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TECHNOLOGICAL FAIR USE

EDWARD LEE*

ABSTRACT

This Article proposes a framework tailoring the fair use doctrine specifically for technology cases. At the inception of the twenty-first century, information technologies have become increasingly central to the U.S. economy. Not surprisingly, complex copyright cases involving speech technologies, such as DVRs, MP3 devices, Google Book Search, and YouTube, have also increased. Yet existing copyright law, developed long before digital technologies, is ill prepared to handle the complexities that these technology cases pose. The key question often turns not on prima facie infringement, but on the defense of fair use, which courts have too often relegated to extremely fact-specific decisions. The downside to this ad hoc adjudication of fair use is that it leads to an uncertainty over what is permissible that may impede innovation in speech technologies. This Article addresses this ongoing problem by proposing that courts recognize a specific type of fair use—technological fair use—and tailor the four fair use factors accordingly. Technological fair use is supported not only by a synthesis of existing case law and economic theory, but also, more importantly, by the constitutional underpinnings of the First Amendment and the Copyright and Patent Clause.

I. INTRODUCTION

In our Information Age, a new form of fair use is emerging. It involves not just individual uses of copyrighted works, but also the

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development of new speech technologies.¹ Cases involving these “technological fair uses”² are often far more complex and significant to the U.S. economy than traditional fair use cases. At stake is not just the legality of certain uses of copyrighted works, but also, quite often, the legality of *new technologies* that can have a profound impact on innovation and the growth of the U.S. economy, as well as on people’s daily lives.

Consider *Sony Corp. of America v. Universal City Studios, Inc.*, perhaps the mother of technological fair use.³ At stake in *Sony* was the legality of not only the new consumer practice of taping television shows at home for later viewing (known as “time-shifting”), but also the sale of an entire line of the then-new technology known as the VCR.⁴ Several movie studios sought to ban VCRs so they could market their own approved videodisc player that did not offer consumers the ability to record television broadcasts.⁵ Ultimately, the Supreme Court, in a 5-4 decision,⁶ held that

1. By “speech technology,” I mean any technology that functions in creating, displaying, or disseminating speech. How far to apply this definition may present some difficult questions, at least on the margins. Without running through the myriad possibilities, I believe all of the key copyright cases discussed in this Article fall within the definition of speech technology in a way that most people will find uncontroversial. For those cases that are more difficult, social norms may help shape what is viewed as a technology. For example, the technology may have become so commonplace—e.g., printed books and picture frames—that people no longer view it as a technology. Yet the technology may later become more advanced—e.g., digital books and digital frames—so that it becomes viewed again as a technology. For simplicity, I do not at this time include technologies, such as digital rights management, that function to *stop* the creation, display, or dissemination of speech within my definition. Although such antispeech dissemination technologies are related to speech, they have not yet raised cases involving the assertion of fair use as justifications for the creation of those technologies.

2. “Technological fair use” is a term that I have coined to describe a subset of fair use cases dealing with technologies. Courts have yet formally to adopt this terminology, although a synthesis of the fair use cases in this area supports my approach.

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

4. *Id.* at 420–21. The Court described Sony’s Betamax as a “video tape recorder,” or “VTR.” *Id.* at 420. This type of machine eventually became commonly known as the “VCR,” or “video cassette recorder.”

5. *Id.* at 421–22. Music Corporation of America, which owned Universal Studios and had developed the competing videodisc player that did not have recording capability, orchestrated the lawsuit to stop the Sony Betamax by having Universal file the lawsuit, with Disney joining the suit as a coplaintiff against Sony. See JAMES LARDNER, *FAST FORWARD: HOLLYWOOD, THE JAPANESE, AND THE ONSLAUGHT OF THE VCR* 26–30, 119, 316–28 (1987); WILLIAM PATRY, *MORAL PANICS AND THE COPYRIGHT WARS* 149–50 (2009); Edward Lee, *Freedom of the Press 2.0*, 42 GA. L. REV. 309, 401 & n.522 (2008) [hereinafter Lee, *Freedom of the Press 2.0*].

6. Initially, a majority of the Court took the opposite view (against Sony) in its conference following oral argument. For fascinating accounts of the Court’s internal shift in *Sony*, see Jessica Litman, *The Story of Sony v. Universal Studios: Mary Poppins Meets the Boston Strangler*, in *INTELLECTUAL PROPERTY STORIES* 358, 366–82 (Jane C. Ginsburg & Rochelle Cooper Dreyfuss eds., 2006). See also 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 (1993) (tracing the development of the *Sony* case through the use of Justice Thurgood Marshall’s public papers).

home time-shift recordings were a permissible fair use and that the VCR was perfectly legal because the technology was capable of “substantial noninfringing uses.”⁷

Had the Court decided the other way and upheld a ban on VCRs, the world today would be vastly different. The fifteen years following the *Sony* decision saw sales of VCRs in the millions, with 88.6 percent of all U.S. households owning a VCR by 1999.⁸ Indeed, the growth rate in sales of VCRs eclipsed the past rate of market penetration of color televisions.⁹ Hollywood’s preferred technology over the VCR, the (nonrecording) laserdisc, flopped.¹⁰ But the sale of VCRs in turn facilitated the growth of a vast new and unforeseen market for the movie studios in the rental and sale of videos for home viewing, which, perhaps ironically,¹¹ became “the largest source of revenue for the [U.S.] movie industry,” even surpassing box office sales.¹² In fact, the major Hollywood studios benefited the most from the burgeoning home video market.¹³ Today, videos on DVD, the successor to the VCR home market, “generate[] more than double the revenues collected at the box office.”¹⁴ The VCR also facilitated a new

7. *Sony*, 464 U.S. at 442.

8. *81.2% of US Households Have DVD Players, 79.2%—VCR Machines*, IT FACTS, Dec. 20, 2006, <http://www.itfacts.biz/812-of-us-households-have-dvd-players-792-vcr-machines/7871> (citing NIELSEN MEDIA RESEARCH, 3RD QUARTER HOME TECHNOLOGY REPORT (2006)). During the eight years that it took to resolve *Sony* (1976–1984), the number of VCRs in U.S. households rose exponentially, from 475,000 to 5 million. Paul Goldstein, *Fair Use in Context*, 31 COLUM. J.L. & ARTS 433, 439 (2008). Most of the VCRs were made by foreign manufacturers. 1990 U.S. DEP’T OF COMMERCE INDUSTRIAL OUTLOOK 47-5 [hereinafter 1990 OUTLOOK].

9. See ELEC. MARKET DATA BOOK 16–17 (Elec. Indus. Ass’n 1990) [hereinafter 1990 DATA BOOK].

10. See ELEC. MARKET DATA BOOK 21 tbl.2.2 (Elec. Indus. Ass’n 1993) (stating that in 1992 sales of VCRs exceeded 12 million, while sales of laserdiscs were only 212,000, or just 1.8 percent of VCR sales).

11. The VCR’s huge financial boon to the movie industry made laughable the dire predictions of Motion Picture Association of America president Jack Valenti, who testified before Congress about the dangers that these recorders posed to the motion picture industry, warning that “the VCR is to the American film producer and the American public as the Boston strangler is to the woman home alone.” Litman, *supra* note 6, at 365. See also PATRY, *supra* note 5, at 144–54 (describing Valenti’s testimony that the VCR would threaten both the motion picture industry and the American public).

12. Edward Lee, *The Ethics of Innovation: p2p Software Developers and Designing Substantial Noninfringing Uses Under the Sony Doctrine*, 62 J. BUS. ETHICS 147, 148 (2005). In 1988, just five years after *Sony*, video rentals and sales totaled \$11.3 billion in the United States, a 51 percent increase from 1987. See 1990 OUTLOOK, *supra* note 8, at 47-5.

13. See 1990 OUTLOOK, *supra* note 8, at 47-6 (“52 percent of all industry sales were garnered by the top five U.S. suppliers; some independents and smaller distributors went out of business, while others were beset by increasing difficulties.”).

14. Fred von Lohmann, *Fair Use as Innovation Policy*, 23 BERKELEY TECH. L.J. 829, 840–41 (2008).

market for camcorders and video cameras; sales for these products doubled within a decade.¹⁵ Thus, had *Sony* been decided the other way, literally billions of dollars in revenue in these three new markets (VCRs, video rentals/sales, and video cameras) might never have materialized—consumer spending on rentals and sales of videotapes and DVDs alone totaled a staggering \$343.2 billion between 1981 and 2006.¹⁶ As this single example suggests, technological fair use cases may be far weightier than other fair use cases, at least in terms of dollar amounts and their effect on the U.S. economy.¹⁷

The question of technological fair use is not merely a relic of the past. Although VCRs are headed toward obsolescence, technological fair use is a doctrine relevant to some of the most innovative speech technologies in recent years, such as Google's Book Search and Amazon's Kindle. Both technologies offer great benefits to the public. For example, Google's Book Search, an online search tool, enables people to search within the texts of

15. See 1990 OUTLOOK, *supra* note 8, at 45-7. From 1992 to 2001, camcorders doubled in sales to more than 5 million. See ELEC. MARKET DATA BOOK 16 (Elec. Indus. Ass'n 2002) (citing eBrain Market Research). The VCR facilitated the camcorder market because "[c]amcorders [were] purchased primarily by consumers who already own[ed] home VCR decks and [we]re interested in a simple to use, lightweight portable for electronic photography." 1990 DATA BOOK, *supra* note 9, at 17.

16. Entertainment Merchant Association, Consumer Spending—Rental & Sell-Through: VHS & DVD Combined 1981–2006, http://www.entmerch.org/adams_research.html (last visited May 1, 2010) (citing Adams Media Research). See also 2000 U.S. DEP'T OF COMMERCE STATISTICAL ABSTRACT OF THE U.S.: THE NATIONAL DATA BOOK 566 tbl.909 (reporting data on consumer spending on home video from 1993 to 2003); 1995 U.S. DEP'T OF COMMERCE STATISTICAL ABSTRACT OF THE U.S.: THE NATIONAL DATA BOOK 572 tbl.899 (reporting data from 1985 to 1993).

17. Apple's iPod provides another example of a type of speech technology that has generated considerable revenues supported by fair use—the device produced over \$13 billion in revenue in its first five years. Von Lohmann, *supra* note 14, at 838. Along with the popular iTunes music download service, the iPod has helped to facilitate the growth of the market for digital downloads. By January 2009, Apple had sold 6 billion songs, selling roughly 2 billion songs per year. Paul Resnikoff, *What Else? iTunes Store Hits 6 Billion...*, DIGITAL MUSIC NEWS, Dec. 29, 2009, <http://www.digitalmusicnews.com/stories/010609what>. This figure does not include the growing download video market. My sense is that most people think that transferring one's purchased music from CDs onto an iPod would constitute fair use, and most copyright commentators would likely also agree. See Von Lohmann, *supra* note 14, at 837 (explaining how "there would be no iPod if Apple could not count on copyright law to permit iPod buyers to copy their existing CD collections"). See also Lawrence Lessig, *A Rotten Ruling*, WIRED, Sept. 2005, <http://www.wired.com/wired/archive/13.09/posts.html?pg=7> (explaining that Apple knew when developing and promoting the iPod that people would copy music from CDs). Yet the Recording Industry Association of America has not embraced that view, instead characterizing such transfers as simply *permitted* by the music industry. Ass'n of Am. Publishers et al., RM 2005-11, Joint Reply Comments 22 n.46 (Feb. 2, 2006), available at http://www.copyright.gov/1201/2006/reply/11metalitz_AAP.pdf (presenting comments following Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, Notice of Inquiry, 70 Fed. Reg. 57,526 (Oct. 3, 2005), arguing that routine permission to make a copy does not "necessarily establish that the copying is a fair use when the copyright owner withholds that authorization").

the many millions of books scanned by Google and participating libraries.¹⁸ Also, Amazon's Kindle, an e-book reader, has a "text-to-speech" capability that allows automated voice narration of electronic books,¹⁹ a function that is especially useful for the blind, visually impaired, and those with learning disabilities.²⁰ While both of these technologies have the capability of providing benefits to the public, their claims of fair use remain uncertain and unresolved. Other emerging speech technologies are likely to face the same problem.

Despite the importance of fair use involving technologies, our understanding of technological fair use is thin. Courts have not formally recognized the concept of "technological fair use," even though several important fair use cases have involved a similar type of intersection between a fair use and the development of a technology.²¹ The case law remains, as it does generally for fair use, *ad hoc*.²² Moreover, none of the purposes or factors in the fair use provision in the Copyright Act specifically addresses how the development of a new speech technology should be considered, if at all, in the fair use analysis.²³ Although Congress recognized the likelihood that "rapid technological change" would affect fair use when it enacted the Copyright Act in 1976, it did not want "to freeze the doctrine in the statute."²⁴ Instead, Congress thought it better to leave fair use to case-by-case development.²⁵

18. See Google Books, About Google Books, Overview, <http://books.google.com/intl/en/googlebooks/about.html> (last visited May 2, 2010).

19. See Posting of Brad Stone to N.Y. Times Bits, (Feb. 27, 2009, 18:51 EST), <http://bits.blogs.nytimes.com/2009/02/27/amazon-backs-off-text-to-speech-feature-in-kindle/>. Text-to-speech functionality is not limited to e-book readers. For example, both Adobe and Apple have text-to-speech software capability for text documents and, in the case of Apple, even for HTML documents and Web pages. See Adobe, Section Two: Using the Read out Loud Text-to-Speech Tool, <http://www.adobe.com/enterprise/accessibility/reader6/sec2.html> (last visited Jan. 1, 2010); Apple, iSpeak It 3.5.1, http://www.apple.com/downloads/macosx/ipod_itunes/ispeakit.html (last visited May 1, 2010).

20. See Danny O'Brien, *Disabled Must Be Given Equal Digital Rights*, IRISH TIMES, May 22, 2009, available at <http://www.irishtimes.com/newspaper/finance/2009/0522/1224247099810.html>. See also Reading Rights Coalition Denounces Random House, READING RIGHTS COAL., May 20, 2009, <http://www.readingrights.org/453>.

21. See *infra* notes 42–48 and accompanying text.

22. See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 577 (1994) ("The task is not to be simplified with bright-line rules, for the statute, like the doctrine it recognizes, calls for case-by-case analysis." (citations omitted)).

23. See 17 U.S.C. § 107 (2006) (outlining the fair use provision).

24. H.R. REP. NO. 94-1476, at 66 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5680 ("The bill endorses the purpose and general scope of the judicial doctrine of fair use, but there is no disposition to freeze the doctrine in the statute, especially during a period of rapid technological change.").

25. See *id.* ("Beyond a very broad statutory explanation of what fair use is and some of the

Congress's decision to grant courts the authority to develop the doctrine through common law adjudication was sensible at the time. More than thirty years later, however, courts appear to have misunderstood this broad authority to fashion and further develop the fair use doctrine as a straitjacket that permits *only* very fact-specific decisions applying, almost by rote, the four statutory fair use factors.²⁶ Over the past thirty years, courts have provided greater *ex ante* guidance to the public on what specifically constitutes fair use in only *three* different types of fair use situations—time-shift recordings of television shows in the home,²⁷ reverse engineering to achieve interoperability,²⁸ and parody fair uses.²⁹ Although one or two more might be added to the list of specific types of fair use that operate in more rule-like fashion,³⁰ the overall number of fair use cases that provide even a modicum of certainty to the public with regard to future conduct is miniscule. This uncertainty may lead unwittingly to a “permission culture,” in which requesting permission is expected, regardless of whether or not it is necessary, for every use.³¹

The lack of fair use guidance is especially troubling for the development of information technology in the United States. The uncertain prospect of fair use makes it difficult for technology companies and venture capitalists to make investments, as companies and venture capitalists may decide against investing in developing new technologies that run the risk of a copyright lawsuit, notwithstanding the merits of any potential fair use defense. Further, in some cases, overt threats of a lawsuit by copyright industries may chill the adoption or marketing of a new technological function.

Google's proposed settlement³² of the multimillion dollar class action

criteria applicable to it, the courts must be free to adapt the doctrine to particular situations on a case-by-case basis.” (emphasis omitted)).

26. See, e.g., *Campbell*, 510 U.S. at 577 (calling for case-by-case adjudication of fair use).

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

28. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992).

29. See *Campbell*, 510 U.S. 569.

30. For example, quoting a work is commonly recognized as a fair use. There is often much dispute over how many words can be quoted without permission, however, which may lead to publishers requiring permission for all quotes of other sources within a book. See Timothy Hill, *Entropy and Atrophy: The Still Uncertain Status of the Fair Use of Unpublished Works and the Implications for Scholarly Criticism*, 51 J. COPYRIGHT SOC'Y U.S.A. 79, 94–96 (2003). Likewise, fair use copying to make a lexicon is now a recognized type of fair use, but the question of how much copying is permissible seems less clear *ex ante*. See *Warner Bros. Entm't Inc. v. RDR Books*, 575 F. Supp. 2d 513, 549 (S.D.N.Y. 2008) (stating that the “amount and substantiality of the portion copied from the . . . books weighs more heavily against a finding of fair use”).

31. See LAWRENCE LESSIG, *FREE CULTURE* 192–93 (2004).

32. See Amended Settlement Agreement, *Authors Guild, Inc. v. Google Inc.*, No. 05 CV 8136-

copyright lawsuit, filed by the Authors Guild and the Association of American Publishers against Google Book Search, provides an ominous warning: even one of the leading and largest tech companies in the world, with vast resources at its disposal, is unwilling to test the fair use defense for a new technology that offers much social benefit. The same can be said for tech giant Amazon, as it agreed to deactivate its “text-to-speech” function on Kindle for all books unless a copyright holder grants permission for a particular work on a title-by-title basis.³³ If Amazon and Google, both Fortune 500 companies, stand down from defending fair use in court, can other tech companies with fewer resources be expected to stand up and defend a fair use claim?

Although fair use has been analyzed in nearly four hundred law review articles in the United States,³⁴ figuring out how best to tailor the fair use factors specifically for technologies has remained elusive.³⁵ In the 1980s, a few articles offered specific proposals on how to tailor fair use for technologies.³⁶ Unfortunately, the proposals did not appear to have any influence on subsequent court decisions on fair use. Today, with incredible advances in information technology along with the Internet, the issue is very much ripe for review. Two of the most influential copyright scholars, Paul Goldstein and Pamela Samuelson, have both broached the topic, as have other scholars.³⁷ Although neither described this category as

DC (S.D.N.Y. Nov. 13, 2009), *available at* http://www.googlebooksettlement.com/r/view_settlement_agreement [hereinafter Amended GBS Settlement]. The Amended GBS Settlement was the result of revisions to the original proposed agreement that drew considerable objections from many entities. *See* Brad Stone & Miguel Helft, *Google and Partners Revise Terms of Digital Book Deal*, N.Y. TIMES, Nov. 14, 2009. *See also* Settlement Agreement, Authors Guild, Inc. v. Google Inc., No. 05 CV 8136-JES (S.D.N.Y. Oct. 28, 2008), *available at* http://www.googlebooksettlement.com/r/view_settlement_agreement [hereinafter Original GBS Settlement].

33. Posting of Brad Stone, *supra* note 19.

34. Goldstein, *supra* note 8, at 433 (“Fair use is a uniquely American doctrine, and no fewer than 389 articles in American law reviews have squared off with the defense since the doctrine’s first appearance under that name.”).

35. Of course, scholars have long recognized that copyright law is constantly challenged, if not driven, by new technologies. *See* PAUL GOLDSTEIN, *COPYRIGHT’S HIGHWAY: FROM GUTENBERG TO THE CELESTIAL JUKEBOX* 29 (rev. ed. 2003).

36. *See* Adrienne J. Marsh, *Fair Use and New Technology: The Appropriate Standards to Apply*, 5 CARDOZO L. REV. 635 (1984); Sigmund Timberg, *A Modernized Fair Use Code for the Electronic as Well as the Gutenberg Age*, 75 NW. U. L. REV. 193 (1980); Note, *Toward a Unified Theory of Copyright Infringement for an Advanced Technological Era*, 96 HARV. L. REV. 450 (1982) [hereinafter *Unified Theory*].

37. *See* Goldstein, *supra* note 8; Pamela Samuelson, *Fair Use for Computer Programs and Other Copyrightable Works in Digital Form: The Implications of Sony, Galoob and Sega*, 1 J. INTELL. PROP. L. 49 (1993); Pamela Samuelson, *Unbundling Fair Uses*, 77 FORDHAM L. REV. 2537 (2009) [hereinafter Samuelson, *Unbundling*]. For other scholarship suggesting changes to fair use or its

“technological fair use,” both scholars recognized a central premise that forms the basis for my research here—that is, that a distinctive category of fair use exists based on the presence of a technology related to the contemplated fair use.³⁸

This Article explores the theories and contours of technological fair use. Part II introduces the concept of technological fair use and provides a brief discussion of the relevant case law involving fair use and technologies. Part III develops a theory of technological fair use based on the constitutional values undergirding both the First Amendment and the Copyright and Patent Clause, as well as economic theory. This part explains why, as a normative matter, the courts and Congress should afford breathing room for technological fair use by providing more clearly defined guidance on what is and is not permissible. Part IV proposes a framework for technological cases by tailoring the four statutory factors of fair use specifically for these types of cases. Although my proposed framework does not yield formulaic certainty to decide *all* technological fair use cases (no test of fair use can), it provides guidance for courts and the public on

adjudication in light of technologies, see Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 STAN. L. REV. 1345, 1410–25 (2004) (proposing, among other things, the use of a dispute resolution system to handle digital copyright infringement, with a defense built in for arguable fair use); Joseph P. Liu, *Two-Factor Fair Use?*, 31 COLUM. J.L. & ARTS 571 (2008) (suggesting applying only the first and fourth fair use factors to new digital technology cases); and Peter S. Menell, *Knowledge Accessibility and Preservation Policy for the Digital Age*, 44 HOUS. L. REV. 1013, 1055 (2007) (proposing fair use analysis to “ask how society can best promote progress in the advancement of knowledge—through its production and access—in a digital age that brings universal search capability within the reach of everyone with a computer and an Internet connection”).

38. See Goldstein, *supra* note 8, at 438–39 (recognizing “the category of cases that tests the liability of . . . new technologies for the distribution of copyrighted content”); Samuelson, *Unbundling*, *supra* note 37, at 2602 (“One of the important functions of fair use is providing a balancing mechanism within copyright law to allow it to address questions posed by new technologies or other developments that the legislature could not or did not contemplate.” (footnote omitted)). Beyond the articles already cited, only a few others have directly examined aspects of changing or tailoring fair use or comparable copyright exemption in order to help promote technologies. See Kevin M. Lemley, *The Innovative Medium Defense: A Doctrine to Promote the Multiple Goals of Copyright in the Wake of Advancing Digital Technologies*, 110 PENN. ST. L. REV. 111 (2005) (advocating that an appropriate balance in copyright law should be struck to ensure that innovation is not stifled while at the same time allowing copyright owners to receive sufficient return on their investments); Robin A. Moore, Note, *Fair Use and Innovation Policy*, 82 N.Y.U. L. REV. 944 (2007) (analyzing the economic effect that fair use has on the incentive to invest and create technologies affecting copyrighted works and suggesting the use of an “incremental innovation framework” in the copyright context to maximally encourage technological advances); Von Lohmann, *supra* note 14, at 843 (recognizing the importance of fair use in promoting technological innovation for “complementary goods to copyrighted works”). While this article was in the final editing stage of production, Matthew Sag published a thoughtful piece, Matthew Sag, *Copyright and Copy-Reliant Technology*, 103 NW. U. L. REV. 1607 (2009), which argues for the recognition of a principle of nonexpressive use for fair uses related to technologies.

how these cases should be analyzed. One of the keys to analyzing technological fair use is to identify the stage of development in which the alleged fair use is made—the creation, operation, or output of the speech technology. As a rough guide, more leeway should be allowed for more extensive uses of copyrighted works at the creation and operation stages of a technology versus the output stage. This proposed Creation-Operation-Output spectrum informs the analysis of the four factors of fair use. Part V applies the framework to Google Book Search and the Kindle text-to-speech function and concludes that both involve technological fair uses. Part VI addresses several concerns arising from this framework of technological fair use.

