²⁴ *Id.*

¹²⁵ See *supra* notes 35-36 and accompanying text.

¹²⁶ See Jane C. Ginsburg, *Copyright Use and Excuse on the Internet*, 24 COLUM.-VLA J. L. & ARTS 1, 42-43 (2000).

¹²⁷ See *Sony Corp of America v Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984).

¹²⁸ See Motion Picture Association, *U.S. Entertainment Industry: 2002 MPA Market Statistics* (2002).

¹²⁹ *Id.* Notably, recent years saw a sharp decline of video cassette businesses. This was largely due to the growing penetration of DVDs in households.

¹³⁰ See James Boyle, *A Politics of Intellectual Property: Environmentalism for the Net?*, 47 DUKE L. J. 87, 104 (1997) ("The point is that the digital environment is complicated; the same technical factors that make copying easier also yield other ways for producers to recover their investment, or to encourage further innovation."); Claire Smith, *Illegal Music Downloads Boosting Album Sales*, THE SCOTSMAN, July 10, 2003, available at <http://www.news.scotsman.com/scitech.cfm?id=748832003> (describing how free music file-sharing may eventually be a boon to the music industry).

¹³¹ See *RIAA v. Diamond Multimedia Sys.*, 180 F.3d 1072, 1074 (9th Cir. 1999) ("[T]he Internet also supports a burgeoning traffic in legitimate audio computer files. Independent and wholly Internet record labels routinely sell and provide free samples of their artists' work online, while many unsigned artists distribute their own material from their own websites. Some free samples are provided for marketing purposes or for simple exposure, while others are teasers intended to entice listeners to purchase either mail order recordings or recordings available for direct download.").

¹³² See, e.g., Jane C. Ginsburg, *supra* note 113, at 1619 ("The technological measures that reinforce legal control may enable and encourage authorial entrepreneurship, because authors

may be able to rely on these measures to secure the distribution of and payment for their works.").

¹³³ See, e.g., Alfred C. Yen, *supra* note 48, at 1835 ("The Internet lowers costs by replacing expensive 'real space' stores, copies, and communication with cheap, speedy, electronic equivalents.").

¹³⁴ See U.S. CONST. art. I, § 8, cl. 8 ("The Congress shall have Power ... [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.").

¹³⁵ See *Sony*, 464 U.S. at 430 (quoting BENJAMIN KAPLAN, *AN UNHURRIED VIEW OF COPYRIGHT*, Foreword, vii-viii (1967)); see also *Stewart v. Abend*, 495 U.S. 207, 228 (1990) ("[A]lthough dissemination of creative works is a goal of the Copyright Act, the Act creates a balance between the artist's right to control the work during the term of the copyright protection and the public's need for access to creative works."); *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975) ("Creative work is to be encouraged and rewarded, but private motivation must ultimately serve the cause of promoting broad public availability of literature, music, and the other arts."); *Mazer v. Stein*, 347 U.S. 201, 219 (1954) ("The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare").

¹³⁶ See *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 158 (1948). Also, as indicated in the legislative history of the U.S. Copyright Act, "The enactment of copyright legislation by Congress under the terms of the Constitution is not based upon any natural right that the author has in his writings, ... but upon the ground that the welfare of the public will be served and progress of science and useful arts will be promoted...." H.R. REP. NO. 2222, 60th Cong., 2d Sess., at 7 (1909).

¹³⁷ See generally Niva Elkin-Koren, *Copyright Law and Social Dialogue on the Information*

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Superhighway: the Case Against Copyright Liability of Bulletin Board Operators, 13 CARDOZO ARTS & ENT. L.J. 345 (1995) (arguing that imposing copyright liability on BBS operators would hinder the potential of digital technology to promote decentralized information communications and enhance social dialogue).

¹³⁸ For a wide variety of ways that digital technology may improve and enhance our lives, see RONALD H. BROWN & BRUCE A. LEHMAN, *supra* note 27, at 7–10.

¹³⁹ See, e.g., Niva Elkin-Koren, *supra* note 137, at 404–07 (discussing the relationship between contributory liability of BBS and the information bottleneck in cyberspace); Alfred C. Yen, *supra* note 48, at 1870 (by drawing analogy from libel cases, explaining why overreaching copyright liability will have a chilling effect on, and cause overaggressive enforcement by Internet service providers).