II. TOWARD THE EMERGENCE OF TECHNOLOGICAL FAIR USE

The Copyright Act codifies the judge-made doctrine of fair use by stating simply: “[T]he fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by [17 U.S.C. §§ 106 and 106A], for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright.”³⁹ Although Congress anticipated that new technologies would affect the analysis,⁴⁰ it chose to list only four factors to consider when analyzing fair use.⁴¹ Technology is nowhere mentioned. Yet technological fair use has become an emerging, though inchoate, concept in several cases of profound importance for our information economy.

A. TECHNOLOGICAL FAIR USE CASES FROM 1984 TO 2010

Although courts have yet to recognize formally technological fair use as a doctrine, the following cases support the adoption of such a doctrine. The cases all share a set of common features that distinguish them from other fair use cases: the fair uses, often involving verbatim copying, were made for the new or value-adding purpose of creating, operating, and/or providing output of a speech technology or application.

39. 17 U.S.C. § 107 (2006).

40. *See supra* notes 24–25 and accompanying text.

41. These factors are

(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work.

17 U.S.C. § 107. The last sentence of § 107 clarifies that “[t]he fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.” *Id.*

1. Successful Technological Fair Use Cases

To summarize very briefly, courts have recognized fair use related to the following technological functions, listed in chronological order by case: (1) in *Sony*, the time-shift recording of entire television programs on the VCR at home;⁴² (2) in *Sega Enterprises Ltd. v. Accolade, Inc.* and its progeny, the reverse engineering and intermediate copying of entire software programs to achieve interoperability for an independently written software program;⁴³ (3) in *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*, the enhancing or altering of the visual display of copyrighted works on a video game console (without creating a copy);⁴⁴ (4) in *Kelly v. Arriba Soft Corp.*,⁴⁵ *Field v. Google Inc.*,⁴⁶ and their progeny,⁴⁷ the copying of the entirety of millions of photographs and web pages for use in databases to create and operate Internet search engines, such as for visual searching of

42. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984). Samuelson characterizes *Sony* as involving a technology that facilitates personal uses of copyrighted works. See Samuelson, *Unbundling*, *supra* note 37, at 2603–05. Although I start with *Sony* as the first technological fair use case, several older copyright cases involved technologies. In *Williams & Wilkins Co. v. United States*, the Court of Claims upheld as fair use the copying of journals by the National Institutes of Health and the National Library of Medicine for professional use. See *Williams & Wilkins Co. v. United States*, 487 F.2d 1345 (Ct. Cl. 1973), *aff'd by an equally divided Court*, 420 U.S. 376 (1975). Even before that, the Supreme Court decided a case involving the pianola, a self-playing piano, although not under fair use. See *White-Smith Music Publ'g Co. v. Apollo Co.*, 209 U.S. 1, 12 (1908), *superseded by statute*, Copyright Act of 1976, Pub. L. No. 94-553, § 102(a), 90 Stat. 2541, 2544–45 (codified as amended at 17 U.S.C. § 102(a)). I categorize some of these early technology cases as quasi-technological fair use cases. See *infra* notes 366–67, 372 and accompanying text. Because most of these older cases did not involve a decision on fair use, I have not used them in my framework.

43. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992). Subsequent cases have built on this doctrine. See Samuelson, *Unbundling*, *supra* note 37, at 2608–09 & nn.512–13 (listing “the stream of cases involving reverse engineering” that followed *Sega*). See also *Assessment Techs. of WI, LLC v. WIREdata, Inc.*, 350 F.3d 640 (7th Cir. 2003) (holding that copyright law did not prevent the copying of a database in order to obtain the underlying uncopyrighted data stored in the software); *Sony Computer Entm't, Inc. v. Connectix Corp.*, 203 F.3d 596, 603–05 (9th Cir. 2000) (holding that reverse engineering of a video game so it could be played on computers as well as Sony’s console system constituted fair use); *Bateman v. Mnemonics, Inc.*, 79 F.3d 1532 (11th Cir. 1996) (recognizing that reverse engineering of a computer program to uncover the original source code from the object code may constitute fair use); *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832, 843–44 (Fed. Cir. 1992) (recognizing the use of a reverse engineering process to derive an object code from a computer chip as fair use).

44. *Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.*, 964 F.2d 965 (9th Cir. 1992). Although Samuelson categorizes *Galoob* as a competition or innovation-promoting use in software, see Samuelson, *Unbundling*, *supra* note 37, at 2605–06 & n.483, I think it would also fit well as a personal use technology in her taxonomy.

45. *Kelly v. Arriba Soft Corp.*, 336 F.3d 811 (9th Cir. 2003).

46. *Field v. Google Inc.*, 412 F. Supp. 2d 1106 (D. Nev. 2006).

47. See, e.g., *Perfect 10, Inc. v. Amazon.com, Inc.*, 487 F.3d 701, 725 (9th Cir. 2007) (holding that the operator’s display of thumbnail images of the copyright owner’s photographs constituted fair use).

images or for storage and display of cached copies of Web pages; and (5) in *A.V. ex rel. Vanderhye v. iParadigms, LLC*, the copying of the entirety of numerous written works for use in a database in order to create and operate the defendant's antiplagiarism software.⁴⁸

2. Unsuccessful Technological Fair Use Cases

In contrast, courts have rejected fair use defenses regarding the following technological functions: (1) in *A&M Records, Inc. v. Napster, Inc.*, the unauthorized sharing of music files;⁴⁹ (2) in *UMG Recordings, Inc. v. MP3.com, Inc.*, the copying of music files for use in an online "space shifting" service through which subscribers could access music online upon proof they already owned the CD version of the recording;⁵⁰ (3) in *Clean Flicks of Colorado, LLC v. Soderbergh*, the copying of movies in order to create edited, "family friendly" versions that removed or edited any scenes containing sex, violence, or profanity;⁵¹ and (4) in *Apple, Inc. v. Psystar Corp.*, the mass copying and modification of Apple's Mac operating system onto non-Apple, or so-called Open Mac, computers.⁵²

B. CONCEPTUALIZING TECHNOLOGICAL FAIR USE

One approach to analyzing the above cases would be to consider all of them separately, each simply presenting its own unique issue of fair use. This approach would follow the predominant practice of treating fair use on a case-by-case basis. The better approach, however, is to understand these cases as raising the same type of fair use claim: technological fair use. The presence of a speech technology in these cases makes the fair use analysis

48. *A.V. ex rel. Vanderhye v. iParadigms, LLC*, 562 F.3d 630 (4th Cir. 2009).

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

50. *UMG Recordings, Inc. v. MP3.com, Inc.*, 92 F. Supp. 2d 349, 351–52 (S.D.N.Y. 2000).

51. *Clean Flicks of Colo., LLC v. Soderbergh*, 433 F. Supp. 2d 1236 (D. Colo. 2006). Congress enacted an exemption from liability for DVD-skipping technology (for example, Clear Play) that would allow software to skip over profanity, nudity, violence, and other scenes as long as no copy was created of the edited playback. See 17 U.S.C. § 110(11) (2006) (providing an exemption for "the making imperceptible . . . of limited portions of audio or video content of a motion picture . . . if no fixed copy of the altered version of the motion picture is created by such computer program or other technology"). Because CleanFlicks created and distributed edited *copies*, however, it did not fall within this exemption.

52. *Apple, Inc. v. Psystar Corp.*, 673 F. Supp. 2d 931, 935–36 (N.D. Cal. 2009). Some services, especially on the Internet, might arguably be classified as technologies. See, e.g., *Video Pipeline, Inc. v. Buena Vista Home Entm't, Inc.*, 342 F.3d 191 (3d Cir. 2003) (rejecting the fair use defense for a service that created unauthorized movie trailers); *L.A. Times v. Free Republic*, No. CV 98-7840 MMM (AJWx), 2000 U.S. Dist. LEXIS 5669 (C.D. Cal. Apr. 4, 2000) (rejecting the fair use defense for a bulletin board website that posted news articles for comments by users). This Article does not discuss all of these cases, but instead focuses on prominent examples to illustrate my theory.

more complex and more deserving of special treatment.

1. The Need for Case Synthesis

Despite the different technological functions at issue, all of the cases discussed above share a common set of features: they all involve a technology that in some way used copyrighted works without the copyright owner's permission at some stage in that technology's development, whether at its creation, operation, or output stage. In all of the cases, the legality of the unauthorized use of the copyrighted works decided, for all intents and purposes, not just the legality of the particular uses of the copyrighted works, but also *the marketability of the technology itself*. In the successful fair use cases above, all of the technologies continued. In the unsuccessful cases, all of the specific technologies ceased to exist.⁵³ One exception is the case of music file sharing, as decentralized peer-to-peer software later evolved to escape the liability faced by Napster.⁵⁴ These cases are different from other fair use cases—such as quoting a passage, borrowing a few musical notes, or displaying a work in the classroom—in which there is no underlying technology itself at issue.

The starting premise of this Article is that courts should understand all of these cases as raising a common question over a distinct type of fair use involving a speech technology. Unfortunately, courts have yet to do so. This lack of recognition is symptomatic of a larger problem with fair use jurisprudence generally—that it is notoriously vague and overinsistently ad hoc. Besides the adoption of “transformative use” or “transformative purpose” as a relevant factor in examining the first factor of fair use (the

53. Napster and MP3.com had to file for bankruptcy. See *In re Napster, Inc. Copyright Litig.*, 377 F. Supp. 2d 796, 799 (N.D. Cal. 2005) (“After concluding that it was not technologically feasible to comply with the court’s . . . order and continue operating its file-sharing network, Napster ceased operations on July 1, 2001.”); Michael J. Gerhardt, Review Essay, *The First Amendment’s Biggest Threat*, 89 MINN. L. REV. 1798, 1833 (2005) (“Within a year, the studios sued MP3.com into bankruptcy . . .”). CleanFlicks has changed its business entirely and is now an online subscription service that offers rentals of family-friendly movies. See Jasen Lee, *CleanFlicks Bounces Back, Offers Online DVD Rentals*, DESERET MORNING NEWS, Jan. 10, 2008, at E01. Psystar also saw its business end, as it was permanently enjoined from selling its Open Mac computers. See *Apple Inc. v. Psystar Corp.*, 673 F. Supp. 2d 943, 956 (N.D. Cal. 2009).

54. Decentralization—meaning here the lack of involvement in the actual use of the software—afforded a way for software developers to fall within the *Sony* safe harbor, which protects technologies with substantial noninfringing uses from secondary liability. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 440 (1984). Because peer-to-peer software has substantial noninfringing uses to disseminate authorized and public domain works, it falls within the *Sony* safe harbor. However, the Supreme Court clarified that the *Sony* safe harbor would not protect developers who actively induced its users to infringe copyrighted works. See *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 934–37 (2005).

purpose and character of the use),⁵⁵ and the Supreme Court's recognition of parody as a distinctive form of fair use in 1994,⁵⁶ courts have tended to stick very closely to the same—at times, rote—discussion of the four fair use factors without considering the possibility of the emergence of any new patterns or types of fair use implicated in a certain case.⁵⁷ This ad hoc approach, while sensitive to the facts of each case, gives practically no guidance to the public on what constitutes permissible fair use.

This approach is not the best way to administer fair use, at least not as a *universal* approach for all cases. Applying a case-by-case approach to fair use has its merits when fine tailoring is needed, but it does not preclude the possibility of identifying certain specific types of fair use, an endeavor that Samuelson has recently renewed.⁵⁸ Indeed, the Supreme Court's most extensive discussion of fair use to date, *Campbell v. Acuff-Rose Music, Inc.*, recognizes parody as a type of fair use that requires a generalized tailoring of the fair use factors.⁵⁹ Although each claimed parody fair use must be judged on a case-by-case basis,⁶⁰ the Court tailored each of the four fair use factors to analyze the special type of parody fair use.⁶¹ As discussed below in Part IV, a similar kind of tailoring should be applied to technological fair use cases.

55. See, e.g., *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569 (1994). The adoption of this factor was derived from Judge Leval's insight in his highly influential *Harvard Law Review* article in 1990. See Pierre N. Leval, Commentary, *Toward a Fair Use Standard*, 103 HARV. L. REV. 1105, 1111–16 (1990).

56. *Campbell*, 510 U.S. 569.

57. See, e.g., *United States v. Am. Soc'y of Composers, Authors & Publishers*, 599 F. Supp. 2d 415, 423 (S.D.N.Y. 2009) (instructing that courts must examine the four fair use factors and “undertake a case-by-case analysis to determine whether a given secondary use of a copyrighted work is a fair use”).

58. See Samuelson, *Unbundling*, *supra* note 37 (arguing that fair use law is more coherent and predictable than is commonly believed if the fair use cases are seen as falling into common patterns). See also Alan Latman, Study No. 14, *Fair Use of Copyrighted Works* (Mar. 1958), *reprinted in* 2 STUDIES ON COPYRIGHT 781 (Copyright Soc'y of Am. ed., Arthur Fisher memorial ed. 1963).

59. See *Campbell*, 510 U.S. at 581.

60. *Id.* (“[P]arody, like any other use, has to work its way through the relevant factors, and be judged case by case, in light of the ends of the copyright law.”).

61. *Id.* at 582 (tailoring the first factor to examine “whether a parodic character may reasonably be perceived”); *id.* at 586 (tailoring the second factor to acknowledge that the factor itself, the nature of the copyrighted work, “is not much help in this case, or ever likely to help much in separating the fair use sheep from the infringing goats in a parody case, since parodies almost invariably copy publicly known, expressive works”); *id.* at 588 (tailoring the third factor, the amount and substantiality of the copied portion, to acknowledge that parodies must copy some of the copyrighted work in order to “be able to ‘conjure up’ at least enough of that original to make the object of its critical wit recognizable”); *id.* at 592 (tailoring the fourth factor to not consider “harm to the market” for a copyrighted work caused by an effective parody of the work).

Another problem related to the lack of formal recognition of technological fair use is the lack of coherence in how courts have dealt with fair use in technology cases. The cases have applied two very different and inconsistent understandings of the transformative factor in these types of cases. When a fair use is found, courts have typically applied a broader understanding of the term “transformative” to include the use of exact copies of the entire copyrighted work for a *new purpose*.⁶² Thus, a transformative purpose in copying a work for a new technology—such as a search engine or antiplagiarism technology—can weigh in favor of fair use, notwithstanding the fact that the copy is an exact copy of the original. However, in rejecting fair use claims in technological cases, other courts have applied a very narrow understanding of “transformative” to examine only whether some *new content* has been added to the copyrighted work itself.⁶³ Under this approach, a new purpose in using exactly the same work as the original for a new technology is not transformative at all. These two conflicting standards of “transformative” cannot be reconciled and have created unnecessary confusion in the case law.

2. The Basic Definition of Technological Fair Use

To clear up this doctrinal confusion and provide better guidance to the public, courts should recognize a distinct category of technological fair use. By “technological fair use,” I mean to describe a category of fair use—like parody fair use—that recurs with certain characteristics in different cases. In the case of parody fair use, the cases are defined by the person’s use of a copyrighted work to parody it. In the case of technological fair use, the use is *for a new or value-adding purpose of creating, operating, or providing*

62. See, e.g., *A.V. ex rel. Vanderhuy v. iParadigms, LLC*, 562 F.3d 630, 639 (4th Cir. 2009) (finding that the use of the plaintiff’s works in the antiplagiarism detection system was transformative because it had an entirely different function and purpose than the original works, and that the fact that there was no alteration to the works did not preclude finding that use to be transformative); *Perfect 10, Inc. v. Amazon.com, Inc.*, 487 F.3d 701, 721–23 (9th Cir. 2007) (finding that Google’s use of images for its visual search index was highly transformative because the use served a different function than the original images served); *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 818–20 (9th Cir. 2003) (finding the use of the copyright owner’s images for online visual searches transformative because it served a different function than the owner’s use); *Field v. Google Inc.*, 412 F. Supp. 2d 1106, 1111 (D. Nev. 2006) (finding that because the Google search engine’s use of cached snapshots of websites pages served a different purpose from that of the original works, use of these copyrighted works was transformative).

63. See, e.g., *Clean Flicks of Colo., LLC v. Soderbergh*, 433 F. Supp. 2d 1236, 1241 (D. Colo. 2006) (finding that the family-friendly, edited versions of movies added nothing new to the original and were therefore not transformative under the first factor of fair use); *UMG Recordings, Inc. v. MP3.com, Inc.*, 92 F. Supp. 2d 349, 351 (S.D.N.Y. 2000) (finding no transformative use because the space shifting added nothing new to the original songs, instead “simply repackag[ing] those recordings to facilitate their transmission through another medium”).

an output of a technology or application.

Yet this is not to say that all new uses of copyrighted works to create or operate a technology are fair uses. Some should not be. Just as some asserted parody fair uses may go too far and fall outside the exemption, so too some asserted technological fair uses may fail to qualify for the exemption. Later in this Article, I outline a framework to help separate fair versus unfair technological uses. For now, it is important to understand what kind of cases fall under the rubric of technological fair use. This part has identified the common factual features that distinguish technological fair use cases. The next part identifies the normative bases that further distinguish this category of fair use.

III. THE THEORY UNDERLYING TECHNOLOGICAL FAIR USE

Unfortunately, the relationship between technologies and fair use remains undertheorized. Only a few articles have entertained a possible connection between the two.⁶⁴ To the extent that a theory has been offered to justify this connection, it has focused narrowly on economic reasons.⁶⁵ While important, economic theories of fair use are inadequate to provide the entire, or even primary, normative basis for fair use. As the Supreme Court has recognized, the fair use doctrine is a First Amendment safeguard for speech activities.⁶⁶ By promoting the development of speech *technologies* that enable greater speech activities, technological fair use can serve “double duty” in this important role as a First Amendment safeguard by serving the freedoms of both the speech and the press. The doctrine also serves both goals of the Copyright and Patent Clause, to promote the progress of science and the useful arts. This four-goal underpinning—serving the values of free speech, free press, science, and useful arts—

64. See *supra* notes 36–38 and accompanying text.

65. See, e.g., Sag, *supra* note 38, at 1639–57 (proposing a theory of nonexpressive use of works under fair use based on an economic analysis of transaction costs); Moore, *supra* note 38, at 959–65 (arguing that traditional fair use analysis does not fully take into account economic incentives to authors and technology companies); Von Lohmann, *supra* note 14, at 840–43 (examining copying technologies that have developed complementary economic relationships with the copyrighted works). Sigmund Timberg’s work is a notable exception that discusses the importance of the Copyright Clause and the First Amendment in understanding how fair use should be applied for technologies. See Timberg, *supra* note 36, at 229 (“The question remains why the first amendment and the copyright clause, two constitutional provisions that both stress the dissemination of information and ideas to the public, and access by the public to information and ideas, should be following their separate legal tracks, with the courts never taking cognizance of the fact that the two provisions are following parallel routes to similar destinations.”).

66. See *Eldred v. Ashcroft*, 537 U.S. 186, 219–20 (2003) (explaining that fair use “allows the public to use not only facts and ideas contained in a copyrighted work, but also expression itself”).

distinguishes technological fair use cases from other fair use cases, which typically involve only two constitutional goals, the freedom of speech and the progress of science. This part elaborates these theories underlying technological fair use.

A. CONSTITUTIONAL UNDERPINNINGS

Technological fair use serves four different, but related, goals of the Free Speech, Free Press, and Copyright and Patent Clauses.⁶⁷ Each of these clauses provides a constitutional underpinning for technological fair use. By “constitutional underpinning,” I mean a foundation from the Constitution on which a doctrine rests. The doctrine itself does not necessarily have to be constitutionally *required*, although it may be. Sometimes, the Court does not resolve whether it is required, yet the doctrine nonetheless operates prophylactically or as a safeguard within an area of law.⁶⁸ The doctrine, particularly if codified by statute, may also be a way for a court to avoid results that would raise constitutional doubt, while avoiding a ruling of constitutional nature.⁶⁹ This section discusses the constitutional underpinnings for technological fair use, while leaving undecided the larger question of whether fair use is constitutionally required, just as the Supreme Court has done.⁷⁰

67. U.S. CONST. amend. I (“Congress shall make no law . . . abridging the freedom of speech, or of the press . . .”); *id.* art. I, § 8, cl. 8 (“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.”). The Supreme Court has typically viewed the freedom of speech and the freedom of the press as two clauses, albeit related. *See, e.g.,* *Farmer v. Brennan*, 511 U.S. 825, 839 (1994) (using the terminology, “when applying the Free Speech and Press Clauses”). By contrast, the Court has referred to Congress’s copyright and patent power in Article I as one clause but at times has also referred to it as two clauses. *Compare Eldred*, 537 U.S. at 192 (referring to “[t]he Copyright and Patent Clause of the Constitution”), with *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 162 (1989) (referring to “the Patent and Copyright Clauses of the Constitution”). However sliced, the clauses dealing with free speech, free press, the copyright power, and the patent power pertain to at least four distinct areas or purposes, as I discuss in Part III.A below. As long as we recognize these four distinct purposes, I do not think it matters if one characterizes free speech/free press or copyright/patent powers as one or two clauses. The Constitution is not mathematics.

68. *See* Brian K. Landsberg, *Safeguarding Constitutional Rights: The Uses and Limits of Prophylactic Rules*, 66 TENN. L. REV. 925 (1999) (discussing prophylactic rules in Supreme Court jurisprudence).

69. *See, e.g.,* *Edward J. DeBartolo Corp. v. Fla. Gulf Coast Bldg. & Constr. Trades Council*, 485 U.S. 568, 575 (1988) (discussing the canon of construction of avoiding constitutional doubt as applied to the interpretation of congressional statutes).

70. The Supreme Court has indicated its view that fair use is a central feature “necessary” for our copyright system: “From the infancy of copyright protection, some opportunity for fair use of copyrighted materials has been thought necessary to fulfill copyright’s very purpose, ‘[t]o promote the Progress of Science and useful Arts’” *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 575 (1994) (alteration in original) (quoting U.S. CONST. art. I, § 8, cl. 8). In *Eldred*, the Court also stated

1. Technological Fair Use and the First Amendment

Fair use is a judge-made doctrine that dates back to the very “infancy of copyright protection”⁷¹ and establishes one of the “traditional contours” of our copyright system.⁷² The Supreme Court has recognized that the fair use doctrine operates as an internal “First Amendment safeguard[.]” within copyright law that works prophylactically to keep copyright law from infringing First Amendment rights.⁷³ It does so by providing breathing room for speech activities involving copyrighted works, even though the activities have not been authorized by the copyright holders. More typically, these speech activities promote the freedom of speech, such as through commentary and criticism of copyrighted works. But in the case of technological fair use, it serves not only the freedom of speech, but also the freedom of the press—meaning the development of speech technologies.

a. Freedom of the Press and Protecting Speech Technologies

First, the Free Press Clause: although long overlooked in legal scholarship, this Clause provides a central underpinning for technological fair use. As I have recounted in prior scholarship, the Framers intended the Free Press Clause to act as a direct limit on Congress’s ability to regulate speech technologies under the Copyright Clause.⁷⁴ To the framing generation, the freedom of the press meant originally the “*freedom of the printing press*.”⁷⁵ One of the chief evils in sixteenth-century England that

that First Amendment scrutiny would be required if Congress changed a traditional contour of copyright, such as the fair use doctrine. *Eldred*, 537 U.S. at 221. For scholarship making the claim that fair use is constitutionally required, see Jonathan Band, *Google and Fair Use*, 3 J. BUS. & TECH. L. 1, 6 (2008) (arguing that “fair use is a constitutionally required structural element that harmonizes the copyright law with the First Amendment”); Stanley F. Birch, Brace Memorial Lecture, *Copyright Fair Use: A Constitutional Imperative*, 54 J. COPYRIGHT SOC’Y U.S.A. 139, 141, 165 (2007) (characterizing “fair use” as having “constitutional dimensions”); Stephen M. McJohn, *Eldred’s Aftermath: Tradition, the Copyright Clause, and the Constitutionalization of Fair Use*, 10 MICH. TELECOMM. & TECH. L. REV. 95, 128–33 (2003) (arguing that after *Eldred*, fair use has attained constitutional status).

71. *Campbell*, 510 U.S. at 575.

72. *Eldred*, 537 U.S. at 221.

73. *See id.* at 219–20. *See also* Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 560 (1985) (discussing First Amendment protections embodied in the Copyright Act).

74. *See* Lee, *Freedom of the Press 2.0*, *supra* note 5, at 318–51. *See also* Edward Lee, *Guns and Speech Technologies: How the Right to Bear Arms Affects Copyright Regulations of Speech Technologies*, 17 WM. & MARY BILL RTS. J. 1037, 1045–64 (2009) [hereinafter Lee, *Guns and Speech Technologies*] (discussing the significance of the fact that the Free Press Clause and Second Amendment are the only constitutional provisions that expressly protect individual rights to a technology). For simplicity, I will not cite here again all of the documentary sources contemporaneous with the Framing that support my theory. These sources are cited and at times quoted at length in my prior scholarship.

75. Lee, *Guns and Speech Technologies*, *supra* note 74, at 1047 (emphasis added).

the Framers wished to combat was the imposition of severe limits on the technology of the printing press, such as its ownership and the total number of presses allowed in England.⁷⁶ By controlling the technology of the press, the Crown (and later Parliament) sought to control both heresy⁷⁷ and piracy⁷⁸ of copyrighted works, with the latter goal intended to serve the interests of the Stationers' Company, the de facto copyright holders of the period.⁷⁹ That repressive regime in England—codified by the various Printing Acts—lasted over a century, but was eventually dismantled with a movement among the populace for a freedom of the press and the enactment in 1710 of a less restrictive alternative in the Statute of Anne, England's first copyright act.⁸⁰ Notably, the Statute of Anne did *not* replicate any of the repressive technology limits contained in the prior Printing Acts.⁸¹ The change was monumental. As Blackstone wrote, once the restrictions under the Printing Acts ended, “the press became properly free . . . and has ever since so continued.”⁸²

The Framers of the U.S. Constitution were informed by this history and sought to avoid the same problems of press controls that had occurred in England. The Copyright Clause and first Copyright Act were modeled in part on the Statute of Anne.⁸³ But the Framers did Parliament one better—by codifying the freedom of the press in the Bill of Rights.⁸⁴

This codification of the freedom of the press in the Bill of Rights was intended to remove any doubt that Congress had no authority whatsoever to use the Copyright Clause—or, for that matter, any other clause—to restrict the technology of the press. During the ratification debates, the Anti-

76. See *id.* at 1061–62; Lee, *Freedom of the Press 2.0*, *supra* note 5, at 329.

77. See Lee, *Guns and Speech Technologies*, *supra* note 74, at 1061.

78. See *id.* at 1061–62.

79. See *id.*

80. See Lee, *Freedom of the Press 2.0*, *supra* note 5, at 327–28; Lee, *Guns and Speech Technologies*, *supra* note 74, at 1062–63.

81. See Lee, *Freedom of the Press 2.0*, *supra* note 5, at 327–28; Lee, *Guns and Speech Technologies*, *supra* note 74, at 1062.

82. 4 WILLIAM BLACKSTONE, COMMENTARIES *152.

83. See *Feltner v. Columbia Pictures Television, Inc.*, 523 U.S. 340, 349–52 (1998) (discussing the role the Statute of Anne played in the development of U.S. copyright law). See also *Fred Fisher Music Co. v. M. Witmark & Sons*, 318 U.S. 643, 647–50 (1943) (same), *superseded by statute*, Copyright Act of 1976, Pub. L. No. 94-553, § 304, 90 Stat. 2541, 2573–76 (codified as amended at 17 U.S.C. § 304 (2006)).

84. See Lee, *Freedom of the Press 2.0*, *supra* note 5, at 332–39 (discussing the debate between the Federalists and Anti-Federalists over the clause); Lee, *Guns and Speech Technologies*, *supra* note 74, at 1063–64 (same); L. Ray Patterson & Craig Joyce, Essay, *Copyright in 1791: An Essay Concerning the Founders' View of the Copyright Power Granted to Congress in Article I, Section 8, Clause 8 of the U.S. Constitution*, 52 EMORY L.J. 909, 942–43 (2003).

Federalists successfully argued that the Free Press Clause was needed specifically to limit the government's potential power under the Copyright Clause to restrict the press in service of copyright holders.⁸⁵ As James Madison, a Federalist and the drafter of the first proposal for the Free Press Clause, recognized, “[T]he article of amendment, instead of supposing in Congress a power that might be exercised over the press, provided its freedom was not abridged, was meant *as a positive denial to Congress of any power whatever on the subject.*”⁸⁶

Thus, the Free Press Clause is a protection for speech technologies, especially against restrictions effectuated through copyright law in service of copyright holders. Although the Supreme Court has yet to tease out this important history of the Free Press Clause and its connection to copyright law,⁸⁷ in the Court's defense, thus far it has not had many cases in which it has had the opportunity to do so. For more than two hundred years of our nation's history, dating back to the first Copyright Act in 1790, our copyright law has avoided imposing any direct restriction on speech technologies.⁸⁸ A traditional contour of our copyright law has been to keep copyright law from regulating speech technologies.

Although this tradition is increasingly being tested today by copyright holders' efforts to use copyright law to restrict technologies, the Supreme Court has offered one doctrinal solution—the *Sony* safe harbor—that

85. See Lee, *Freedom of the Press 2.0*, *supra* note 5, at 331–39; Lee, *Guns and Speech Technologies*, *supra* note 74, at 1063–64.

86. James Madison, Report on the Virginia Resolutions (Jan. 1800), in 5 THE FOUNDERS' CONSTITUTION 141, 143 (Philip B. Kurland & Ralph Lerner eds., 1987) (emphasis added). Before the Bill of Rights' adoption, the Federalists tried to maintain that a free press clause was unnecessary because Congress had no power to restrict the press under the original Constitution. For example, James Iredell, a leading Federalist and later an original Justice of the U.S. Supreme Court, stated, “If the Congress should exercise any other power over the press than this [grant of copyrights for a limited time], they will do it without any warrant from this constitution, and must answer for it as for any other act of tyranny.” James Iredell, Observations on George Mason's Objections to the Federal Constitution (1788), reprinted in PAMPHLETS ON THE CONSTITUTION OF THE UNITED STATES PUBLISHED DURING ITS DISCUSSION BY THE PEOPLE 1787–1788, at 333, 361 (Paul Leicester Ford ed., 1888). Yet this standard Federalist argument did not assuage the Anti-Federalists' and people's desire for an expressly written out free press clause limiting Congress's power to restrict the press.

87. The Court has briefly discussed the intersection between the Free Speech Clause of the First Amendment and the Copyright Clause. See *Eldred v. Ashcroft*, 537 U.S. 186, 221 (2003) (“The First Amendment securely protects the freedom to make—or decline to make—one's own speech; it bears less heavily when speakers assert the right to make other people's speeches.”); *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 558 (1985) (“[T]he Framers intended copyright itself to be the engine of free expression.”).

88. See Lee, *Freedom of the Press 2.0*, *supra* note 5, at 352 (“From 1790 to 1992 every U.S. copyright law enacted stayed clear of direct regulation of the machines that enabled mass copying and publication.” (footnote omitted)).

provides some breathing room for the development of speech technologies.⁸⁹ Under the *Sony* safe harbor, a developer of a technology cannot be held secondarily liable for the infringement committed by users of the technology if the technology is capable of substantial noninfringing uses.⁹⁰ Elsewhere, I have attempted to show how the *Sony* safe harbor operates as a traditional First Amendment safeguard in copyright law, much like fair use and the idea-expression dichotomy.⁹¹ By providing a safe harbor for the development of speech technologies free from copyright lawsuits, the *Sony* safe harbor serves the important free press goal of protecting speech technologies from intrusive governmental restrictions.⁹²

The doctrine of technological fair use does the same, but at the level of *direct* copyright liability. Whereas the *Sony* safe harbor protects speech technologies from secondary liability claims, technological fair use does so against direct liability claims.

For example, in *Sony*, the Court's finding of fair use based on time-shift recordings went to the issue of direct liability of users of VCRs.⁹³ That finding was also relevant to the Court's application of the *Sony* safe harbor in the secondary liability claim against Sony because the fair use recordings demonstrated that the VCR was capable of a substantial noninfringing use.⁹⁴ Both rulings in *Sony*—the fair use decision on time-shifting by consumers and the application of the *Sony* safe harbor to the VCR—help to provide breathing room for the development of speech technologies, consistent with the Free Press Clause. In this respect, technological fair use cases are special. In fair use cases without technologies, this free press interest is simply absent.

b. Free Speech Activities

The more commonly recognized connection between fair use and the First Amendment is the protection that fair use provides within the copyright system for the freedom of speech.⁹⁵ This free speech rationale applies generally to all kinds of fair use, not just technological fair uses.

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

90. *Id.* The Court has subsequently held that the safe harbor does not apply where a developer actively induced others to engage in infringement. *See Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 935–37 (2005) (discussing active inducement liability).

91. *See Lee, Freedom of the Press 2.0*, *supra* note 5, at 369–79.

92. *See id.* at 373–79.

93. *Sony*, 464 U.S. at 447–56.

94. *Id.*

95. *Eldred v. Ashcroft*, 537 U.S. 186, 220 (2003) (characterizing fair use as a “free speech safeguard[]”).

The basic idea is that fair use provides some breathing room for speech-related activities.⁹⁶ As the Court has explained, “The fair use doctrine . . . ‘permits [and requires] courts to avoid rigid application of the copyright statute when, on occasion, it would stifle the very creativity which that law is designed to foster.’”⁹⁷

Fair use is needed as a First Amendment safeguard within copyright law, even though copyrights are generally viewed by the Supreme Court as *speech promoting* or, in the oft-quoted phrase, “the engine of free expression.”⁹⁸ As the Court noted, “By establishing a marketable right to the use of one’s expression, copyright supplies the economic incentive to create and disseminate ideas.”⁹⁹ But this incentive rationale of copyright is not enough to keep it from raising First Amendment problems. To borrow the Court’s metaphor, sometimes the engine of free expression breaks down or needs a coolant or lubrication. Fair use is one of the internal First Amendment safeguards meant to keep the so-called engine of free expression on track and running smoothly. Thus, in one well-recognized example of fair use, people can quote passages of copyrighted works without authorization in order to critique or review it.¹⁰⁰

Technological fair uses promote speech activities in somewhat different ways than other fair uses, such as quotations. Technological fair uses have the potential to provide *additional* engines of free expression. In this sense, they can promote potentially greater First Amendment interests (at least in terms of the number of people affected) than the run-of-the-mill fair use case, given the possibility that the new speech technology in question can affect an *exponential* number of speech activities among the millions of people using that technology. Instead of just one fair use, technological fair use can facilitate many. For example, at the height of its popularity, the VCR was owned by close to 90 percent of all U.S. households.¹⁰¹ Likewise, today, Google’s search engine is used by hundreds of millions of people, with over nine billion search requests per

96. Some scholars doubt whether, in practice, fair use adequately serves this interest. See, e.g., Lee Ann W. Lockridge, *The Myth of Copyright’s Fair Use Doctrine as a Protector of Free Speech*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 31 (2007); Rebecca Tushnet, Essay, *Copy This Essay: How Fair Use Doctrine Harms Free Speech and How Copying Serves It*, 114 YALE L.J. 535 (2004).

97. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 577 (1994) (alteration in original) (quoting *Stewart v. Abend*, 495 U.S. 207, 236 (1990)).

98. *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 558 (1985).

99. *Id.*

100. Section 107 recognizes fair uses for the purposes of “criticism, comment, . . . [and] scholarship.” 17 U.S.C. § 107 (2006).

101. See *supra* note 8 and accompanying text.

month made in the United States alone.¹⁰² And the speech activity that is facilitated by the speech technology may be an entirely new kind of speech activity than before. For example, before the VCR, people did not record shows at home.

The timing of the speech activity may also differ in technological fair use cases. In the run-of-the-mill fair use case, such as quoting copyrighted expression to critique it, fair use is often tied *directly* to the creation or dissemination of more speech. However, in technological fair uses, that is not necessarily the case. Instead, technological fair use is often tied directly to the creation of a speech technology, but the timing of the creation or dissemination of speech varies. Sometimes, it is close in time, as in the *Sega* case, which involved Accolade's creation of a new game soon after its fair use of Sega's programming code to find the specifications necessary to make the game interoperable on Sega consoles.¹⁰³ Other times, the timing is more delayed. For example, fair use of copyrighted works to create antiplagiarism software directly produces a new speech technology, which in turn indirectly creates more long-term incentives for students to create their own speech—without plagiarizing other students' works.¹⁰⁴ Likewise, fair use of copyrighted works to create a more advanced Internet search engine directly yields a new technology¹⁰⁵ and may lead to better research that may eventually play a part in the creation of new expression. Finally, in some cases, no new work is created from the fair use, such as in *Sony*, where the recordings of television shows led primarily to the greater dissemination of the same copyrighted works subject to fair use.¹⁰⁶

2. Technological Fair Use and the Copyright and Patent Clause

The Copyright and Patent Clause provides another constitutional underpinning for technological fair use in addition to the First Amendment.

a. Promoting the Progress of Science and the Useful Arts

The Supreme Court has recognized the importance of fair use generally in serving the ends of the Copyright and Patent Clause: "From the infancy of copyright protection, some opportunity for fair use of

102. *Trouble in the Google-Verse: Users Report Problems Using Google Search Engine, Gmail, Other Features*, N.Y. DAILY NEWS, May 14, 2009, http://www.nydailynews.com/tech_guide/2009/05/14/2009-05-14_trouble_in_the_googleverse_users_report_problems_using_google_search_engine_gmai.html.

103. *See Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1515–16 (9th Cir. 1992).

104. *See A.V. ex rel. Vanderhye v. iParadigms, LLC*, 562 F.3d 630, 638 (4th Cir. 2009).

105. *See Perfect 10, Inc., v. Amazon.com, Inc.*, 487 F.3d 701, 711–12, 721–23 (9th Cir. 2007).

106. *See Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 421 (1984).

copyrighted materials has been thought necessary to fulfill copyright's very purpose, '[t]o promote the Progress of Science and useful Arts'¹⁰⁷ The Supreme Court, however, has shied away from fully defining what constitutes "the Progress of Science" or "useful Arts." Intellectual property historians have contended that, at the time of the Framing, "the Progress of Science" meant learning or knowledge (referring to the goal of copyright),¹⁰⁸ while "useful Arts" meant technology or innovation (the goal of the patent system).¹⁰⁹ The Court has made clear that "[t]he 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 through the talents of authors and inventors in 'Science and useful Arts.'"¹¹⁰

Because of this overriding *public interest* rationale of the Copyright and Patent Clause, our copyright and patent laws are not intended to serve primarily the individual copyright or patent holder, but instead the public at large.¹¹¹ To help achieve this end, courts have developed various doctrines to accommodate the public interest.¹¹²

107. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 575 (1994) (alteration in original) (quoting U.S. CONST. art. I, § 8, cl. 8).

108. *See Eldred v. Ashcroft*, 537 U.S. 186, 243 (2003) (Breyer, J., dissenting) (citing E. WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE: A STUDY IN HISTORICAL PERSPECTIVE* 125–26 (2002)) (arguing that the Copyright Clause is to promote "the progress of 'Science'—by which word the Framers meant learning or knowledge"). *See also Cary v. Kearsley*, (1802) 170 Eng. Rep. 679, 680 (K.B.) ("[W]hile I shall think myself bound to secure every man in the enjoyment of his copy-right, one must not put manacles upon science.").

109. *See Lee, Guns and Speech Technologies*, *supra* note 74, at 1046; Karl B. Lutz, *Patents and Science: A Clarification of the Patent Clause of the U.S. Constitution*, 18 GEO. WASH. L. REV. 50, 54 (1949).

110. *Mazer v. Stein*, 347 U.S. 201, 219 (1954), *superseded by statute*, Copyright Act of 1976, Pub. L. No. 94-553, § 101, 90 Stat. 2541, 2541–44 (codified as amended at 17 U.S.C. § 101 (2006)).

111. *See, e.g., Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 730 (2002) ("The patent laws 'promote the Progress of Science and useful Arts' by rewarding innovation with a temporary monopoly." (quoting U.S. CONST. art. I, § 8, cl. 8)); *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349 (1991) ("The primary objective of copyright is not to reward the labor of authors, but '[t]o promote the Progress of Science and useful Arts.'" (quoting U.S. CONST. art. I, § 8, cl. 8)); *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." (footnote omitted)); *Fox Film Corp. v. Doyal*, 286 U.S. 123, 127 (1932) ("The sole interest of the United States and the primary object in conferring the monopoly lie in the general benefits derived by the public from the labors of authors."); *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 511 (1917) ("[T]he primary purpose of our patent laws is not the creation of private fortunes for the owners of patents but is 'to promote the progress of science and useful arts' . . ." (quoting U.S. CONST. art. I, § 8, cl. 8)).

112. *See, e.g., Feist Publ'ns*, 499 U.S. at 349–50 ("To this end, copyright assures authors the right to their original expression, but encourages others to build freely upon the ideas and information

Fair use is one such doctrine. Fair use promotes knowledge and learning, as § 107 specifically recognizes “criticism, comment, news reporting, teaching . . . , scholarship, [and] research”¹¹³ as exemplary purposes of fair use. These types of fair use directly relate to learning or the cultivation of knowledge. A person attempting to make fair use of a copyrighted work for one of these recognized purposes, such as criticism of or commentary on a published work, is more than likely learning something and possibly adding to the sum of our knowledge.

Technological fair use is different from—and, in some respects, has a greater impact than—other fair uses. In short, technological fair use can serve the goals of promoting *both* the progress of science *and* the useful arts—which does not usually happen in nontechnological fair uses. First, technological fair uses typically result in the immediate public benefit of the created speech technology—for example, the VCR,¹¹⁴ Internet search engines,¹¹⁵ and antiplagiarism software¹¹⁶—which promotes innovation or the useful arts, an aim more commonly attributed to the patent system. And, if the technology developed is not patented or protected as a trade secret, then the public at large can benefit immediately from the know-how possibly entering the public domain without the twenty-year monopoly period that is secured by a patent.¹¹⁷ An additional public benefit is derived from *use* of the technology (for example, a search engine to find information), which can promote the more typical benefits of fair use such as learning and knowledge—but often on an exponential scale among millions of users that cannot be matched by a nontechnological fair use.

b. Avoiding Back-Door Patents Through Copyright over Functional Elements

Another reason for recognizing technological fair use is that it can serve as an important buffer between the copyright and patent systems. As the seminal case of *Baker v. Selden*¹¹⁸ teaches, copyright holders should not be allowed to attain patent-like control over functional elements through

conveyed by a work.” (citation omitted)).

113. 17 U.S.C. § 107.

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

115. See *Perfect 10, Inc. v. Amazon.com, Inc.*, 487 F.3d 701 (9th Cir. 2007).

116. See *A.V. ex rel. Vanderhye v. iParadigms, LLC*, 562 F.3d 630 (4th Cir. 2009).

117. See 35 U.S.C. § 154(a)(2) (2006). See also *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63–64 (1998) (discussing how the patent system grants exclusive monopolies for a limited period of time).

118. *Baker v. Selden*, 101 U.S. 99 (1880), *superseded by statute*, Architectural Works Copyright Protection Act, Pub. L. No. 101-650, sec. 703, § 102(a), 104 Stat. 5089, 5133 (codified at 17 U.S.C. § 102(a)).

their copyrights.¹¹⁹ In *Baker*, the Court held that certain accounting forms could not be copyrighted because they instantiated the *useful method* of accounting that the copyright holder failed to patent; rather, “[t]he claim to an invention or discovery of an art or manufacture must be subjected to the examination of the Patent Office before an exclusive right therein can be obtained; and it can only be secured by a patent from the government.”¹²⁰

This teaching of *Baker* is codified today in § 102(b) of the Copyright Act.¹²¹ Although copyright law today allows copyrights over expressive works with functional elements (such as computer programs; pictorial, graphic, and sculptural works; and architectural works), various doctrines have developed, in addition to § 102(b), to avoid turning a copyright into a *de facto* patent.¹²² Likewise, the *Sony* safe harbor can be understood as a way to prevent copyright holders from attaining a patent-like right to dictate the design of a functional technology.¹²³ The *Sony* Court viewed the copyright holders’ claims against Sony as the functional equivalent of asserting “the exclusive right to distribute VTR’s”—which, although the Court stopped short of characterizing it this way, is arguably tantamount to one of the exclusive rights under a patent.¹²⁴ In addition to this safe harbor, the copyright misuse doctrine protects against similar concerns.¹²⁵

119. *Id.* at 102–04.

120. *Id.* See also Lemley, *supra* note 38, at 134 (“Apparently, the Framers had a sort of one-two punch in mind: patent owners create new mediums, while copyright owners create new content to disseminate through those mediums.”). For an excellent account of this teaching of *Baker*, see Pamela Samuelson, *The Story of Baker v. Selden: Sharpening the Distinction Between Authorship and Invention*, in *INTELLECTUAL PROPERTY STORIES*, *supra* note 6, at 159.

121. See 17 U.S.C. § 102(b). In at least one technological fair use case, the anti-“back-door” patent rationale was expressly recognized. See, e.g., *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1526 (9th Cir. 1992) (“If disassembly of copyrighted object code is *per se* an unfair use, the owner of the copyright gains a *de facto* monopoly over the functional aspects of his work—aspects that were expressly denied copyright protection by Congress.” (citation omitted)).

122. See, e.g., *Hutchins v. Zoll Med. Corp.*, 492 F.3d 1377, 1383 (Fed. Cir. 2007) (stating that copyright protection for software does not extend to methods that are performed with program guidance); *Pivot Point Int’l, Inc. v. Charlene Prods., Inc.*, 372 F.3d 913, 920–21 (7th Cir. 2004) (stating that copyright protection is given when there is separability between the utilitarian and artistic aspects of a work).

123. See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 441 n.21 (1984) (“It seems extraordinary to suggest that the Copyright Act confers upon all copyright owners collectively, much less the two respondents in this case, the exclusive right to distribute VTR’s simply because they may be used to infringe copyrights.”). See also Lee, *Freedom of the Press 2.0*, *supra* note 5, at 379 (“Copyright law does not protect useful systems—that is the province of patents.”).

124. *Sony*, 464 U.S. at 441 n.21. See also 35 U.S.C. § 271(a) (2006).

125. Under the misuse doctrine, a copyright or patent holder who “misuses” copyright or patent is barred from suing for infringement. See *Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970, 977 (4th Cir. 1990) (“But the public policy which includes [original works] within the granted monopoly excludes from it all that is not embraced in the [original expression]. It equally forbids the use of the [copyright]

Likewise, technological fair use provides an additional buffer between copyright and patent law. It avoids giving copyright holders the ability to control new speech technologies or prevent their development (the so-called veto power) when the copyright holders have not yet patented the technology in question. This buffer is necessary because innovation of speech technologies should not be left to the wishes of copyright industries.