¹⁴⁰ See Timothy L. Skelton, Comment, *Internet Copyright Infringement and Service Providers: The Case for a Negotiated Rulemaking Alternative*, 35 SAN DIEGO L. REV. 219, 302–03 (1998) (arguing that overbroad copyright liability on Internet service providers will pose a threat to affordable information access).

¹⁴¹ See *Sony* 464 U.S. at 429 (stating that copyright law “involves a difficult balance between the interests of authors...in the control and exploitation of their writings...on the one hand, and society’s competing interest in the free flow of ideas, information, and commerce on the other hand”).

¹⁴² *Id.* at 431.

¹⁴³ See RESTATEMENT (THIRD) OF UNFAIR COMPETITION, § 38, cmt. b (1995).

¹⁴⁴ Intellectual property, by contrast to tangible property, has more characteristics of public goods, in which there is an inherent dilemma of production versus access. A public good is usually described as “non-excludable” and “inexhaustible.” It is non-excludable in that, once information is published, it will physically be difficult to exclude others from using it. It is

inexhaustible in that on person’s use of information will not naturally diminish another’s use of the same. Therefore, the society would tend to under-produce public goods, without additional incentives provided by legal institutions. For an excellent treatment of economic theories in connection with intellectual property, see generally James Boyle, *A Theory of Law and Information: Copyright, Spleens, Blackmail, and Insider Trading*, 80 CARLIF. L. REV. 1413, 1443–57 (1992).

¹⁴⁵ See generally Paul Goldstein, *Copyright and Its Substitutes*, 1997 WIS. L. REV. 865 (1997) (exploring electronic contract and digital encryption as alternative enforcement mechanisms for authors’ rights and their impact on the traditional copyright regime). In reality, some additional enforcement products have been introduced, which will permit copyright holders to limit unauthorized use of their works on the Internet. For example, Copyright.net has developed a new software application called “Copyright Agent” that facilitates the notice and take-down procedure mandated by the DMCA.

¹⁴⁶ See *Int’l News Serv. v. Associated Press*, 248 U.S. 215, 263 (Brandeis, J., dissenting) (1918) (stating that “Courts are ill-equipped to make the investigations which should precede a determination of ... any property right in news.”).

¹⁴⁷ Notably, some commentators argue that even legislation often results from expedient compromises between lobbying groups regardless of social costs as a whole. See, e.g., Jessica Litman, *Copyright, Compromise and Legislative History*, 72 CORNELL L. REV. 857, 869–79 (stating that the U.S. Copyright Act of 1976 was born out to be a negotiated settlement among specific stakeholders).

¹⁴⁸ Arguably, the Sony doctrine has been narrowed by the DMCA in the area of copyright-related circumvention technologies. The Copyright Act prohibits the manufacture and distribution of products and services used to defeat technological measures used to control access or to protect the rights of a copyright owner, if those product or services are primarily designed or produced for the purposes of circumventing technological measures, or have only lim-

ited commercially significant purposes other than to circumvent technological measures, or are marketed by persons with knowledge of their use in circumventing the technological measures. See 17 U.S.C. § 1201(a)-(b).

¹⁴⁹ See *White-Smith Music Publ'g Co. v. Apollo Co.*, 209 U.S. 1, 17–18 (1908) (holding that the creation of piano rolls using copyrighted music did not infringe the original composition).

¹⁵⁰ See *Teleprompter Corp. v. CBS*, 415 U.S. 394, 411–14 (1974) (determining that CATV transmissions are not performances within meaning of Copyright Act).

¹⁵¹ See *Williams & Wilkins Co. v. United States*, 420 U.S. 376 (1975) (holding that a medical journal publisher's photocopying is considered a fair use because it is a nonprofit institution devoted to the advancement of medical knowledge).

¹⁵² See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984).

¹⁵³ See *RIAA v. Diamond Multimedia Sys., Inc.*, 180 F.3d 1072, 1076–81 (9th Cir. 1999) (denying request to enjoin production of Rio portable music player and holding that it does not fall under Audio Home Recording Act of 1992).

¹⁵⁴ See Arthur R. Miller, *Copyright Protection for Computer Programs, Databases, and Computer-Generated Works: Is Anything New Since CONTU?*, 106 HARV. L. REV. 977, 982 (1993).