In sum, technological fair use cases typically serve *four* constitutional values (press, speech, science, and useful arts), whereas other fair use cases typically involve only two (speech and science). Because technological fair use cases do, in effect, double constitutional duty compared to other fair use cases, courts should recognize technological fair use as a discrete category for more specialized treatment.

B. ECONOMIC JUSTIFICATIONS FOR TECHNOLOGICAL FAIR USE

Technological fair use can also be justified on economic grounds as a way to provide breathing room for developers who wish to innovate in developing new speech technologies—technologies that play an increasing part in the growth of the U.S. economy.

1. Breathing Room to Develop Speech Technologies and More “Engines of Free Expression”

Recognizing technological fair use as a doctrine can help provide greater incentives for developers to develop and investors to invest in speech technologies. As the Supreme Court explained in the context of discussing the *Sony* safe harbor, copyright law should provide “breathing room for innovation and a vigorous commerce.”¹²⁶ The *Sony* safe harbor does so by providing developers a safe harbor from secondary liability for developing a technology that is capable of substantial noninfringing uses.¹²⁷ Although a technological fair use doctrine would not have the same level of categorical certainty as a safe harbor, it could provide more guidance to developers on what constitutes fair use than the current ad hoc approach.

Greater clarity is preferable for our copyright system. As the Court recognized in the patent context, “[C]larity is essential to promote progress,

to secure an exclusive right or limited monopoly not granted by the [Copyright] Office and which it is contrary to public policy to grant.” (alterations in original) (quoting *Morton Salt Co. v. G.S. Suppiger*, 314 U.S. 488, 492 (1942))). See also Kathryn Judge, Note, *Rethinking Copyright Misuse*, 57 STAN. L. REV. 901, 924–41 (2004) (discussing the possible theories underlying the copyright misuse doctrine).

126. *Metro-Goldwyn-Mayer Studios Inc. v. Gorkster, Ltd.*, 545 U.S. 913, 933 (2005).

127. *Sony*, 464 U.S. at 442.

because it enables efficient investment in innovation,”¹²⁸ a view shared by the law-and-economics school.¹²⁹ Chief Justice Rehnquist summed it up best: “Because copyright law ultimately serves the purpose of enriching the general public through access to creative works, it is peculiarly important that the boundaries of copyright law be demarcated as clearly as possible.”¹³⁰

Breathing room is important for the development of technologies because new technologies are inherently difficult, if not impossible, to predict. As Clayton Christensen has explained in his pathbreaking study on disruptive technologies, “[N]either manufacturers nor customers know how or why the products will be used, and hence do not know what specific features of the product will and will not ultimately be valued.”¹³¹ Or, more succinctly, “Markets that don’t exist can’t be analyzed.”¹³² L. Gordon Crovitz’s chronicle of the Top 10 Worst Technology Predictions of all time illuminates how even the brightest minds routinely blunder in predicting new technologies and their social value.¹³³

Faced with this inherent unpredictability, policymakers should favor a decentralized approach, allowing breathing room for many different types

128. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 730–31 (2002). *Cf.* Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 613 (1992) (arguing that “postponing the establishment of precedents that will guide future activity . . . involves a high cost, as behavior in the interim will not benefit from the guidance of whatever precedent might later be set”); Antonin Scalia, Essay, *The Rule of Law as a Law of Rules*, 56 U. CHI. L. REV. 1175, 1179 (1989) (noting an “obvious advantage of establishing . . . a clear, general principle of decision: predictability”). In the abstract, uncertainty in the law can produce over- and underdeterrence. *See* Ben Depoorter, *Technology and Uncertainty: The Shaping Effect on Copyright Law*, 157 U. PA. L. REV. 1831, 1836–37 (2009). For example, in some contexts, uncertainty over fair use may “chill” speech by causing people who would pursue legitimate fair uses to be scared off by the possibility of being sued by copyright holders. *See* Edward Lee, *Warming Up to User-Generated Content*, 2008 U. ILL. L. REV. 1459, 1543–44 (2008) [hereinafter Lee, *Warming Up*]. Yet, in other contexts, uncertainty may help bring about “warming” of speech by emboldening people to engage in activities (some legitimate, others not) that other people are engaging in. *Id.* at 1544. But because speech technologies are typically commercial and therefore more likely to draw scrutiny from copyright holders, one would expect that legal uncertainty may have a greater overdeterrence effect if copyright holders can easily threaten a lawsuit to stop certain technologies.

129. *See* ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 93, 97 (4th ed. 2004) (arguing that “defining simple and clear property rights” lowers transaction costs and in turn, “lubricates” bargaining).

130. *Fogerty v. Fantasy, Inc.*, 510 U.S. 517, 527 (1994).

131. CLAYTON M. CHRISTENSEN, *THE INNOVATOR’S DILEMMA* 150–51 (rev. ed. 2003); *id.* at 178 (“It is simply impossible to predict with any useful degree of precision how disruptive products will be used or how large their markets will be.”).

132. *Id.* at xxv.

133. *See* L. Gordon Crovitz, *Information Age: Technology Predictions Are Mostly Bunk*, WALL ST. J., Dec. 28, 2009, at A15.

of technologies to develop.¹³⁴ Because we are unlikely to be able to predict the value, utility, or costs of a new speech technology to society, we should allow developers the leeway—or freedom to innovate—to try out many different possibilities in the marketplace. Moreover, this leeway should not simply vanish once the speech technology is launched and a copyright holder sues. As Tim Wu has explained, one of the biggest dangers of broad intellectual property rights is their capability of centralizing a hierarchical power over products to intellectual property holders.¹³⁵ When given a choice between hierarchical and decentralized decisionmaking, “[i]n general, the economic literature strongly favors decentralized decision structures in economic systems, based on the observation that free-market economies perform better than planned, centralized economies.”¹³⁶ That is particularly true in the context of great change or uncertainty.¹³⁷ Fair use is thus better understood as a way to promote “decentralized decisionmaking in product development.”¹³⁸

Breathing room is also necessary because *disruptive* technologies are least likely to come from established firms. Christensen identified a key problem in how innovation is confined among established or incumbent firms: the “innovator’s dilemma” is that established companies and industries are actually *limited* by their own value network (which may, in fact, have brought them past financial success), with the effect being that they can be hamstrung in their ability to innovate in new or emerging markets.¹³⁹

The innovator’s dilemma suggests that startup technology companies may be an important source of innovation—indeed, Amazon, Google, eBay, Facebook, YouTube, and Twitter were all just startups when they first launched their revolutionary Internet platforms and applications. Although some well-established tech companies like Apple and Google continue to innovate in entirely new areas compared with their previous business, startups have played a critical role in innovation in the

134. See Timothy Wu, *Copyright’s Communications Policy*, 103 MICH. L. REV. 278, 281 (2004) (“[N]either government nor industry monopolists are well situated to choose what technologies or firms the nation should use to communicate, now or in the future.”).

135. See Tim Wu, Essay, *Intellectual Property, Innovation, and Decentralized Decisions*, 92 VA. L. REV. 123, 126 (2006).

136. *Id.*

137. *Id.* at 130–31.

138. *Id.* at 127.

139. See CHRISTENSEN, *supra* note 131, at 61–63. See also *id.* at xxvi (“Companies whose investment processes demand quantification of market sizes and financial returns before they can enter a market get paralyzed or make serious mistakes when faced with disruptive technologies.”).

information technology and Internet sectors. Yet, despite the critical role startups play in innovation, they are probably the least likely to be able to withstand or litigate a major copyright lawsuit.¹⁴⁰ They also may be unable to secure funding to keep afloat if investors view the technology as susceptible to a copyright lawsuit, irrespective of the actual merits of the copyright claim.¹⁴¹ This is especially true if copyright holders persist in aggressive attempts to expand copyright law to include “tertiary liability” against investors themselves.¹⁴²

The major copyright industries (such as publishing, music, and movies) appear particularly vulnerable to this shortcoming in handling innovation. Most, if not all, of these industries are not themselves typically in the business of developing new technologies. The business models of these industries have remained fairly unchanged for many years—the basic model is to sell and distribute books, music, and movies to the public after choosing or financing the works. Although the music and movie industries have had a few major changes in format of distribution (books less so until recently), those changes were driven by technologies first developed by others.¹⁴³ As established firms with entrenched value networks whose main goal is to sell content, the major copyright industries are poorly positioned to evaluate or foster innovation in speech technologies.¹⁴⁴

140. For example, both Napster and MP3.com went bankrupt after being sued. *See supra* note 53 and accompanying text.

141. *See* Lemley & Reese, *supra* note 37, at 1388 (“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.” (footnote omitted)).

142. *See, e.g., In re Napster, Inc. Copyright Litig.*, 377 F. Supp. 2d 796 (N.D. Cal. 2005). *See generally* Benjamin H. Glatstein, Comment, *Tertiary Copyright Liability*, 71 U. CHI. L. REV. 1605, 1605 (2004) (examining the viability of tertiary copyright liability, explaining that “[t]ertiary liability reaches parties that assist a second party, but maintain no relationship with the primary party,” and describing tertiary copyright liability as “an action against those who help the helper”); Jessica Litman, Brace Memorial Lecture, *War and Peace*, 53 J. COPYRIGHT SOC’Y U.S.A. 1, 13 (Fall 2005–Winter 2006) (mentioning a lawsuit against an investor that “sent precisely the chill it was intended to into Silicon Valley”).

143. *See* PATRY, *supra* note 5, at 40–41 (mentioning online production and distribution of music and movies).

144. The Hollywood video distribution site Hulu might be a notable exception. A joint venture between NBC Universal and Fox, Hulu was developed in response to the disruptive technology of YouTube. *See generally* Chuck Salter, *The Unlikely Mogul*, FAST COMPANY, Nov. 2009, at 98 (tracing the development and popularity of Hulu). In fact, Hulu was dubbed the “YouTube killer.” *See, e.g.,* Jessi Hempel, *How Hulu Became the Season’s Hit*, FORTUNE, Nov. 10, 2008, at 44. Hulu’s elegantly designed video player and exceptional video resolution have created stiff competition for YouTube in terms of both advertisers and viewers. *See* Edward Lee, *Remixing Lessig*, 6 I/S: J.L. & POL’Y FOR INFO. SOC’Y 41, 62–63 (2010). Nevertheless, YouTube, not Hulu, first led the innovation in online video. *See*

Because of the limitations of their own existing value networks, the major copyright industries may have a proclivity to view new technologies as constant threats to their business and established business plans, especially if the technology enables any copying of content.¹⁴⁵ This anti-new-technology skepticism of copyright holders dates back to the earliest days of copyright, from the development of the printing press to the phonograph.¹⁴⁶ Under this anti-new-technology skepticism or bias, copyright holders view every new speech technology as a potential threat to their existing business model, and thus they try to stop, control, or leverage the new technology.¹⁴⁷ In his latest book, copyright expert William Patry chronicles the many instances in which the major copyright industries have taken positions against new technologies.¹⁴⁸

Part of the problem is that copyright holders may greatly undervalue the social benefits that a new technology offers. As Mark Lemley and R. Anthony Reese explain, “Economic evidence strongly suggests that those unanticipated future benefits, or ‘spillover’ effects, often exceed the immediate value of most new technologies.”¹⁴⁹ Sometimes, the new technologies foster the development of consumer activities or new markets that *complement* or add even more value to the copyright holders’ market.¹⁵⁰

One (in)famous example can be found in Hollywood’s unsuccessful attempt to ban the VCR—which eventually brought the movie studios their biggest source of revenue.¹⁵¹ Similarly, contrary to Hollywood studios’ fears, the DVR has helped, not hurt, Hollywood. As a result of DVR use, the total viewing of network television shows and the commercials that air during these shows has actually *increased*.¹⁵² As more DVRs sell, more

Salter, *supra*, at 103.

145. See, e.g., Lemley, *supra* note 38, at 135–36 (explaining that copyright owners have no incentive to innovate with new media because they would “require[] the introduction of unproven business models and unknown modes of copyright enforcement”); Wu, *supra* note 134, at 292–95 (describing the conflict between new and existing disseminators of copyrighted content).

146. See PATRY, *supra* note 5, at xxii (recounting how the American Society of Composers, Authors, and Publishers “put out a pamphlet decrying the phonograph record as ‘the murderer of music’”); Lee, *Freedom of the Press 2.0*, *supra* note 5, at 320–23 (describing early English regulation of the printing press).

147. See PATRY, *supra* note 5, at 20–30.

148. See *id.*

149. Lemley & Reese, *supra* note 37, at 1387 (footnote omitted).

150. See Von Lohmann, *supra* note 14, at 840–43.

151. See *id.* at 851–52.

152. See Bill Carter, *TV Finds That Mortal Foe, DVR, Is Friend After All*, N.Y. TIMES, Nov. 2, 2009, at B1 (“According to Nielsen, 46 percent of viewers 18 to 49 years old for all four networks taken together are watching the commercials during playback . . .”).

people are now able to watch television shows,¹⁵³ and contrary to industry fears, a high percentage of those viewers still sit through the commercials.¹⁵⁴ Likewise, YouTube—still embroiled in copyright lawsuits for unauthorized posting of content by YouTube users—has been used increasingly by Hollywood studios that have chosen to monetize such unauthorized postings through YouTube’s video identification program instead of asking for their removal.¹⁵⁵

This discussion is not meant in any way as a rebuke of the major copyright industries. They are important to the U.S. economy in their own right¹⁵⁶ and have played an important part in the distribution of many amazing works over the years. We should not expect them to be developers of speech technologies. That is not their typical business.¹⁵⁷ But precisely because it is not their business, we should be wary of allowing them to dictate or limit the ways in which new speech technologies are developed. The copyright industry is supposed to maximize the profits of their shareholders, not the overall welfare of the public.

The copyright *system* is intended to maximize overall public welfare, however—that is, “[t]o promote the Progress of Science and useful Arts.”¹⁵⁸ If, as the Supreme Court has already recognized, copyright law must afford “breathing room” to developers of speech technologies,¹⁵⁹ the breathing room must give plenty of legal space for developers to develop those technologies without the threat of a lawsuit from copyright holders. And if the fair use doctrine currently lacks the kind of *ex ante* clarity needed for technological innovation,¹⁶⁰ then courts should refine the doctrine accordingly.

153. This increased viewing occurs especially within three days of the original air date—the period measured by Nielsen ratings. *See id.*

154. *See id.*

155. Brian Stelter, *Now Playing on YouTube: Clips with Ads on the Side*, N.Y. TIMES, Aug. 16, 2008, at C1 (“90 percent of the copyright claims made using the identification tool remain on the site and are converted to advertising inventory.”). In prior scholarship, I have identified the “hedge” practices of copyright holders who intentionally allow unauthorized uses of their works in order to benefit from such unauthorized uses. *See Lee, Warming Up*, *supra* note 128, at 1486–87. The uses, although unauthorized at the start, become informally accepted by the copyright holders, and further undermine the notion that infringement always occurs in an unauthorized use. *See id.* at 1486–88. Copyright practices must be judged over time.

156. *See infra* Part III.B.2.

157. Some exceptions, such as Hulu, do exist. *See supra* note 144.

158. U.S. CONST. art I, § 8, cl. 8.

159. *See Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 933 (2005).

160. *See* Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207, 209 (1996) (“[T]he fair-use criteria are so ambulatory that no one can give a general answer.”).

2. The IT Sector's Importance to the U.S. Economy

Another important macroeconomic reason for recognizing technological fair use is that it can provide much-needed breathing room for innovation in one of the most important sectors of the U.S. economy today: information technology ("IT").

Although the copyright industries are important to the U.S. economy, they are not the only component. According to Bureau of Economic Analysis statistics, between 2003 and 2008, the information-communication-technology-producing industries contributed between 3.7 and 3.8 percentage points each year to the growth of the real Gross Domestic Product ("GDP").¹⁶¹ By contrast, during that same period, the motion picture and sound recording industries contributed just 0.3 percentage points.¹⁶² In other words, the IT sector contributed ten times more to U.S. real GDP growth than some of the major copyright industries over the same period.

The IT sector also remained comparatively strong during the recent economic downturn. In 2007, "the computer and electronic products manufacturing industry increased 20 percent, and the information and data-processing services industry increased 26 percent, which was more than any other industry."¹⁶³ Even during the most recent economic downturn, the information-communication-technology industries "remained strong in 2008," seeing a 9.0 percent increase in value added and "contribut[ing] 30 percent to the 1.1 percent growth in real GDP," despite comprising only 3.8 percent of GDP.¹⁶⁴

These numbers indicate that any sound economic policy for the United States must attempt to continue to spur the growth of the IT sector. Formal recognition of technological fair use would be one important principle to serve that end. It would be foolish to cut off our IT growth to spite our copyright system.

161. See BEA, GROSS-DOMESTIC-PRODUCT-BY-INDUSTRY ACCOUNTS (2009), available at http://www.bea.gov/industry/gpotables/gpo_action.cfm?anon=506869&table_id=24753&format_type=0.

162. See *id.*

163. Soo Jeong Kim et al., *Annual Industry Accounts: Revised Statistics for 2005–2007*, SURV. CURRENT BUS., Dec. 2008, at 21, 21–22, available at http://www.bea.gov/scb/pdf/2008/12December/1208_indyaccts.pdf.

164. *Manufacturing Industries Led Slowdown in 2008: Advance Gross Domestic Product by Industry, 2008*, BEA, Apr. 28, 2009, <http://www.bea.gov/newsreleases/industry/gdpindustry/2009/gdpind08.htm>.

3. A Response to Gordon's Market Failure Theory of Fair Use

My economic argument in favor of technological fair use does not depend on the existence of market failure. This is a key criterion in Wendy Gordon's influential market failure approach to fair use, which examines whether "(1) market failure is present; (2) transfer of the use to defendant is socially desirable; and (3) an award of fair use would not cause substantial injury to the incentives of the plaintiff copyright owner."¹⁶⁵ When first proposed, Gordon viewed all three factors as necessary before a fair use should be recognized.¹⁶⁶ With respect to new technologies, Gordon advised courts to take a cautious approach before recognizing fair use so that, *over time*, market mechanisms could develop, thereby enabling copyright holders eventually to exact licensing of their works for use in new technologies.¹⁶⁷ "If copyright protection is denied because of an otherwise curable market failure, then the additional revenues that would have flowed [to the copyright holders] from the new technological use will not appear."¹⁶⁸

Gordon's influential article has elicited a wealth of commentary over the years,¹⁶⁹ including a more recent article from Gordon backtracking somewhat from her original argument.¹⁷⁰ It goes beyond this Article's scope to canvas or critique all of the rich literature related to Gordon's theory. Instead, I would like to focus on why Gordon's market failure test is inadequate to deal with technological fair use cases. Although I believe market failure can be a factor for consideration, it should not supplant the balance of factors, or become the be-all, end-all of fair use.

Part of the problem with the market failure test is that it runs the risk of giving copyright industries too much (unwarranted) control over

165. See Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors*, 82 COLUM. L. REV. 1600, 1614 (1982).

166. *Id.* at 1620–21 ("[T]he courts should limit their grants of fair use to those occasions in which the market cannot be relied upon to allow socially beneficial uses to occur.").

167. *Id.* at 1621–22. Paul Goldstein goes one step further in suggesting that copyright law should generally extend to new technological uses (though he is skeptical of the courts' ability to handle this issue). See GOLDSTEIN, *supra* note 35, at 188–89, 199–200. At times, Gordon appears to be a little more sanguine about allowing fair use for new technologies because, at least in the beginning, high transaction costs might hamper the ability of users to negotiate licenses from copyright holders. See Gordon, *supra* note 165, at 1628–29.

168. Gordon, *supra* note 165, at 1621.

169. See, e.g., Glynn S. Lunney, Jr., *Fair Use and Market Failure: Sony Revisited*, 82 B.U. L. REV. 975 (2002).

170. See Wendy J. Gordon, *Excuse and Justification in the Law of Fair Use: Transaction Costs Have Always Been Only Part of the Story*, 50 J. COPYRIGHT SOC'Y U.S.A. 149, 153–56 (2003).

emerging technologies. The test views the relevant market as simply the market for the copyrighted work, but it ignores the emerging market for the new technology. Whether copyright holders can license their works cannot answer the question of whether an emerging market for a new technology might develop better without such licenses or control by copyright holders. Under a more informed approach, the ability to obtain copyright licenses is a relevant consideration, but so is whether fair use can help foster technological innovation in a new or incipient market.

Although I have offered economic justifications for technological fair use, the doctrine is, in the end, much more than that. The biggest flaw in transforming fair use into a market failure test is that fair use is a First Amendment safeguard, not some economic indicator. Under our First Amendment jurisprudence, we do not use the market to decide whether speech or a speech technology is permissible. Instead, the Constitution values speech and technologies that facilitate expression in a different way than the market does.¹⁷¹ Gordon conceded as much:

Distrust of the market may also be triggered when the defendant's activities involve social values that are not easily monetized. When the defendant's use contributes something of importance to public knowledge, political debate, or human health, it may be difficult to state the social worth of that contribution as a dollar figure. If the defendant's interest impinges on a first amendment interest, relying upon the market may become particularly inappropriate; constitutional values are rarely well paid in the marketplace and, while the citizenry would no doubt be willing to pay to avoid losing such values, it is awkward at best to try to put a "price" on them. Not surprisingly, it has been suggested that fair use be granted when first amendment issues are involved.¹⁷²

However, Gordon's theory failed to recognize how speech technologies implicate this First Amendment concern.¹⁷³

To reduce fair use into a simple market failure test would strip the doctrine of its traditional role as a First Amendment safeguard. There would be little, if any, breathing room for speech technologies. If, as

171. Lee, *Freedom of the Press 2.0*, *supra* note 5, at 386–87.

172. Gordon, *supra* note 165, at 1631–32 (footnotes omitted).

173. Gordon advised that "'public interest' cannot provide a justification for fair use unless there is a reason to believe that the market cannot be relied upon to serve that interest." *Id.* at 1636. In her more recent writing, Gordon has admitted that some situations might involve "inherent limitation[s]" that are entirely inappropriate for market-based norms, such as treating babies as commodities. *See* Gordon, *supra* note 170, at 152. Gordon also recognized that "where non-economic values are at stake, we might feel very uneasy trusting that market transactions could achieve the desired goals" and, accordingly, "even if market conditions were perfect, it would be normatively appropriate to proceed outside the market's ordinary process of consent and payment." *Id.* at 160.

Gordon originally proposed, courts should defer to the market and the eventual development of licensing mechanisms, technology developers could expect to have to seek a license for every new use of a work, even if no practicable licensing mechanism presently exists. Faced with that prospect, technology companies and developers might stop investing in research and development for speech technologies and devote their resources elsewhere. Gordon's theory seems to overlook this prospect because it focuses heavily on licensing to *users* of works but not to the developers of speech technologies.¹⁷⁴

The market failure approach may produce another troubling situation in technological fair use cases: entanglement between copyright holders and how speech technologies are designed. The market failure approach places a premium on negotiation with copyright holders for licensing uses of their works.¹⁷⁵ Some copyright industries may seek to dictate not just uses of their works, but also the *design features* of new technologies, as was the case with Sony,¹⁷⁶ and more recently with TiVo,¹⁷⁷ ReplayTV,¹⁷⁸ Cablevision and other DVR manufacturers,¹⁷⁹ as well as Amazon's Kindle.¹⁸⁰ Innovative technological features may often be sacrificed by technology companies to avoid—or buy off—potentially unmeritorious but costly lawsuits. Given this past history, the goal of certain copyright industries sometimes appears to be not to license their works but to shut down a technology or new functionality that may have valuable social benefits but to which they object.

Whatever the strategy of copyright holders, their entanglement with

174. See Gordon, *supra* note 165, at 1621.

175. See *id.* at 1629–30. Although Gordon recognizes other forms of market failure, her discussion of new technologies focuses on allowing the opportunity for copyright holders to develop market mechanisms to license their works. See *id.* at 1621.

176. See PATRY, *supra* note 5, at 150–51 (describing how movie studios tried to get Sony to adopt their DiscoVision, which did not allow recording, in lieu of Sony's Betamax, which did).

177. See Hyangsun Lee, *The Audio Broadcast Flag System—Can It Be a Solution?*, 12 COMM. L. & POL'Y 405, 465–66 (2007) (discussing how TiVo dropped its portable TiVoToGo feature, which enabled recorded content to be portable, after pressure from the Hollywood industry).

178. See Lemley, *supra* note 38, at 150–54 (discussing copyright lawsuits against ReplayTV's "Send Show," "AutoSkip," and "Library" features). See also Eric A. Taub, *ReplayTV's New Owners Drop Features That Riled Hollywood*, N.Y. TIMES, July 21, 2003, at C3 (explaining that ReplayTV stopped offering the first two of these functions to its users in response to pressures from the entertainment industry).

179. See, e.g., *Cartoon Network LP, LLLP v. CSC Holdings, Inc.*, 536 F.3d 121 (2d Cir. 2008) (denying copyright claim against Cablevision's remote storage DVR).

180. See *supra* note 19 and accompanying text (describing how Amazon decided to give copyright holders the option to disable the Kindle's text-to-speech feature).

how speech technologies are designed is troubling from a First Amendment perspective. The history of abuses in England in allowing the Stationers' Company, the de facto copyright holders, to control the printing press was precisely what led to the recognition of the freedom of the press, first in England and then in the United States.¹⁸¹ Thus, copyright holders' control over speech technologies raises serious constitutional red flags.

IV. FAIR USE TAILORED TO TECHNOLOGICAL FAIR USE CLAIMS

One of the most difficult questions in all of copyright is how to determine if a new technological use of copyrighted works should be assimilated into the copyright holder's exclusive rights. For over two centuries of our copyright law's existence, this question has recurred—from the pianola and record player to the camera, radio, cable television, copy machine, VCR, and Internet. Much like the mythical hydra, the question rears its several heads over copyright law without end—tackle one difficult technology, and another one pops up. Scholars who prefer strong copyright protection, such as Paul Goldstein, advocate for a general policy of assimilating all or most new technological uses of copyrighted works into the copyright holder's rights.¹⁸² However, this view is hard to square with past copyright decisions, which over the years have resulted in a much more varied—and permissive—approach to new technological uses.¹⁸³ More importantly, it is harder to square with the goals of the First Amendment and the Copyright and Patent Clause, which, as explained above in Part III, are meant to provide breathing room for the development of speech technologies. By the same token, the opposite approach—assimilating all new technological uses as fair uses or exemptions from copyright—would be equally hard to justify, as it would threaten to shrink copyright as innovation continues to progress and new uses eventually replace old ones.

The better approach lies somewhere in between these two extremes. Copyright must allow breathing room for the development of speech technologies but without immoderately shrinking copyright protections.¹⁸⁴

181. See *supra* Part III.A.1.a.

182. See GOLDSTEIN, *supra* note 35, at 188–89, 199–200.

183. See Jane C. Ginsburg, *Copyright and Control over New Technologies of Dissemination*, 101 COLUM. L. REV. 1613, 1616 (2001) (“Indeed, a review of past confrontations between copyright and new technological means of dissemination suggests that courts often are reluctant to restrain the public availability of new technologies, even when those technologies appear principally designed to exploit copyrighted works.” (footnote omitted)).

184. Although this Article focuses on fair use, the issue is not simply a choice between fair use or

The hard task is separating the wheat from the chaff.¹⁸⁵ This part offers a framework to assist courts in that endeavor.

A. A PROPOSAL FOR COURTS

My basic proposal is that courts recognize a discrete category of *technological fair use*. Although fair use remains a case-by-case inquiry, the four factors can be tailored more specifically to address recurring issues raised by speech technologies, similar to how the Supreme Court tailored the factors for parodies in *Campbell*.¹⁸⁶ Even though parody is not an express purpose of fair use listed in § 107, courts have correctly identified it as a legitimate type of fair use.¹⁸⁷ Likewise, courts should identify technological fair use as a legitimate type of fair use.

Of course, the tailoring of the factors for new speech technologies does not mean that the presence of a new technology automatically warrants a finding of fair use. The factors must still be applied in each case. As an “equitable rule of reason,”¹⁸⁸ the factors must be balanced and weighed by the judge(s) or jury, so it is unrealistic to expect that my proposal will yield clear, indisputable outcomes like a mathematical formula. Instead, I hope to offer the right set of *questions* for courts to ask when analyzing fair use, so courts can better appreciate what is at stake.¹⁸⁹

Before getting to my framework, one legal distinction is worth noting: the difference between direct and secondary liability. Even though different legal standards apply, my framework is relevant for both claims. A direct liability claim alleges that the developer itself has violated at least one of

infringement. A court may rule that none of the exclusive rights of copyright has even been violated, thereby obviating the need for analyzing fair use. See *infra* notes 366–67 and accompanying text.

185. It goes beyond this Article’s scope to critique the few previous proposals on this topic. For these proposals, see, for example, Lemley, *supra* note 38, at 157–62 (proposing an “innovative medium defense” to protect developers); Timberg, *supra* note 36, at 226–40 (proposing a bifurcated approach that recognizes a broad right of fair use for copyrighted works and providing compensation to copyright holders in some appropriate cases of economic injury); *Unified Theory*, *supra* note 36, at 460–68 (proposing a normative framework encompassing interaction-iteration and noncommercial-commercial factors). Von Lohmann stops short of a proposal, but argues in favor of applying fair use more generously to allow “private copying” technologies. See Von Lohmann, *supra* note 14, at 861–64.

186. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 577–94 (1994).

187. See, e.g., *id.* at 579–80; *Lebovitz v. Paramount Pictures Corp.*, 137 F.3d 109, 110 (2d Cir. 1998) (citing *Campbell*, 510 U.S. 569).

188. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 448 (1984).

189. Given the speed at which technologies change today, it would be unwise to devise any test or rule that did not have flexibility to accommodate new technologies and unforeseen developments. See Edward Lee, *Rules and Standards for Cyberspace*, 77 NOTRE DAME L. REV. 1275, 1332–33 (2002) (describing some of the difficulties posed by rapid technological change).

the exclusive rights of copyright, whereas a secondary liability claim alleges that *users* of a technology have so violated a right and that the developer should also be held liable.¹⁹⁰ Fair use is a defense to direct liability.¹⁹¹ But because secondary liability requires proof of direct infringement,¹⁹² fair use is also relevant to secondary claims. In addition, fair use is relevant to the *Sony* safe harbor, which protects technology developers from secondary liability for technologies that have substantial noninfringing uses, such as a fair use.¹⁹³ Accordingly, although the distinction between direct and secondary liability is important in deciding infringement claims, the *legal standard* of fair use is the same in either situation.¹⁹⁴ My proposal for technological fair use applies to both kinds of claims.

My proposal for analyzing technological fair use is summarized in table 1 below. A fuller explanation of each fair use factor follows.

190. See *Ellison v. Robertson*, 357 F.3d 1072, 1076 (9th Cir. 2004) (defining the categories of liability as “direct copyright infringement, contributory and vicarious copyright infringement”).

191. See 17 U.S.C. § 107 (2006).

192. See *Ellison*, 357 F.3d at 1076 (explaining the elements of contributory and vicarious copyright infringement).

193. See *supra* notes 89–94 and accompanying text. Given the *Sony* safe harbor, a developer may have greater protection against secondary liability than direct liability.

194. Often, the strategy of copyright holders is to sue the technology developer instead of the user, so even in secondary liability cases the developer may be the one asserting fair use on behalf of its users. See, e.g., *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984) (considering claims that time-shifting recording of television shows by VCR users constituted fair use).

TABLE 1. Framework for Analyzing Technological Fair Use

<p><i>Factor One:</i></p> <p>(a) Is the use of the copyrighted work for a new or value-adding purpose of creating, operating, or providing output of a speech technology or application?</p> <p>(b) If so, can a potential public benefit from the technology be reasonably perceived?</p> <p>(c) Identify if the use is for <i>creating, operating, or providing output</i> of the technology and give more leeway to creational/operational use.</p> <p>(d) Give less weight to the commerciality of the use unless the technology is offered at a high fee (this may cut against fair use). Some weight is accorded to free technologies (this may cut in favor of fair use).</p>
<p><i>Factor Two:</i></p> <p>The nature of the copyrighted work has less weight.</p>
<p><i>Factor Three:</i></p> <p>Evaluate the amount/substantiality of the copying in light of the purpose measured by factor one and along the Creation-Operation-Output spectrum.</p>
<p><i>Factor Four:</i></p> <p>Evaluate the effect on the potential market for the copyrighted work (and derivatives) and the effect on the potential market for the speech technology.</p>

1. Factor One: Purpose and Character of Use of the Copyrighted Work Analyzed Under the Creation-Operation-Output Spectrum

Factor one of fair use is “the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes.”¹⁹⁵ In his empirical study of fair use cases, Barton Beebe found a strong correlation between factor one and the outcomes in fair use cases: “Indeed, 95.3% of the 148 opinions that found that factor one disfavored fair use eventually found no fair use, while 90.2% of the opinions that found that the factor favored fair use eventually found fair use.”¹⁹⁶ If factor one usually determines or coincides with the outcome in practice, then it is important to tailor this factor with enough detail for courts to ask the right questions in technological fair use cases. Accordingly, I have broken down factor one into four related

195. 17 U.S.C. § 107(1).

196. Barton Beebe, *An Empirical Study of U.S. Copyright Fair Use Opinions, 1978–2005*, 156 U. PA. L. REV. 549, 597 (2008).

considerations.

a. New or Value-Adding (Transformative) Purpose: Is the Use for the Purpose or Function of Creating, Operating, or Providing an Output of a Technology or Application?

A court should first examine whether the use of a copyrighted work is *for a new or value-adding purpose of creating, operating, or providing an output of a speech technology or application*. If it is not, no claim of technological fair use is present, and the court should proceed to analyze the case under the ordinary standard for fair use. However, if it does contain such a purpose, this factor weighs in favor of technological fair use—though, in varying degrees and with the rest of the factors still to be considered.

Some courts have called this kind of purpose a “transformative” purpose.¹⁹⁷ The terminology has produced a considerable amount of criticism and confusion.¹⁹⁸ The confusion stems from use of “transformative” to mean different things, depending on whether it modifies “use” or “purpose.”¹⁹⁹ When modifying “use,” transformative describes what is commonly known as a “productive” use, meaning that the defendant has used the copyrighted work to *produce* a new work, such as a parody of a copyrighted work.²⁰⁰ But when modifying “purpose,” courts have used “transformative” to describe situations without productive uses where the copyrighted work is copied verbatim, sometimes in its entirety; the transformation—or something new—arises in the *purpose* of using the work, such as in a technology with a new function in how the work is used.²⁰¹

If courts were starting from scratch, perhaps they would be better served by avoiding the use of the word “transformative” to describe both purposes and uses under fair use. However, because courts already have used this terminology in technological fair use cases, I will continue to do

197. See, e.g., *A.V. ex rel. Vanderhye v. iParadigms, LLC*, 562 F.3d 630, 639 (4th Cir. 2009).

198. See, e.g., Laura A. Heymann, *Everything Is Transformative: Fair Use and Reader Response*, 31 COLUM. J.L. & ARTS 445, 449 (2008) (arguing that transformativeness should not be treated as a binary concept but rather interpreted as a matter of degree—“the amount of interpretive distance that the defendant’s use of the plaintiff’s work creates”); Rebecca Tushnet, *User-Generated Discontent: Transformation in Practice*, 31 COLUM. J.L. & ARTS 497 (2008) (arguing that noncommercial production can signal a transformative purpose); Diane Leenheer Zimmerman, *The More Things Change, the Less They Seem “Transformed”*: *Some Reflections on Fair Use*, 46 J. COPYRIGHT SOC’Y U.S.A. 251 (1998) (explaining how transformativeness is both over- and underinclusive).

199. The terms “use” and “purpose” appear in § 107(1).

200. See, e.g., *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 578–79 (1994).

201. See *supra* note 62 and accompanying text.

so for ease of incorporation of my framework into existing doctrine. However, my theory does *not* depend on whether “transformative purpose” is accepted. I am happy to substitute “new or value-adding” purpose instead.

This approach is consistent with the text of the fair use provision. The Copyright Act expressly includes both the “purpose” and “character of the use” as relevant considerations,²⁰² which trace back to Justice Story’s idea of looking to the “objects” and “nature” of the use in the precursor to the fair use doctrine.²⁰³ In addition, the basic exemption of fair use in the first sentence of § 107 lists several different “purposes” of fair use.²⁰⁴ Thus, as a textual matter, the purpose of the use is an express factor for consideration under the Copyright Act. As the Supreme Court stated in *Campbell*, “transformative” means that it “adds something new,” which has “a further purpose *or* different character.”²⁰⁵ The Court’s use of the “or” indicates two different alternatives: purpose *or* character. In addition, the phrase “supersede[s] *the objects*” of the original creation focuses on the purposes of the original creation.²⁰⁶

In sum, the important consideration of factor one is that courts ask whether the use of a copyrighted work is for a new or value-adding purpose of creating, operating, or providing output of a technology or application. If so, the fair use analysis should be tailored for technological fair uses.

b. Public Benefit: Can One Reasonably Perceive a Potential Public Benefit from the Technology or Application?

Next, the court asks whether one can *reasonably perceive a potential public benefit* from the technology in question. Fair use has traditionally

202. 17 U.S.C. § 107 (2006).

203. *Folsom v. Marsh*, 9 F. Cas. 342, 348 (No. 4901) (C.C.D. Mass. 1841).

204. 17 U.S.C. § 107 (listing “criticism, comment, news reporting, teaching . . . , scholarship, [and] research”).

205. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 572, 579 (1994) (emphasis added).

206. *Id.* (emphasis added) (alteration in original) (quoting *Folsom*, 9 F. Cas. at 348). True, the Court’s reference to “the new work” might indicate a limitation to productive fair uses. *Id.* However, the Court’s phrase “altering the first with new expression, meaning, or message” seems broad enough to encompass the “new meaning” of copyrighted works in some technological fair use cases (for example, within antiplagiarism software, the underlying works have the “new meaning” of data for a computer to detect cheating or plagiarism in schools). *Id.* Although the Court noted “[t]he obvious statutory exception to this focus on transformative uses is the straight reproduction of multiple copies for classroom distribution,” the Court here specified transformative *uses*, not purposes. *Id.* at 579 n.11. In the end, the Court’s analysis of transformative purpose is ambiguous—which may explain the confusion in the lower courts.

included a consideration of public benefit,²⁰⁷ and a number of courts that have considered technological fair use claims have done so as well, perhaps even more prominently.²⁰⁸

So what exactly is a public benefit? It is probably unwise to attempt to define precisely the term, given the myriad of potential circumstances that arise under fair use. But the basic idea in this context is that the technology in question has *societal value* in some way for the public at large, not just for the technology developer or, for that matter, the copyright industries. Because of the Copyright and Patent Clause's limitation of promoting the progress of science and useful arts, our copyright and patent laws have always placed the goal of serving the public above individual private interest as the ultimate goal of both systems.²⁰⁹ Accordingly, the fair use doctrine has always had an overriding goal of serving the public by acting as a First Amendment safeguard within copyright law and as a doctrine to promote the progress of science.²¹⁰ Indeed, there would be no need for the fair use doctrine at all if the public were deemed irrelevant to copyright law's scope. In economic terms, analyzing whether a public benefit is derived from a new technology or application can help to identify the *positive externalities* of a technology.²¹¹

The more difficult question is whether the court should attempt to *weigh* or *value* the extent of the public benefit that is derived or likely to be derived from the new technology. And if so, should the court then attempt to balance the public benefit against any potential cognizable harm to the copyright holder and its traditional market? The law-and-economics school might favor such an approach, which resembles a cost-benefit analysis of sorts. Moreover, the general test of fair use is one in which the

207. See Latman, *supra* note 58, at 7 (“[A]s a condition of obtaining the statutory grant, the author is deemed to consent to certain reasonable uses of his copyrighted work to promote the ends of public welfare for which he was granted copyright.”). See also, e.g., *Campbell*, 510 U.S. at 579 (“Like less ostensibly humorous forms of criticism, [parody] can provide social benefit, by shedding light on an earlier work, and, in the process, creating a new one.”); *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 454 (1984) (“The District Court’s conclusions are buttressed by the fact that to the extent time-shifting expands public access to freely broadcast television programs, it yields societal benefits.”).

208. See, e.g., *Perfect 10, Inc. v. Amazon.com, Inc.*, 487 F.3d 701, 721–22 (9th Cir. 2007); *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 820 (9th Cir. 2003).

209. See *supra* note 111 and accompanying text. See generally Shubha Ghosh, *Deprivatizing Copyright*, 54 CASE W. RES. L. REV. 387 (2003) (offering a critical review of our copyright system’s effectiveness in serving the public).

210. See *supra* Part III.A.

211. See Gordon, *supra* note 165, at 1630 (“When a defendant’s works yield such ‘external benefits,’ the market cannot be relied upon as a mechanism for facilitating socially desirable transactions.” (footnote omitted)).

“factors are all weighed in the ‘equitable rule of reason’ balance.”²¹²

In my view, however, courts should *not* get in the business of trying to value the potential public benefit derived from a new technology or perform a straight-out cost-benefit analysis in determining fair use. First, it is beyond judicial competence to attempt to quantify or measure, with any specificity, the public benefit that might accrue from a new technology. New technologies are often unpredictable; their most significant and lasting benefits are often unforeseen when first introduced.²¹³ Second, even law-and-economics scholars have conceded that economic analysis of intellectual property is often “inconclusive, if not indeterminate.”²¹⁴ Finally, trying to compare the value or benefit of a speech technology to what harm might impact the copyright holder’s market is doomed to failure because the two factors are simply incommensurable. Because of the First Amendment, we value speech and speech technologies in a much different way than dollars.²¹⁵ Even law-and-economics scholars concede that cost-benefit analysis is unable to evaluate rights or nonwelfare values.²¹⁶

So how, then, should a court judge a public benefit? To borrow the Court’s standard in parody cases, I think courts should determine whether a public benefit from the technology “may reasonably be perceived.”²¹⁷ If so,

212. *Sony*, 464 U.S. at 454.

213. See CHRISTENSEN, *supra* note 131, at 131; Lee, *Freedom of the Press 2.0*, *supra* note 5, at 403 (“Courts are neither technologists nor good predictors of innovation or new technologies.”); R. Anthony Reese, *The Problems of Judging Young Technologies: A Comment on Sony, Tort Doctrines, and the Puzzle of Peer-to-Peer*, 55 CASE W. RES. L. REV. 877, 887 (2005) (discussing how courts “are unlikely to be able to quantify a technology’s actual costs and benefits, or perhaps even their relative magnitudes, with any degree of certainty”). Internet-related technologies are especially difficult to predict given how rapidly they evolve. See *Ashcroft v. ACLU*, 542 U.S. 656, 671 (2004) (discussing the problems of fact-finding in Internet cases, given that “[t]he technology of the Internet evolves at a rapid pace”); *Reno v. ACLU*, 521 U.S. 844, 851 (1997) (commenting on how the Internet’s communication and information retrieval methods are “constantly evolving”).

214. WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 10 (2003) (noting “[t]he complexity of the subject and the degree to which economic analysis of intellectual property remains inconclusive, if not indeterminate” (footnote omitted)). See also Frank H. Easterbrook, *Cyberspace Versus Property Law?*, 4 TEX. REV. L. & POL. 103, 104 (1999) (arguing that “[i]gnorance [in the economic analysis of intellectual property] thus should lead us to leave well enough alone”); David McGowan, *Copyright Nonconsequentialism*, 69 MO. L. REV. 1, 2 (2004) (criticizing the consequentialist rhetoric in copyright law that leads to a “legal endgame” in which “[w]hoever has to prove the unprovable facts is likely to lose”).

215. See Cass R. Sunstein, *Incommensurability and Valuation in Law*, 92 MICH. L. REV. 779, 831 (1994) (“If we value speech either as an intrinsic good or because it is instrumental to a well-functioning deliberative process, we will value it in a quite different way from toasters.”).

216. See, e.g., MATTHEW D. ADLER & ERIC A. POSNER, *NEW FOUNDATIONS OF COST-BENEFIT ANALYSIS* 154–62 (2006).

217. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 582 (1994).

then this part of the analysis favors fair use. If not, the analysis here is either neutral or militates against fair use.

The “reasonably perceived” standard is meant to be a low threshold, an approach consistent with providing breathing room for developers and allowing new technologies to evolve. This approach also avoids putting judges in the position of evaluating the value of speech technologies, which might, in itself, raise First Amendment problems. As the *Campbell* Court noted, the reasonably perceived standard is analogous to the judicial nondiscrimination principle articulated by Justice Holmes in *Bleistein v. Donaldson Lithographing Co.*—a principle that keeps judges from evaluating the artistic merit or worth of copyrighted works “outside of the narrowest and most obvious limits.”²¹⁸ In addition, Judge Posner has explained that “the fair-use doctrine is not intended to set up the courts as judges of the quality of expressive works” under copyright law because it “would be an unreasonable burden to place on judges, as well as raising a First Amendment question.”²¹⁹ For similar reasons, I believe we should avoid having courts attempt to evaluate the value of different speech technologies. Judges should not be asked to discriminate among speech or speech technologies “outside of the narrowest and most obvious limits.”²²⁰ The reasonably perceived standard for finding a public benefit in a speech technology is all that we should expect, and allow, from judges.²²¹

That is not to say the court must disregard the potential scale of the public benefit that may be derived. Some technologies may be pioneer inventions that have the potential to transform society in immensely beneficial ways, whereas other technologies may be more incremental in effect. For example, the Internet is more revolutionary today than eight-track tapes ever were. The Court in *Sony* did consider the potential size of the public benefit of the VCR, but only in a general way and *not* in direct comparison to the potential harm to the copyright holders.²²² Simply citing a past case, the Court concluded that greater access to free broadcast

218. *Id.* (quoting *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 251 (1903)).

219. *Ty, Inc. v. Publ'ns Int'l Ltd.*, 292 F.3d 512, 523 (7th Cir. 2002).

220. *See Campbell*, 510 U.S. at 582.

221. It is interesting to note the Court's comparable deferential approach to government takings of property for “public use”—asking whether or not the governmental plan serves a “public purpose.” *See Kelo v. City of New London*, 545 U.S. 469, 480 (2005) (interpreting permissible “public use” under the Takings Clause of the Fifth Amendment). The standard for the takings doctrine adopts a broad approach to “public.” *Id.*

222. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 456 (1984) (“One may search the Copyright Act in vain for any sign that the elected representatives of millions of people who watch television every day have made it unlawful to copy a program for later viewing at home, or have enacted a flat prohibition against the sale of machines that make such copying possible.”).

programs was in the public interest, but without attempting to put a value on that interest.²²³ Although the *Sony* Court did not use a reasonably perceived standard, its relaxed standard for recognizing a public benefit is consistent with this approach. Additionally, a similarly relaxed approach to finding a public benefit has been applied in some of the other technological fair use cases discussed above.²²⁴

Some may object that my low threshold for finding a public benefit may mean that *every* speech technology developed will have a plus factor in favor of fair use. Perhaps, but one can imagine that certain technologies that might fail the *Sony* safe harbor (for example, because they do not have a substantial noninfringing use at all) will be deemed to lack a public benefit. Also, a technology that was used privately and not shared with others might be found to lack a public benefit. In any event, even if most speech technologies do have a public benefit, that is a consequence, I believe, of the First Amendment and how much the Constitution values speech technologies.

c. Superseding Use Analyzed Along the Creation-Operation-Output Spectrum

After a court has determined the threshold question of whether the technology in question has a new or value-adding purpose that provides a potential public benefit, the court should then ask whether the use of the copyrighted work *supersedes* the purposes of the original work. This inquiry dovetails somewhat with factor four of fair use—effect on the copyright holder’s market (discussed below). It is also the flipside of the “transformative” factor that asks whether the use of the copyrighted work “merely ‘supersede[s] the objects’ of the original creation” instead of adding new value or purpose to it.²²⁵ By definition, using a copyrighted work in a highly transformative manner is more likely to be nonsuperseding.

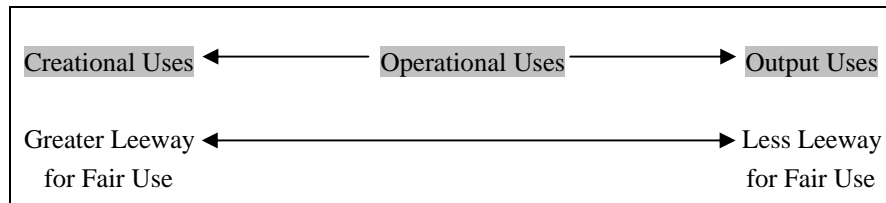
223. *Id.* at 454 (citing *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 530 (1972)).

224. *See, e.g.*, *Perfect 10, Inc. v. Amazon.com, Inc.*, 487 F.3d 701, 721 (9th Cir. 2007) (“[A] search engine provides social benefit by incorporating an original work into a new work, namely, an electronic reference tool.”); *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 820 (9th Cir. 2003) (noting that the use of images for a visual search “benefit[ed] the public by enhancing information-gathering techniques on the internet”); *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1523 (9th Cir. 1992) (“Public benefit need not be direct or tangible, but may arise because the challenged use serves a public interest.” (citation omitted)); *Field v. Google Inc.*, 412 F. Supp. 2d 1106, 1119 (D. Nev. 2006) (commenting that Google’s cache functionality “serves different and socially important purposes in offering access to copyrighted works”).

225. *Campbell*, 510 U.S. at 579 (quoting *Folsom v. Marsh*, 9 F. Cas. 342, 348 (No. 4901) (C.C.D. Mass. 1841)).

In analyzing superseding use in a technological fair use case, one of the key determinations is to identify the *stage(s) of the technology's development* during which the claimed fair use is made—(1) creation, (2) operation, or (3) output. Developers should have more leeway or breathing room, on average, during the creation and operation stages than during the output stage. Although technological fair uses can occur at the output stage, as with home recordings on the VCR in *Sony*, the output analysis may raise greater concerns about potential superseding uses that approximate one of the copyright holder's exclusive rights or traditional markets. As depicted below in table 2, the Creation-Operation-Output categories represent a spectrum.

TABLE 2. Creation-Operation-Output Spectrum



Creational uses, meaning uses of a copyrighted work simply to create a technology, without more, are probably the least likely to be superseding. The reason is that uses of copyrighted works solely at the creation stage of a technology—during the process of creating the technology—are more likely to be purely functional uses necessary to creating the new technology. As such, creational uses fall within the subject matter of patent, not copyright, if protection is sought. *Sega* provides an example of a purely creational use. Copies of Sega's operating system were made only during the reverse engineering stage to identify functional (and unpatented and uncopyrightable) elements of the program.²²⁶ The functional elements were then used to create a new application that could work on Sega's machine.²²⁷ The defendant's copies of Sega's copyrighted program were in this sense only "intermediate," as the court noted, because they were never used beyond the reverse engineering and creation stage.²²⁸ No copies were

226. See *Sega*, 977 F.2d at 1514–16.

227. *Id.*

228. *Id.* at 1518. Intermediate copies used to create a new technology are distinguishable from interim copies of copyrighted works that are just used in the process of making the final copy. Cf. *Walt Disney Prods. v. Filmmation Assocs.*, 628 F. Supp. 871, 876 (C.D. Cal. 1986) (materials created were interim copies of film to be used in final production). As the Ninth Circuit recognized in *Sega*, a key difference is that the former involves intermediate copying to deal with functional items not within the scope of copyright but necessary to create a new technology or application. See *Sega*, 977 F.2d at 1518–

later used in operating the defendant's game or as an output to end users.²²⁹

Operational uses of copyrighted works in technologies fall near the middle of the spectrum, but in terms of having a lower potential of superseding the copyrighted work, fall closer to the side of creational uses. This is so because a purely operational use of copyrighted works, without any output of the works to the end user, is more likely to be a functional use of the work—meaning here that they function as a part of the operation of the technology. Operational uses are different from creational uses in that operational uses occur during the operation of the technology once it has already been created.²³⁰ For example, the VCR can record shows from televisions during operation. Because operational uses typically occur with some *output* to the end user (such as how, after recording, the VCR's output is a taped program), it is difficult to find uses that are purely operational, where the only use of a copyrighted work is made internally within the machine. One example is the creation of temporary copies of materials as they are transmitted through various parts—or the “pipes”—of the Internet. This example involves a purely operational use if the parts of the Internet through which material is transmitted do not involve the output of the content to the end users.²³¹ Another simplified example of a purely

19.

229. Purely creational uses are somewhat difficult to find outside of reverse engineering. Typically, a copyrighted work is also used during the operation and output of the technology, such as with the finding and displaying of content through search engines. However, one hypothetical example of a purely creational use would be using copyrighted works—such as an encyclopedia—to increase the knowledge of a computer programmed with artificial intelligence. If the computer simply “learned” from the works, without continual access to them in a database, such a use would be purely creational—giving the computer artificial intelligence.

230. Some examples may straddle the line. For example, search engines and antiplagiarism software continually add to their databases even after their technologies have been created. *See, e.g.*, Turnitin, The WriteCycle Collaborative Writing Solution, <http://turnitin.com/static/products.html> (last visited May 1, 2010) (discussing antiplagiarism system's “continuously updated databases”); *How Search Engines Work*, SEARCHENGINEWATCH.COM, Mar. 14, 2007, <http://searchenginewatch.com/2168031> (discussing the continual updating of search engines through “crawling” of Web pages). Google created its search engine more than a decade ago, but it continues to add to its database by automated software copying of Web pages. *See* Sergey Brin & Lawrence Page, *The Anatomy of a Large-Scale Hypertextual Web Search Engine*, 30 COMPUTER NETWORKS & ISDN SYS. 107 (April 1998), available at <http://infolab.stanford.edu/~backrub/google.html> (discussing Google's system and the need to “crawl” millions of Web pages for indexing). Is such copying creational or operational? An argument can be made either way. However, I would categorize such copying as still *creational* in that it continues to create the database to update the technology. By contrast, I prefer to use the term *operational* for uses by the end users of the technology; such operational uses do not alter the technology itself.

231. That is why operational uses of copyrighted works in computers and the Internet have often been exempted or considered noninfringing. *See* 17 U.S.C. § 117(a)(1) (2006) (excluding from liability instances when the owner of a copy of a computer program makes or authorizes the making of another

operational use is the processing of copyrighted materials in a paper shredder or recycling plant.²³² Copyrighted and other materials are destroyed or recycled during operation of the technology, but it does not provide output of copyrighted materials to end users. As a general matter, greater leeway should be afforded to operational use.

Output uses fall on the other end of the spectrum and may raise greater concern of a superseding use. Because an output use often results in some distribution, display, or performance of the copyrighted work to the public, such output may run the risk of superseding the traditional purposes of the copyright holder's rights in marketing the work to the public. Making photocopies on a copier is an example of an output use. The machine produces the output of copies, some of which may come from copyrighted works. So too is the transmission of content over the radio and over cable and broadcast television. Such transmissions are output uses of the content to the public (there are also operational uses to the extent the content must be transmitted through the technology from one location to another by broadcast, cable, or other conduit). Technologies whose purpose is to disseminate content are likely to involve output uses of copyrighted works. Although my sliding scale still affords some leeway for output uses of copyrighted works, it is less so, on average, when compared to the other two types of uses.

Sometimes, perhaps even often, cases may involve some combination of creational, operational, or output uses of copyrighted works. In such cases, courts must be careful to identify the stages at which the various uses

copy as long as the copy is created "as an essential step in the utilization of the computer program"); *id.* § 512 (The Digital Millennium Copyright Act ("DMCA") safe harbors for passive conduits, caching, storage, and locator tools). *See also* Cartoon Network LP, LLLP v. CSC Holdings, Inc., 536 F.3d 121, 131 (2d Cir. 2008) ("In determining who actually 'makes' a copy, a significant difference exists between making a request to a human employee, who then volitionally operates the copying system to make the copy, and issuing a command directly to a system, which automatically obeys commands and engages in no volitional conduct."); Religious Tech. Ctr. v. Netcom On-Line Commc'n Servs., Inc., 907 F. Supp. 1361, 1369-70 (N.D. Cal. 1995) (noting that the doctrine of "volition" denies direct infringement liability against technology developers for merely "designing or implementing a system that automatically and uniformly creates temporary copies of all data sent through it"). The operational use doctrine may also apply to DMCA safe harbors, thereby allowing certain automated uses of the copyrighted works to still fall within the safe harbor. *See, e.g.,* Io Group, Inc. v. Veoh Networks, Inc., 586 F. Supp. 2d 1132 (N.D. Cal. 2008) (holding that automated conversion of video files and preview images by a service provider did not disqualify it from a DMCA § 512(c) safe harbor).

232. This example may seem far fetched as a copyright issue. However, some arguments have been made for extending the continental European notion of moral right of integrity to encompass the destruction of copyrighted works. *See* Daphna Lewinsohn-Zamir, *More Is Not Always Better Than Less: An Exploration in Property Law*, 92 MINN. L. REV. 634, 662-64 (2008) (describing the state of authors' moral rights).

occur and analyze each stage along the spectrum according the appropriate level of breathing room for each stage. For example, in the “thumbnail” search engine cases such as *Kelly*, the developers *created*, as part of a new search engine, a database of copied photographs in thumbnail size that were later copied again and displayed on the screens of Internet users *operating* the search engine, resulting in an *output* of the photographs only in thumbnail size.²³³

Although my proposal of the Creation-Operation-Output spectrum does not provide formulaic certainty, it does provide greater clarity regarding how technological fair use cases should be judged, in a way that balances the competing interests of copyright holders, technology developers, and the public. My approach is also fairly consistent with the outcomes in successful technological fair use cases, as table 3 below depicts—which suggests that my framework and Creation-Operation-Output spectrum can be easily incorporated into existing case law.

TABLE 3. Summary of Successful Technological Fair Use Cases

Creational Uses ←	Operational Uses	→ Output Uses
None	<i>Sony</i> recording (verbatim copies)	<i>Sony</i> (verbatim copies)
<i>Sega</i> reverse engineering (verbatim copies)	None	None
Unclear	<i>Galoob</i> enhanced display	<i>Galoob</i> (limited) (temporary display)
<i>Kelly</i> image search engine (verbatim copies)	<i>Kelly</i> (thumbnail stored)	<i>Kelly</i> (limited) (thumbnail image)
<i>Google</i> caching (verbatim copies)	<i>Google</i> (cache temporarily stored)	<i>Google</i> (limited) (static snapshot)
<i>A.V.</i> antiplagiarism (verbatim copies)	<i>A.V.</i> (verbatim stored)	<i>A.V.</i> (limited) (plagiarism report)

All of the fair use cases with *creational* uses involved verbatim copying of the entirety of the works. Likewise, all the *operational* uses involving copies had either verbatim or more limited copies. Only *Sony* involved the *output* of verbatim copies of the entire original works, albeit

233. See, e.g., *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 815 (9th Cir. 2003).

for the noncommercial home use of time-shifting.²³⁴ Otherwise, all of the cases had outputs that were more limited in some way (for example, size, quality, time, and quantity) than the entirety of the original works.²³⁵

Moreover, the *Kelly*–Google search engine cases and the *A.V.*-antiplagiarism case all involve a similar pattern of use: (1) verbatim copies of copyrighted works in their entirety at *creation* in order to create a database, (2) verbatim or more limited copies of relevant works during *operation* and use of the database, but (3) a more limited *output* of the works to the user or public. The visual search engine provided outputs of thumbnail images in reduced size and quality;²³⁶ the caching search engine, only a temporary static snapshot of the website;²³⁷ and the antiplagiarism software, only the relevant passages that might have been plagiarized in the student’s work.²³⁸ The patterns in these cases support my theory that, as a rough (but not hard-and-fast) guide, fair use should afford more leeway to developers at the creation and operation stages.

Likewise, as table 4 below depicts, the unsuccessful technological fair use cases involved outputs that offered 100 percent of the original work or a permanent copy of an entire derivative work to the public. The more doubtful questions of technological fair use occur in these verbatim output

234. See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984). Although there has been much debate over whether building a library of recorded shows is infringing, the Court in *Grokster* indicated that such activity was not necessarily infringing. See *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 931 (2005) (noting that “[a]lthough Sony’s advertisements urged consumers to buy the VCR to . . . ‘build a library’ of recorded programs, [this use was not] necessarily infringing” (citation omitted)). This suggestion repudiated Judge Posner’s view that library building is “unquestionably infringing.” *In re Aimster Copyright Litig.*, 334 F.3d 643, 647 (7th Cir. 2003).

235. The *Galoob* case was somewhat unique in that it involved the ability to alter temporarily the display of video game features, but not permanently in any fixed copy; in that sense, it was more limited. See *Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.*, 964 F.2d 965, 967 (9th Cir. 1992). The legislative history of the Copyright Act of 1976 appears to contemplate that the right to make derivative works may be violated even without a fixed copy. See S. REP. NO. 94-473, at 58 (1975), reprinted in 1976 U.S.C.C.A.N. 5659, 5675 (“[The right to make a derivative work] is broader than that right [to copy] . . . in the sense that reproduction requires fixation in copies or phonorecords, whereas the preparation of a derivative work, such as a ballet, pantomim[m]e, or improvised performance, may be an infringement even though nothing is ever fixed in tangible form.”). But the Senate report then went on to state:

[T]o constitute a violation of [the exclusive right to prepare derivative works], the infringing work must incorporate a portion of the copyrighted work in some form; for example, a detailed commentary on a work or a programmatic musical composition inspired by a novel would not normally constitute infringements under this clause.

Id.

236. *Kelly*, 336 F.3d 811 (thumbnail and lower-resolution pictures).

237. *Field v. Google Inc.*, 412 F. Supp. 2d 1106 (D. Nev. 2006) (cached snapshot of websites).

238. *A.V. ex rel. Vanderhye v. iParadigms, LLC*, 562 F.3d 630 (4th Cir. 2009). See also Turnitin, Originality Checking, http://www.turnitin.com/resources/documentation/turnitin/sales/OC_one_page.pdf (last visited May 1, 2010) (detailing Turnitin.com features).

cases or in cases with outputs that resemble the traditional markets of the copyright holder. Under my Creation-Operation-Output spectrum, they fall at the far end of the spectrum and raise greater concern about a superseding use than a case with a limited output. Yet, as *Sony* shows, even verbatim output uses can be fair uses. Admittedly, my Creation-Operation-Output spectrum alone cannot resolve the difficult question posed by verbatim output uses.²³⁹ The question must be answered in light of consideration of all the fair use factors, as well as the context. *On average*, the spectrum allows less leeway for output uses, but it may still allow a verbatim output in an appropriate case.

TABLE 4. Summary of Unsuccessful Technological Fair Use Cases

Creational Uses ←	Operational Uses	→ Output Uses
None	<i>Napster</i> file sharing (verbatim copies)	<i>Napster</i> (verbatim copies shared)
<i>MP3.com</i> space shifting (verbatim copies)	<i>MP3.com</i> (verbatim copies)	<i>MP3.com</i> (verbatim copies accessed)
<i>CleanFlicks</i> edited movies (verbatim copies)	<i>CleanFlicks</i> (derivative works)	<i>CleanFlicks</i> (derivative works)
<i>Psystar</i> Mac clones (verbatim copies)	<i>Psystar</i> (close to verbatim copies)	<i>Psystar</i> (close to verbatim copies)

d. What Weight Should Be Given to Commercial Versus Nonprofit Educational Purposes?

The next consideration under factor one in § 107 is “whether such use is of a commercial nature or is for nonprofit educational purposes.”²⁴⁰ *Campbell* downplays the significance of the commercial-versus-nonprofit educational inquiry, at least in the context of parodies.²⁴¹ Just as a commercial use is not presumptively unfair, so too a nonprofit educational

239. For example, von Lohmann contends that fair use should condone the verbatim copying that is enabled by private copying technologies, such as the iPod with music files and TiVo with its various forms of time-shifting functions. See Von Lohmann, *supra* note 14, at 835–40. Samuelson suggests a trend in this direction. See Samuelson, *Unbundling*, *supra* note 37, at 2602–05. I reserve judgment on the matter.

240. 17 U.S.C. § 107(1) (2006).

241. See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 584 (1994) (explaining that commercial use should not be viewed as determinative but instead as only one factor in a multifactor analysis).

use is not presumptively fair.²⁴² The Court also stated that “the more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use.”²⁴³ Therefore, the commercial nature of the parody did not factor much, if at all, into the analysis given the Court’s view that many expressive works subject to parodies are commercial.²⁴⁴

I agree with the *Campbell* Court’s admonition that the commerciality factor may often weigh less in the fair use analysis than the transformative factor.²⁴⁵ For example, consider whether all the copies of copyrighted works that are generated by the Internet through its automated transmissions should be deemed fair uses. Whether or not the Internet had been developed for commercial or nonprofit educational purposes, or both, seems less significant than the general societal value that the Internet provides. In the case of the Internet, the technology eventually served both (and many more) purposes. Likewise, in the case of Google Book Search, the profit-making company Google teamed up with an alliance of nonprofit educational universities and public libraries to develop the vast database of searchable texts.²⁴⁶ The value to society resulting from the ability to search inside millions of texts probably would not change depending upon whether a corporation or a nonprofit created it. As these examples demonstrate, in evaluating fair use we must avoid giving undue weight to the commerciality factor.

Commercial and nonprofit educational elements are not completely irrelevant, however. I believe it is relevant to fair use whether the technology in question is offered for free or instead at a high price to the public. Just imagine that the visual search engines were only offered for a charge of \$500 per month. Not only would the potential public benefit of the technology diminish given the access divide it may create between the haves and have-nots, but also selling the technology at a very high price to the public might cast some doubt on the worthiness of fair use. In essence, the use is not really “fair” or reasonable because the public benefits so little from it.²⁴⁷

242. *Id.*

243. *Id.* at 579.

244. *See id.* at 584–85.

245. *See* Beebe, *supra* note 196, at 606 (noting how twenty-six of twenty-eight fair use decisions finding both transformativeness and commercial purpose present ultimately decided in favor of fair use).

246. *See infra* note 323 and accompanying text.

247. *See* Lloyd L. Weinreb, Commentary, *Fair’s Fair: A Comment on the Fair Use Doctrine*, 103 HARV. L. REV. 1137 (1990) (discussing fairness as a central consideration in finding a case of fair use).

Conversely, a nonprofit educational purpose may cut in favor of fair use. Imagine that the alliance of nonprofit universities, without Google, were the only ones developing an Internet book search that was offered for free to students and the public. That scenario might arguably weigh at least slightly more in favor of fair use than a case involving a for-profit corporation like Google, particularly if the nonprofit universities derived no income or reimbursement for their book search.²⁴⁸ In this context, fair use operates as a public works project of sorts.

In sum, in technological fair use cases, whether or not a use is made for commercial or nonprofit educational purposes should not matter as much as whether the speech technology in question has a new or value-adding purpose and provides a potential public benefit. However, at opposite ends, charging the public high fees in a profit-making venture may militate against fair use, whereas a technology offered for free or for a nonprofit educational purpose may cut in favor of fair use.

e. Summary of Factor One

Thus, by the end of factor one, the court will have determined whether the case involves a possible technological fair use, specifically: (1) whether the alleged fair use has been made for the new or value-adding (that is, transformative) purpose of creating, operating, or providing an output of a technology or application; (2) whether the technology or application has a potential public benefit that may be reasonably perceived; and (3) whether the alleged fair use supersedes the purposes of the original work. In considering these questions, a court should consider the *stage* at which the work is used by or with the technology—the creation, operation, or output of the technology, with more leeway offered typically at the creation and operation stages. If a technology in question has a transformative (or value-adding) purpose in using the work in a way that provides a public benefit, it cuts in favor of fair use. In such a case, (4) the commerciality of the use tends to weigh less heavily in the analysis, except in cases where the

248. My approach is consistent with how courts have analyzed commerciality and nonprofit educational purpose in practice. According to the Beebe study, “[A] commercial purpose (which was made in 64.4% of the opinions) did not significantly influence the outcome of the fair use test in favor of an overall finding of no fair use,” whereas “a finding that the defendant’s use was for a *noncommercial* purpose (which was made in 15.4% of the opinions) . . . strongly influenced the outcome of the test in favor of an overall finding of fair use.” Beebe, *supra* note 196, at 602 (emphasis added). Rebecca Tushnet offers a compelling argument for greater recognition of the importance of the noncommercial factor: “[M]ore important is that noncommercial creative uses, precisely because they are not motivated by copyright’s profit-based incentives, are more likely to contain content that the market would not produce or sustain . . .” Tushnet, *supra* note 198, at 507.

technology is offered to the public only at an exorbitant cost. Likewise, a free technology or one offered for a nonprofit educational purpose (the public-works-project rationale) cuts in favor of technological fair use.

2. Factor Two: Nature of the Copyrighted Work Has Less Weight

Factor two of fair use, which is “the nature of the copyrighted work,”²⁴⁹ weighs less heavily in technological fair use cases. In the run-of-the-mill case, courts tend to accord fictional or artistic works greater copyright protection than factual works.²⁵⁰ Yet, as seen in the case of parodies, courts sometimes minimize the weight of this factor, even for fictional and artistic works.²⁵¹ As the *Campbell* Court explained, this factor is “not much help . . . or ever likely to help much” in determining what is fair use in parody cases because parodies “almost invariably copy publicly known, expressive works.”²⁵²

A similar approach should apply to technological fair use cases. If a technology has a transformative or value-adding purpose, such as a visual search engine or antiplagiarism technology, whether the works used are factual or fictional/artistic is a poor way to determine whether the technological use or technology should be allowed. For example, giving greater leeway to a software developer to make fair uses by copying factual works for use in antiplagiarism technology, but less leeway for fictional works, seems irrational. An antiplagiarism technology that could only detect plagiarism of factual works would leave a gaping hole for creative writing courses, not to mention the commercial publishing of fictional works, which sometimes involve plagiarism incidents. In either case, plagiarism should be discouraged just as strongly for fictional and factual writings. The general principle that the scope of copyright is narrower for factual works (because facts are not protected) is misplaced when unacknowledged, verbatim copying of academic writing is involved.²⁵³ Likewise, it seems arbitrary to allow as fair use time-shift home recordings of documentaries, sporting events, news programs, and reality shows but

249. 17 U.S.C. § 107(2) (2006).

250. See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 586 (1994) (stating that “[t]his factor calls for recognition that some works are closer to the core of intended copyright protection than others, with the consequence that fair use is more difficult to establish when the former works are copied” and citing cases contrasting fictional and factual works).

251. See, e.g., *id.*

252. *Id.*

253. The Fourth Circuit found the factual/fictional distinction to be less important in analyzing the second factor in the *A.V.* case. *A.V. ex rel. Vanderhye v. iParadigms, LLC*, 562 F.3d 630, 640 (4th Cir. 2009) (finding that “the creative nature of the work is mitigated” where antiplagiarism software used the work only to detect plagiarism).

not those of any fictional sitcoms or dramas. Being able to watch a television program at home at a more convenient time is neither more nor less deserving based on the type of show being broadcast. In short, the nature of the copyrighted work in technological fair use cases should not matter as much as it does in the typical case. One exception, however, should be made with respect to functional works. Functional features do not fall within the core of copyright and often are not even within the scope of copyright at all, so more freedom should be allowed for their copying.²⁵⁴

3. Factor Three: Amount and Substantiality of the Work Copied, Judged Under the Creation-Operation-Output Spectrum

Factor three is “the amount and substantiality of the portion used in relation to the copyrighted work as a whole.”²⁵⁵ As the Court explained, factor three should be analyzed in conjunction with factor one because “the extent of permissible copying varies with the purpose and character of the use.”²⁵⁶ Courts consider both the quantity and quality or importance of copied material in relation to the work as a whole.²⁵⁷ Yet quantity alone sometimes correlates with fair use results. As the Beebe study found, “[T]he more the defendant takes of the plaintiff’s work, the less likely it is that the taking will qualify as a fair use.”²⁵⁸ However, as discussed above for factor one, for technological fair use cases, the amount and substantiality of the work copied should be analyzed *at the stage of use* of the copyrighted work—whether during creation, operation, or output of the technology, with more leeway offered at the creation and operation stages than at the output stage. Verbatim copies are less worrisome at the creation and operation stages than at the output stage.

4. Factor Four: Effect on the Potential Market for the Copyrighted Work and Effect on the Potential Market for the Speech Technology

The fourth factor is “the effect of the use upon the potential market for or value of the copyrighted work.”²⁵⁹ This factor “requires courts to consider not only the extent of market harm caused by the particular actions of the alleged infringer, but also ‘whether unrestricted and

254. See, e.g., *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1527–28 (9th Cir. 1992) (discussing disassembly).

255. 17 U.S.C. § 107(3) (2006).

256. *Campbell*, 510 U.S. at 586–87.

257. *Id.* at 587.

258. Beebe, *supra* note 196, at 615.

259. 17 U.S.C. § 107(4).

widespread conduct of the sort engaged in by the defendant . . . would result in a substantially adverse impact on the potential market' for the original," including the market for derivative works.²⁶⁰

Factor four has proven to be one of the most important factors,²⁶¹ as well as the most disputed. The major problem is the so-called circularity problem: the copyright holder can always claim an economic harm from an unlicensed use of its work, even in unformed markets or for unforeseen uses of a work.²⁶² Taken to an extreme, this reasoning creates a circularity problem: nothing can be fair use because everything can be licensed.²⁶³ To address this problem, the Second Circuit has held that the copyright holder only has a claim of licensing in "traditional, reasonable, or likely to be developed" markets.²⁶⁴ Whether this solves the circularity problem is debatable.

In technological fair use cases, this problem becomes even more pronounced because the technology in question often involves *an emerging market* for which no prior copyright relations or practices have been established. For example, *Sony* involved the emerging market for VCRs,²⁶⁵ the *Kelly* case involved the emerging market of visual search engines, and the *A.V.* case involved the emerging market of antiplagiarism technology for schools. In none of these cases did the emerging market involve the formal commercial licensing of the vast majority of works in question. In other words, in emerging markets, the parties are initially writing on a blank slate. The question then becomes whether the copyright holder's exclusive rights should extend into the emerging market to control uses of

260. *Campbell*, 510 U.S. at 590 (alteration in original) (quoting 3 M. NIMMER & D. NIMMER, NIMMER ON COPYRIGHT § 13.05[A][4] (1993)).

261. The Beebe study suggests a strong correlation between factor four and the ultimate decision on fair use. See Beebe, *supra* note 196, at 617 (noting that 140 of 141 cases finding that factor four disfavored fair use ruled against fair use, while 110 of 116 cases finding it favored fair use eventually found a fair use). Beebe suggests that factor four "essentially constitutes a metafactor under which courts integrate their analyses of the other three factors and, in doing so, arrive at the outcome not simply of the fourth factor, but of the overall test." *Id.*

262. See Shyamkrishna Balganesh, *Foreseeability and Copyright Incentives*, 122 HARV. L. REV. 1569, 1588–89 & n.78 (2009).

263. See *Am. Geophysical Union v. Texaco Inc.*, 60 F.3d 913, 929–30, 929 n.17 (2d Cir. 1994) (stating that not every effect on potential licensing revenues enters the analysis under the fourth factor); James Gibson, *Risk Aversion and Rights Accretion in Intellectual Property Law*, 116 YALE L.J. 882, 895–98 (2007).

264. *Am. Geophysical Union*, 60 F.3d at 930.

265. See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984). The case took eight years to litigate, during which time the market for VCRs evolved considerably. See Lee, *Warming Up*, *supra* note 128, at 1483–84. Whether a practice is perceived as a fair use could change over time as more people engage in the custom or practice.

its works there. In some cases, the answer has been yes,²⁶⁶ but in other cases, no.²⁶⁷

I do not attempt here to solve the circularity problem, except to caution courts from giving undue weight to the practicability (or lack thereof) of licensing works for use in a new technological market. Other considerations should factor into the analysis.

First, in analyzing factor four, courts should consider whether the use supersedes the objects of the original copyrighted work.²⁶⁸ As the Court in *Campbell* noted, “[W]hen a commercial use amounts to mere duplication of the entirety of an original, it clearly ‘supersedes the objects’ . . . of the original and serves as a market replacement for it, making it likely that cognizable market harm to the original will occur.”²⁶⁹ But just as factor one is judged in terms of the Creation-Operation-Output spectrum, so too is factor four in technological fair use cases. Functional uses of copyrighted works to *create* or *operate* a speech technology are less likely to be within the purview of the copyright holder’s market.²⁷⁰ Copyright was not intended to cover functional things or the realm of technological innovation.²⁷¹ Under the Free Press Clause, breathing room is necessary for speech technologies to develop.²⁷² By contrast, output uses of copyrighted works may be more likely to raise issues of superseding use and market harm to the value of the copyrighted work. Yet the manner of output (for example, thumbnail-size images or brief snippets) and context in which it is made (for example, home personal use, school use, or an Internet tool) are still relevant.

Second, a court should consider the technology’s possible *positive* effects on the potential market for the copyrighted work. Section 107 is not limited to the harmful or negative effects of a particular use of a copyrighted work—it simply says “effect.”²⁷³ Sometimes speech technologies yield positive effects on the market for the original work, such

266. See *supra* notes 42–48 and accompanying text.

267. See *supra* notes 49–52 and accompanying text.

268. This consideration is also relevant to factor one. See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 591 (1994).

269. *Id.* (alteration in original omitted) (quoting *Folsom v. Marsh*, 9 F. Cas. 342, 348 (No. 4901) (C.C.D. Mass. 1841)).

270. See *supra* notes 226–32 and accompanying text.

271. See *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1527–28 (9th Cir. 1992).

272. See *supra* Part III.A.1.a.

273. 17 U.S.C. § 107(4) (2006) (“[T]he effect of the use upon the potential market for or value of the copyrighted work.”).

as making the works easier for everyone to find and purchase. For example, the VCR opened up a new market for television shows and movies by facilitating a home rental and sale market.²⁷⁴ The technology was “complementary,” in economic terms, to the copyrighted works.²⁷⁵

Finally, courts should consider the effect a finding against fair use would have on the market for the speech technology in question. Although this consideration is not expressly noted in the four factors,²⁷⁶ it is related to the consideration in factor one of the public benefit from the use of the work. Assuming that a court “reasonably perceives” a public benefit from a technology under factor one, it is appropriate for the court to consider how that public benefit from the technology might be affected by the disposition of the case. For example, the *Sony* Court was rightfully concerned about turning the VCR into contraband.²⁷⁷ This factor reminds courts of the need to avoid allowing copyrights to have a patent-like effect in controlling technologies.²⁷⁸ As discussed earlier, fair use operates as a First Amendment safeguard within copyright law, acting as a safety valve to protect free press and technology interests. A court should not ignore how a ruling against fair use in a technology case might negatively affect, if not destroy, an emerging market for a speech technology.

B. ROLE FOR CONGRESS

This Article focuses on improving the fair use doctrine to handle technology cases mainly through the courts’ development of the doctrine, as courts have traditionally done since the emergence of our copyright system. In terms of a comparative institutional analysis,²⁷⁹ courts have proven to be much better equipped to deal with rapid technological change, incrementally, in specific cases, than Congress has legislatively.²⁸⁰

274. See *supra* notes 11–14 and accompanying text.

275. See Von Lohmann, *supra* note 14, at 841 (“[I]ncreasing demand for one [product] results in increasing demand for the other.”).

276. Congress gave courts the power to consider other factors in analyzing fair use by using the language “include” before listing the four factors. See 17 U.S.C. § 107. See also *Field v. Google Inc.*, 412 F. Supp. 2d 1106, 1122 (D. Nev. 2006) (considering Google’s good faith as an “additional factor” and stating that “[t]he Copyright Act authorizes courts to consider other factors than the four non-exclusive factors [listed in § 107]”).

277. See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 448–56 (1984) (concluding that the VCR yielded public benefits that should not be limited given the minimal likelihood of harm to respondents’ copyrights).

278. See *supra* Part III.A.2.b.

279. For a definition of “comparative institutional analysis,” see NEIL K. KOMESAR, *IMPERFECT ALTERNATIVES: CHOOSING INSTITUTIONS IN LAW, ECONOMICS, AND PUBLIC POLICY* 3 (1994).

280. See Joseph P. Liu, *Regulatory Copyright*, 83 N.C. L. REV. 87, 134–39 (2004) (discussing how a property rights approach may be preferable to a regulatory approach in certain instances). See

Yet Congress also has an important role to play in ensuring that the copyright system does not curb innovation in speech technologies. Throughout the history of our copyright law, Congress has enacted specific exemptions,²⁸¹ safe harbors,²⁸² and compulsory licenses to deal with advances in new technologies that affect copyrighted works.²⁸³ On the other hand, sometimes Congress “deals” with new technologies by attempting to limit them or by providing greater protections for copyright holders, as was the case with the Digital Millennium Copyright Act.²⁸⁴ Although it goes beyond the scope of the Article to set forth a legislative agenda for Congress, it is important for Congress to concentrate its efforts, not on attempting to proscribe speech technologies, but instead on protecting them through exemptions, safe harbors, and compulsory licenses (or simply by adopting a hands-off approach). Fred von Lohmann’s suggestion that Congress should adopt a policy to “innovate broadly first, regulate narrowly later”²⁸⁵ seems sensible, especially when it is inherently difficult to predict how new technologies will develop.

V. APPLYING TECHNOLOGICAL FAIR USE TO RECENT CASES

This part applies my proposed framework to two recent controversies: Google Book Search (“GBS”) and Amazon’s text-to-speech function on the Kindle e-reader. When analyzed under my framework, GBS itself involves a legitimate technological fair use, but the digital copies of the scanned works that Google transmits to participating libraries (the so-called library copies) are not technological fair uses and may have more contestable claims of fair use under the standard fair use analysis. Likewise, Amazon’s Kindle also involves a technological fair use.

also David Nimmer, *Codifying Copyright Comprehensibly*, 51 UCLA L. REV. 1233, 1326–44 (2004) (describing ineffective legislation enacted by Congress to address technological change). It goes beyond this Article’s scope to evaluate whether more copyright rulemaking should be delegated to an administrative agency, such as the Copyright Office. For an analysis of this issue, see, for example, Liu, *supra*, at 148–59; Pamela Samuelson, *Preliminary Thoughts on Copyright Reform*, 2007 UTAH L. REV. 551, 556 (2007).

281. See, e.g., 17 U.S.C. § 110(11) (2006) (providing an exemption for DVD skipping technology).

282. See, e.g., *id.* § 512 (outlining the DMCA safe harbors for Internet service providers).

283. See, e.g., *id.* § 111(c) (compulsory license for secondary transmissions by cable television operators).

284. Digital Millennium Copyright Act (DMCA), Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified in scattered sections of 17 U.S.C.).

285. See Von Lohmann, *supra* note 14, at 854.

A. GOOGLE BOOK SEARCH

Although the GBS case was settled pending final approval of the court after the class action fairness hearing,²⁸⁶ we should examine GBS under my proposed framework to illustrate how the framework works in practice. Because the settlement has drawn objections and an antitrust investigation by the Department of Justice (“DOJ”),²⁸⁷ the fair use question is useful for comparison’s sake.

The proposed settlement is incredibly complex and ambitious. The DOJ, among others, objected to the original proposal on numerous grounds, including copyright, antitrust, and class action requirements under Federal Rule of Civil Procedure 23.²⁸⁸ To address these objections, the parties offered a revised settlement,²⁸⁹ but the DOJ filed an objection to the revised settlement as well.²⁹⁰

What is striking about the settlement is that it attempts not only to settle the copyright dispute between Google and the plaintiffs, but also to structure dramatically the industry for online book searching and solve (or sidestep) the orphan works problem, an issue that Congress has considered without success.²⁹¹ That is why the DOJ described the settlement as “one of the most far-reaching class action settlements of which the United States is aware.”²⁹² The DOJ went even further: “A global disposition of the rights to millions of copyrighted works is typically the kind of policy change implemented through legislation, not through a private judicial

286. See *supra* note 32 and accompanying text. For an excellent summary of the original proposed settlement, see James Grimmelman, *How to Fix the Google Book Search Settlement*, 12 No. 10 J. INTERNET L. 1, 11 (2009). For Google’s summary of the major revisions to the original settlement proposal, see Posting of Dan Clancy to Google Public Policy Blog, <http://googlepublicpolicy.blogspot.com/> (Nov. 13, 2009, 23:54 EST) (search for “Revised Google Books Settlement” and select “here” hyperlink in the third paragraph). On November 19, 2009, then-District Judge Denny Chin granted preliminary approval of the Amended Settlement Agreement. Order Granting Preliminary Approval of Amended Settlement Agreement, *Authors Guild, Inc. v. Google Inc.*, No. 05 CV 8136-DC (S.D.N.Y. Nov. 19, 2009).

287. See Miguel Helft, *U.S. Presses Antitrust Inquiry into Google Book Settlement*, N.Y. TIMES, June 10, 2009, at B5.

288. See Statement of Interest of the United States of America Regarding Proposed Class Settlement, *Authors Guild*, No. 05 CV 8136-DC (Sept. 18, 2009) [hereinafter First DOJ Objection].

289. See Amended GBS Settlement, *supra* note 32.

290. See Statement of Interest of the United States of America Regarding Proposed Amended Settlement Agreement, *Authors Guild*, No. 05 CV 8136-DC (Feb. 4, 2010) [hereinafter Second DOJ Objection].

291. See First DOJ Objection, *supra* note 288, at 6–7 (discussing “forward-looking business arrangements” proposed by the settlement and the problem of orphan works).

292. *Id.* at 1.

settlement.”²⁹³ Nonetheless, the DOJ believed that a properly structured settlement in this case “offer[ed] the potential for important societal benefits” and hoped the parties would revise the settlement to address the DOJ’s objections.²⁹⁴

Under the amended settlement, Google can do much more commercially with the copyrighted works than it could before the lawsuit, but not without a price. Without admitting any liability, Google must pay a minimum of \$45 million to the plaintiff class for Google’s past use of works in GBS.²⁹⁵ In addition, Google must pay \$34.5 million to establish the Book Rights Registry (discussed below) devised under the settlement,²⁹⁶ as well as a maximum of \$30 million for the plaintiffs’ attorneys’ fees.²⁹⁷ Google is then allowed to display in “preview uses” not just snippets of copyrighted works but up to 20 percent of the qualifying works.²⁹⁸ The 20 percent default for such preview uses applies only to out-of-print books, but not to in-print books, which are treated as “no display” books unless the copyright holders give consent.²⁹⁹ In other words, copyright holders of out-of-print books—including potentially orphan works whose authors cannot be identified or located—must *opt out* of the GBS in order to stop it from commercializing their works, while copyright holders of in-print books enjoy the rights to *opt in*, with GBS not otherwise allowed to commercialize in-print books.³⁰⁰

The opt-out default rule for out-of-print works affects a substantial amount of works in GBS. By some estimates, the majority of works in GBS, some 70 percent of the database, consists of out-of-print works.³⁰¹ The out-of-print works utilized under the settlement are limited to works registered in the United States or published in the United Kingdom, Australia, and Canada³⁰²—a limitation added to address European and

293. *Id.* at 2.

294. *Id.* at 4.

295. *See* Amended GBS Settlement, *supra* note 32, § 5.1(b).

296. *Id.* § 5.2.

297. *Id.* § 5.5.

298. *Id.* § 4.3(b)(i)(1).

299. *See id.* §§ 3.2–3.4. *See also id.* §§ 1.51–1.52, 1.91 (providing definitions for “Display Books,” “Display Uses,” and “No Display Books,” respectively).

300. Ironically, if not perversely, under this arrangement, the people least likely to be able to opt out (because they are unidentifiable or absent) must opt out to exclude their works from exploitation, while the people most likely to be able to opt out (because they are identifiable or present) do not have to do anything to prevent their works from being exploited.

301. *See* Pamela Samuelson, *Legally Speaking: The Dead Souls of the Google Book Search Settlement*, 52 COMM. OF ACM, July 2009, at 28, 28 [hereinafter Samuelson, *Dead Souls*].

302. *See* Amended GBS Settlement, *supra* note 32, § 1.19 (definition of “book”).

Asian objections to GBS.³⁰³

In addition, Google is allowed to exploit commercially its database much more dramatically, including for out-of-print and orphan works, through advertising,³⁰⁴ institutional subscriptions,³⁰⁵ and other forms of monetization.³⁰⁶ Thus, under the settlement, not only is Google allowed to make greater display of orphan and out-of-print works, but it is also allowed to monetize the works with advertisements in preview uses³⁰⁷—a big change from Google’s original practice of not running ads for snippet views of works.³⁰⁸ The monetization plan is facilitated by the establishment of a Book Rights Registry (“BRR”), a collecting-rights organization that will serve as a clearinghouse through which Google and the authors and publishers that register their works will share royalties for monetization of the vast number of works in GBS³⁰⁹—with the rights holders receiving 63 percent of the royalties and Google receiving 37 percent.³¹⁰ The original proposal had even allowed Google and the identified rights holders to share in the proceeds obtained from “orphan works” whose owners could not be identified or found.³¹¹ After intense objections alleging a conflict of interest,³¹² the parties changed the arrangement to limit the use of revenues from such works to benefit the absent rights holders, along with the designation of a fiduciary who would act on behalf of and attempt to locate the absent rights holders.³¹³

Comparing the GBS settlement to Google’s original claim of fair use before the lawsuit is like comparing apples to oranges—or perhaps

303. See Posting of Danny Sullivan to Search Engine Land, <http://searchengineland.com/revised-google-book-settlement-filed-29814> (Nov. 14, 2009, 00:31 EST).

304. See Amended GBS Settlement, *supra* note 32, § 3.14 (“Google may display advertisements on Preview Use pages and other Online Book Pages . . .”).

305. See *id.* § 4.1(a) (detailing general guidelines for pricing of institutional subscriptions).

306. See *id.* § 4.2 (discussing consumer purchases). See also *id.* § 4.3(e) (discussing preview uses); *id.* § 4.4 (discussing the allocation of revenues from advertising uses).

307. See *id.* §§ 3.14, 4.3.

308. See GOOGLE, THE FACTS ABOUT GOOGLE BOOK SEARCH (2006), available at <http://books.google.com/googlebooks/pdf/gbsoverview.pdf> [hereinafter GBS Facts].

309. See Amended GBS Settlement, *supra* note 32, § 6.1.

310. See *id.* § 2.1(a).

311. Original GBS Settlement, *supra* note 32, §§ 2.1(a), 3.8(b), 6.1–6.3.

312. See First DOJ Objection, *supra* note 288, at 9–10. See also Samuelson, *Dead Souls*, *supra* note 301, at 30; Chris Castle, *Is Google’s Culture Grab Unstoppable?*, REGISTER, Dec. 31, 2008, http://www.theregister.co.uk/2008/12/31/chris_castle_google_books_and_beyond/; Pamela Samuelson, *Google Books Is Not a Library*, HUFFINGTON POST, Oct. 13, 2009, http://www.huffingtonpost.com/pamela-samuelson/google-books-is-not-a-lib_b_317518.html; Pamela Samuelson, *The Audacity of the Google Book Search Settlement*, HUFFINGTON POST, Aug. 10, 2009, http://www.huffingtonpost.com/pamela-samuelson/the-audacity-of-the-googl_b_255490.html [hereinafter Samuelson, *The Audacity*].

313. See Amended GBS Settlement, *supra* note 32, § 6.3.

watermelons to peanuts. As the DOJ recognized, the settlement is tantamount to comprehensive legislation that has a huge scope and effect on many people and issues.³¹⁴ A finding of fair use in the GBS case, had the issue been resolved, would have been a substantial legal development, but it still could not have established a BRR or engineered the type of monetization of the online book industry that the settlement contemplates.

But a finding of fair use would have offered at least two things that the settlement does not. First, a fair use finding would have obviated the need for any royalties to be paid or for permission to be obtained, which could have benefited not only Google, but also other entities seeking to build similar book search technologies. One major concern with the settlement is that, although the BRR arrangement is nonexclusive, Google and book publishers will have tremendous power to control the entire book search industry with prices they set.³¹⁵ The settlement now makes it even more unlikely that another competing service will attempt to do what GBS set out to do—make an online book search tool, with limited snippet views of copyrighted works, supported by fair use. A competitor of Google must either pay to enter the market or face a class action copyright lawsuit.

Second, a finding of fair use would have provided a better way to balance the interests of absent rights holders of orphan and out-of-print copyrighted works. Instead of the default of 20 percent display plus monetization of their works, absent rights holders would have only snippets of their works used without their permission—and without any direct monetization. The noncommercialized snippet display of works in the original GBS³¹⁶ is more respectful of the absent rights holders than the settlement's contemplated 20 percent default use of out-of-print works in potentially commercialized displays, sales, and subscriptions. Put simply, the more extensive, commercialized uses of the orphan and out-of-print works under the settlement are arguably *not* fair uses, while the limited,

314. See *supra* note 293 and accompanying text.

315. See Press Release, Booksellers Association, Statement from the BA, Nov. 13, 2008, available at http://www.thebookseller.com/documents/BA_Google_Statement.pdf (“As such a dominant player in the online world, Google will now occupy a unique gateway position that, if abused, could easily create a de facto monopoly.”). See generally Fred von Lohmann, *Google Is Done Paying Silicon Valley's Legal Bills*, RECORDER (S.F.), Nov. 14, 2008, at 5, available at 2008 WLNR 27146940 (“In essence, Google has left its former copyright adversaries to maul any competitors . . .”). At least the most objectionable clause in the original settlement—the so-called most favored nation clause—was removed. It would have given Google the right to receive the same terms as any better offer the BRR made with a competing service. See Original GBS Settlement, *supra* note 32, § 3.8(a).

316. See *infra* note 324 and accompanying text.

noncommercialized snippet uses were fair uses.³¹⁷

Thus, in evaluating how desirable the amended settlement is as a whole, it is worth at least considering how strong Google's fair use claim was. As the analysis below shows, (1) the basic technology of GBS constituted a technological fair use, in part because the verbatim copies of copyrighted works are used only for *creating* and *operating* the search technology, but with an *output* of the copyrighted works that is quite limited—a “few snippets” of the copyrighted works³¹⁸—to the public; and (2) the more debatable question of fair use, however, concerns the digital copies Google provided to the participating libraries putatively for archival purposes.³¹⁹

1. Factor One

First, the purpose of Google's use of verbatim copies of the entirety of millions of copyrighted works was to create and operate the new technology of an online search tool that could search inside the texts of millions of books.³²⁰ The purpose of creating a better technology to find information is a legitimate technological fair use purpose, as several courts have correctly found in other search engine cases.³²¹ A public benefit may undoubtedly be “reasonably perceived” from the GBS—it enables members of the public to find information from millions of books that they might not otherwise have been able to find. Moreover, it does so in a way—with only limited viewing or snippets of the relevant texts for searching, akin to a thumbnail for photographs—that arguably does not

317. See Samuelson, *The Audacity*, *supra* note 312 (concluding that the snippet view was a fair use but that the settlement goes further to “give Google a license to commercialize all books owned by the class”).

318. See Google Books, Google Books Library Project, <http://books.google.com/googlebooks/library.html> (last visited May 1, 2010) (“When you click on a search result for a book from the Library Project, you’ll see basic bibliographic information about the book, and in many cases, a few snippets—a few sentences showing your search term in context.”).

319. See Band, *supra* note 70, at 18. Google states: “Each library will receive a digital copy of every book we scan . . . from their respective collections. Each library will treat their copies in accordance with copyright law.” Google Books, Books Help, <http://books.google.com/support/bin/answer.py?answer=43751> (last visited Feb. 22, 2010) (answering the question, “Do the libraries get a copy of the book?”).

320. See Google Books, About Google Books, History, <http://books.google.com/intl/en/googlebooks/history.html> (last visited May 1, 2010).

321. See, e.g., *Perfect 10, Inc. v. Amazon.com, Inc.*, 487 F.3d 701, 720–23 (9th Cir. 2007) (considering an attempt to create a better online search technology); *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 818–20 (9th Cir. 2003) (same); *Field v. Google Inc.*, 412 F. Supp. 2d 1106, 1118–19 (D. Nev. 2006) (considering the development of search engine technology through the use of cached links). See also Menell, *supra* note 37, at 1019–40 (discussing the historical policy in favor of allowing access to knowledge, dating back to the Royal Library of Alexandria).

supersede the purposes of the original. Indeed, because GBS also directs readers where to buy the relevant book (if available) from bookstores along with the search results,³²² GBS adds value to the original works by promoting the books. Although Google is commercial, the participation of the many nonprofit educational and university institutions³²³ provides a significant counterweight to the commerciality, as does the fact that GBS is offered entirely for free on the Internet for everyone in the world to enjoy. In addition, before the settlement, Google did not run ads on the snippet view page of copyrighted works in the GBS.³²⁴ In short, the first factor cuts in favor of fair use as to the copies used to create, operate, and supply the output of GBS. The verbatim copies of the books are necessary to create and operate a comprehensive search tool that helps readers find relevant information, yet GBS provides only limited *output* of the works—mere snippets of the works—to the public.

By contrast, Google's dissemination of digital copies of the works to the participating libraries and universities (whose books were digitized) does not fall within the purposes of a *technological* fair use—to create or operate a technology.³²⁵ As such, the ostensibly archival copies for the libraries must be analyzed under a standard fair use analysis. On this question, the issue is more debatable. Given the very detailed exemption in the Copyright Act for library copying of works for archival and replacement purposes, which requires as conditions for archiving that the existing copy be damaged and that another copy of the work “cannot be

322. See Google Books Library Project, *supra* note 318 (“In all cases, you’ll see links directing you to online bookstores where you can buy the book and libraries where you can borrow it.”).

323. The participating libraries include Bavarian State Library, Columbia University, Committee on Institutional Cooperation (CIC), Cornell University Library, Harvard University, Ghent University Library, Keio University Library, Lyon Municipal Library, National Library of Catalonia, New York Public Library, Oxford University, Princeton University, Stanford University, University of California, University Complutense of Madrid, University Library of Lausanne, University of Michigan, University of Texas at Austin, University of Virginia, and University of Wisconsin–Madison. See Google Books, Library Partners, <http://books.google.com/googlebooks/partners.html> (last visited May 1, 2010).

324. See GBS Facts, *supra* note 308.

325. One possible argument to the contrary is that the digital copies were part of the bargain to persuade the libraries to participate in GBS. Therefore, one might argue that as a *quid pro quo*, the library copies were necessary to create GBS. Jonathan Band contends that the library copies should be considered “ancillary to the index copy; Google made the library copies as consideration for obtaining access to the book for the purpose of making the index copy.” Jonathan Band, *The Long and Winding Road to the Google Books Settlement*, 9 J. MARSHALL REV. INTELL. PROP. L. 227, 257 (2010). Such “bargain” uses fall outside the concept of *creational* uses and must, therefore, be analyzed under standard fair use analysis. The library copies are not *technologically* necessary to create or operate GBS.

obtained at a fair price,”³²⁶ one might argue that Google’s library copies cut against fair use—the need for archiving through copying does not yet appear to be established. While it is possible that many of the books are no longer obtainable at a fair price,³²⁷ it is still not clear whether the books involved in GBS are actually damaged. Also, the systematic production of archival copies for the libraries may resemble the infringement found in the systematic making of journal copies for researchers to archive in *American Geophysical Union v. Texaco, Inc.*³²⁸

On the other hand, § 108 does not necessarily preclude a fair use argument. Indeed, subsection (f) states, “Nothing in this section . . . in any way affects the right of fair use.”³²⁹ Thus, § 108 is a floor, not a ceiling. The more general fair use defense can still be invoked. Both § 108 and § 117, which provides an exemption for making archival copies for computer programs, provide general support for the notion that some archiving should be deemed permissible and reasonable under copyright law.³³⁰ Moreover, it might be highly impractical and wasteful to require the libraries to wait until their materials have deteriorated before they can create and archive digital copies, especially when Google has already done so using the libraries’ own books. By the time the works deteriorate, it may well be too late. Unlike Texaco, the libraries here (with the exception of Google being a commercial entity) are nonprofit educational institutions.³³¹ And to the extent that it is still good law, *Williams & Wilkins Co. v. United States*, though decided under the Copyright Act of 1909, did recognize fair use in the context of institutional copying at the National Institutes of Health and National Library of Medicine.³³² In any event, the archival copies fall outside my technological fair use framework and must be analyzed under the standard fair use analysis.

326. 17 U.S.C. § 108(c)(1), (e) (2006). For archiving, § 108 requires that the reproduction be “solely for the purpose of replacement of a copy or phonorecord that is damaged, deteriorating, lost, or stolen, or if the existing format in which the work is stored has become obsolete.” *Id.* § 108(c). Subsection (h) does allow greater copying in digital form for preservation of copyrighted works in their last twenty years of copyright, provided that the work in question is neither “subject to normal commercial exploitation” nor obtainable at a reasonable price, and provided that the copyright owner has not provided notice establishing otherwise. *Id.* § 108(h).

327. By one estimate, 70 percent of the books are out of print. See Samuelson, *Dead Souls*, *supra* note 301, at 28.

328. See *Am. Geophysical Union v. Texaco Inc.*, 60 F.3d 913 (2d Cir. 1995).

329. 17 U.S.C. § 108(f)(4).

330. See *id.* §§ 108, 117 (exemptions for certain archival copies).

331. Section 108 imposes a limitation in its exemption that the copying must be “made without any purpose of direct or indirect commercial advantage.” *Id.* § 108(a)(1).

332. See *Williams & Wilkins Co. v. United States*, 487 F.2d 1345 (Ct. Cl. 1973), *aff’d by an equally divided Court*, 420 U.S. 376 (1975).

2. Factor Two

Factor two, “the nature of the copyrighted work,”³³³ weighs less heavily here for the copies used in GBS because they involve a technological fair use. Because the library copies do not involve a technological fair use, this factor may be applied in ordinary fashion for the library copies (less leeway for copying of fictional works versus factual works), although with verbatim copying, it probably does not make much difference. A lot more will depend on whether the archival copy is deemed to serve a legitimate purpose in factor one.

3. Factor Three

Factor three favors a finding of technological fair use for the copies used in GBS. The copies of the works for GBS were tailored specifically for the value-adding purpose of creating a comprehensive, inside-the-text search tool that can provide a public benefit. Verbatim copies were used only to create and operate GBS, but the output was limited to snippets of the relevant works.³³⁴

It is more debatable, however, for the library digital copies. Verbatim copies were disseminated to each participating library or university, ostensibly for the purpose of archiving.³³⁵ If the purpose of these copies is deemed to be questionable under factor one, or if a greater need for archiving is required to be shown, then copying the entirety of works likely cuts against fair use.

4. Factor Four

Factor four favors fair use for the copies used in GBS. GBS may add value to the copyrighted works because, for each search result, it allows people to find relevant sources and also lists where a book can be bought or borrowed from a library.³³⁶ And GBS does so in a way that gives the reader only a snippet of the relevant work. Although perhaps in some cases browsing only a snippet of a book is enough to satisfy the reader, it would be surprising if a snippet would be enough to satisfy most readers who are looking for relevant books, especially given that GBS allows no snippet or preview of dictionaries or reference books.³³⁷ Allowing readers to browse

333. 17 U.S.C. § 107(2).

334. See *supra* notes 308, 320 and accompanying text.

335. See *supra* note 319 and accompanying text.

336. See Band, *supra* note 70, at 17.

337. See Band, *supra* note 325, at 232.

just one or two lines of a book seems unlikely to eat into the sales of the work. Factor four thus raises the vexing problem of analyzing the effect on the *potential* licensing of works for use in the emerging, but still-developing, market of online book search tools. This question raises the circularity problem for which courts have yet to devise a foolproof solution. Doubters of fair use may point to the proposed registry in the GBS Settlement (the BRR) as evidence that the copyright holders can effectively receive royalties by licensing their works for inclusion in the book search.³³⁸ This argument, I think, places too much stock on licensing as the measure of fair use. In this case, the market for licensing is still emerging and, as noted previously, the settlement itself raises serious antitrust concerns. The settlement gets around the licensing problem for copyrighted works only by the hocus pocus of a class action with absent, unidentified authors given the “chance” to opt out of an agreement made by others purportedly on their behalf.³³⁹

We must also consider the effect a finding against fair use might have on the online book search market. Given the sheer amount of time, labor, and books needed to create a comprehensive book search of the magnitude Google envisions, a finding against fair use might jeopardize the entry of others to undertake such a project. The cost of running a project of that scale, with or without fair use, can be quite substantial. By one estimate, GBS will cost \$750 million to scan 30 million books.³⁴⁰ If transaction costs are added, and if licenses must be obtained and royalties paid for inclusion of the works in the book search, that will only add further expense. Given the massive amount of resources needed, and the uncertain prospects of making profits from a book search, it is not surprising that in 2008, Microsoft pulled out of the Open Content Alliance, which is a similar book search project that is to be supported by paid licenses to the copyright holders for inclusion of their works.³⁴¹

Granted, the verbatim library copies might conflict with a traditional and well-established market of the copyright holders in selling books. But, if 70 percent of the copyrighted books are out-of-print (and not

338. *See id.* at 263, 284–85.

339. *See* Grimmelmann, *supra* note 286, at 12 (“The critical hole in this argument is that this isn’t a market that one can effectively negotiate in without the device of the class action lawsuit.”); Samuelson, *Dead Souls*, *supra* note 301, at 29–30.

340. Band, *supra* note 325, at 228.

341. *See* Satyu Nadella, *Book Search Winding Down*, BING, May 23, 2008, <http://www.bing.com/community/blogs/search/archive/2008/05/23/book-search-winding-down.aspx?PageIndex=1>. For more on the Alliance, see Open Content Alliance, FAQ, <http://www.opencontentalliance.org/faq/> (last visited May 1, 2010).

commercially exploited today), arguably little harm to the copyright holders would result from allowing library copies of such out-of-print books. Presumably, out-of-print books are not being commercially exploited except perhaps in used bookstores, whose sales do not redound to the copyright holders' benefit anyway because of the first-sale doctrine.³⁴²

In sum, the factors support a finding of technological fair use for GBS. However, the library copies are not for a technological purpose and should be analyzed under standard fair use (with respectable arguments that could be made on both sides).

B. AMAZON KINDLE'S TEXT-TO-SPEECH FUNCTION

In 2009, Amazon disabled a new feature on the Kindle e-book reader that would have enabled it to have a computer-generated voice "read" a digital work aloud.³⁴³ This text-to-speech function drew the ire of book publishers that felt it might compete with audio books.³⁴⁴ As Paul Aitken, executive director of the Authors Guild, stated, "They don't have the right to read a book out loud That's an audio right, which is derivative under copyright law."³⁴⁵ In response, Amazon (itself a major provider of audio books for book publishers) maintained that computer-generated audio of digital books would not threaten the current audio books with human voices.³⁴⁶ But, after receiving pressure from the Authors Guild, Amazon backed down.³⁴⁷

In a statement, Amazon explained the reason for its about-face:

Kindle 2's experimental text-to-speech feature is legal: no copy is made, no derivative work is created, and no performance is being given. . . .

Nevertheless, we strongly believe many rights holders will be more comfortable with the text-to-speech feature if they are in the driver's seat.

Therefore, we are modifying our systems so that rights holders can decide on a title by title basis whether they want text-to-speech enabled or disabled for any particular title. We have already begun to work on the

342. See 17 U.S.C. § 109(a) (2006) (stating that "the owner of a particular copy . . . is entitled, without authority of the copyright owner, to sell or otherwise dispose of the possession of that copy").

343. Posting of Brad Stone, *supra* note 19.

344. See Greg Sandoval, *Book Publishers Object to Kindle's Text-to-Voice Feature*, CNET NEWS, Feb. 10, 2009, http://news.cnet.com/8301-1023_3-10161104-93.html.

345. Geoffrey A. Fowler & Jeffrey A. Trachtenberg, *New Kindle Audio Feature Causes a Stir*, WALL ST. J., Feb. 10, 2009, at B9.

346. See *id.*

347. See Posting of Brad Stone, *supra* note 19.

technical changes required to give authors and publishers that choice. With this new level of control, publishers and authors will be able to decide for themselves whether it is in their commercial interests to leave text-to-speech enabled. We believe many will decide that it is.³⁴⁸

Advocates for people who are blind or visually impaired, and those with learning disabilities, protested the decision and criticized the Authors Guild for limiting the new functionality that could have improved their lives.³⁴⁹

When considering the text-to-speech function under copyright law, probably no violation of any exclusive right of the copyright holders occurs. Although reading a book aloud is a performance,³⁵⁰ it is not a *public* performance unless it is performed “at a place open to the public or at any place where a substantial number of persons outside of a normal circle of a family and its social acquaintances is gathered.”³⁵¹ It seems unlikely that people would ordinarily use the Kindle in either way to read a book to the public. Contrary to the Authors Guild’s suggestion, reading a book aloud, without it being captured in any permanent form, is not within the copyright holder’s right to make derivative works.³⁵² If it were, parents all across America would be violating copyright law by reading to their children at night.

But even assuming for argument’s sake that the read-aloud function violates one of the exclusive rights, it qualifies as a technological fair use as discussed below.

1. Factor One

The Kindle’s performance of a copyrighted book is made for the purpose of creating a text-to-speech function on the new, developing line of

348. *Id.*

349. Posting of Alex Pham to L.A. Times Technology Blog, <http://latimesblogs.latimes.com/technology/2009/04/kindleblindreadaloud.html> (Apr. 7, 2009, 16:30 EST).

350. See S. REP. NO. 94-473, at 60 (1975) (“To ‘perform’ a work, under the definition in section 101, includes reading a literary work aloud . . .”).

351. 17 U.S.C. § 101 (2006) (providing the definition of performing or displaying a work “publicly”). The performance of the work by each individual Kindle does not involve transmissions to multiple members of the public and thus does not constitute a public performance under the second definition of “publicly.” See *id.* (defining publicly also to mean “to transmit or otherwise communicate a performance or display of the work to a place [described in the first definition of ‘publicly’] or to the public, by means of any device or process, whether the members of the public capable of receiving the performance or display receive it in the same place or in separate places and at the same time or at different times”).

352. In order for a derivative work to be created, courts require that it be in some “concrete or permanent form.” See *Micro Star v. Formgen Inc.*, 154 F.3d 1107, 1111 (9th Cir. 1998) (quoting *Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc.*, 964 F.2d 965, 967 (9th Cir. 1992)).

digital book readers—a clear technological fair use purpose.³⁵³ The functionality adds value to the e-book reader and the original work by allowing people to experience books in two different ways: by sight and by sound. For people who are blind or have learning disabilities, the added functionality may make digital books dramatically more accessible. To the extent the text-to-speech can serve underserved populations, such as the blind and people with learning disabilities, the public benefits. This result is consistent with the Senate Judiciary Committee report’s view on fair use: “[T]he making of a single copy or phonorecord by an individual as a free service for a blind person would properly be considered a fair use under section 107.”³⁵⁴ For other readers of books, the added functionality of the Kindle may increase their desire to buy books in the first place, given the new convenience of listening to a book at moments when reading is unavailable. Clearly, a public benefit may reasonably be perceived in giving consumers greater functionality in enjoying books. Factor one favors fair use.

2. Factor Two

Because of the legitimate technological fair use purpose, the nature of the copyrighted works does not weigh heavily in the analysis.

3. Factor Three

The amount and substantiality of the work copied is neutral or slightly favors fair use. The text-to-speech function does not create or distribute an audio copy of the work; it merely performs the work. The amount performed can potentially be the entire work, but the Kindle user decides how much to listen to. Although the Kindle involves both operational and output uses of the work, the output is the ephemeral performance of the work. Arguably, such evanescent performances enhance the user experience in a way similar to what constituted fair use in *Galoob* with the game enhancer’s enhancement of the display of video games.³⁵⁵

353. See *supra* Part IV.A.1.a.

354. See S. REP. NO. 94-473, at 66 (1975). Congress enacted an exemption for the blind in § 110(8), which would not apply here because it does not involve a qualifying entity. See 17 U.S.C. § 110(8) (2006) (exemption subject to the condition that “the performance is made without any purpose of direct or indirect commercial advantage and its transmission is made through the facilities of: (i) a governmental body; or (ii) a noncommercial educational broadcast station . . . ; or (iii) a radio subcarrier authorization . . . ; or (iv) a cable system”).

355. See *Galoob*, 964 F.2d at 968 (finding that the game enhancement software “merely enhances the audiovisual displays (or underlying data bytes) that originate in Nintendo game cartridges[, but] [t]he altered displays do not incorporate a portion of the copyrighted work in some concrete or

4. Factor Four

Factor four cuts in favor of fair use or is at least neutral. The Kindle's reading a book aloud without creating a permanent copy is the functional equivalent of a person reading a book aloud—an activity that, if done nonpublicly, does not fall within the copyright holder's market. Moreover, copyright holders receive money from Kindle's popularity through royalties obtained from sales of digital books. And, of course, the copyright holders always have the power to charge more money for e-books.

Although the Authors Guild may argue that the text-to-speech function substitutes for audio books, that is not necessarily the case. Audio books are permanent, audio (nontext) copies narrated typically by the authors themselves,³⁵⁶ celebrities, or people with mellifluous voices. Audio books are sold for multiple formats on CD and cassettes, or for digital download on MP3 players, thus reaching a much larger potential audience than the estimated 1.49 million Kindle owners.³⁵⁷ Given this relatively small size of the Kindle audience (at least currently), it seems speculative to conclude that the text-to-speech function would have a major dampening effect on sales of audio books. Many consumers of audio books probably do not even own a Kindle. And for the ones that do, the Kindle has a computer-generated voice,³⁵⁸ which may be less appealing than human voices on an audio book. Also, it is worth remembering that the book market consists of multiple formats, with print being the primary one. Audio books represent only a small percentage of U.S. publishers' revenues. In 2008, U.S. publishers earned \$24.3 billion, only \$172 million of which were from the sale of audio books.³⁵⁹ The biggest market is the sale of adult and juvenile books, totaling \$8.1 billion in the United States.³⁶⁰

Thus, if there is competition among book formats, it is more likely to be between traditional books and e-books for reading, not listening. Already digital books for the Kindle are selling at 35 percent of the number

permanent form" (emphasis omitted)).

356. For example, Sarah Palin narrates her recent biography, *Going Rogue*. See SARAH PALIN, *GOING ROGUE: AN AMERICAN LIFE* (2009) (audio CD-ROM, narrated by author).

357. Posting of Mitch Ratcliffe to ZDNet, <http://blogs.zdnet.com/Ratcliffe/?p=486> (Dec. 26, 2009, 21:02 PST).

358. See Fowler & Trachtenberg, *supra* note 345.

359. Press Release, Ass'n of Am. Publishers, Industry Statistics 2008: AAP Reports Book Sales Estimated at \$24.3 Billion in 2008 (Mar. 31, 2009), available at http://www.publishers.org/main/IndustryStats/indStats_02.htm.

360. *Id.*

of print books sold for the same title on Amazon.³⁶¹ Whether the digital book market will be complementary or competitive to the traditional book market is hard to predict—much probably depends on the continued “stickiness” of, or consumer preference for, printed books.³⁶² Yet ultimately that question is irrelevant to the fair use analysis for the simple reason that copyright holders have *authorized* the sale of e-books for the Kindle. In other words, authors have chosen to allow the possibility that their e-books might compete with their own printed books in the market.

Finally, a finding against fair use would prevent Amazon from offering the text-to-speech function on the Kindle without getting licenses on a title-by-title basis. Although such a result might not dampen sales for the Kindle itself, it may retard the development of not only the text-to-speech function, but other new functions that do not have the blessing of the Authors Guild or publishing industry. This kind of entanglement of the Guild in controlling speech technologies today, what Amazon called a “new level of control,”³⁶³ runs dangerously close to the pernicious control the Stationers’ Company exercised over the printing press.³⁶⁴ A finding of technological fair use would provide an important buffer between today’s guild of publishers and authors and the development of new speech technologies.

VI. ADDRESSING CONCERNS

This part addresses a few concerns that my proposal may raise—specifically, whether this framework provides the proper balance, how it fits into the overall copyright system, and international challenges.

A. TOO MUCH OR TOO LITTLE PROTECTION OF SPEECH TECHNOLOGIES?

Some copyright holders may object to my proposal as giving too much protection to uses of their works in speech technologies—in effect arguing that the technologies are being subsidized by free uses of their works. Specifically, copyright industries may disagree with my argument in favor of according greater leeway for creational and operational uses—especially

361. Erick Schonfeld, *For Books Available on Kindle, Sales Are Now Tracking at 35 Percent of Print Sales*, TECHCRUNCH, May 6, 2009, <http://www.techcrunch.com/2009/05/06/for-books-available-on-kindle-sales-are-now-tracking-at-35-percent-of-print-sales/>. Amazon’s digital book sales will bring in an estimated \$189 to \$520 million in revenues. *Id.*

362. See Nicholson Baker, *A New Page: Can the Kindle Really Improve on the Book?*, NEW YORKER, Aug. 3, 2009, at 24; Sara Nelson, *E-Dreaming*, PUBLISHERS WKLY., June 30, 2008.

363. See Posting of Brad Stone, *supra* note 19.

364. See *supra* notes 76–79 and accompanying text.

those involving verbatim copying. After all, copyright industries might argue, a copy is a copy, and copyright gives the holder the right to copy.

Conversely, some critics or technology companies may criticize my proposal as not protective enough of technologies, especially those involving verbatim output uses of copyrighted works (such as for personal use) that are accorded comparatively less leeway on my Creation-Operation-Output spectrum.

As to the first objection by copyright industries, my response is twofold. First, fair use presumes that not all copies are infringing, so it is a nonstarter to say that a copy is a copy or to assert that permission must always be obtained. Second, the First Amendment and the Copyright and Patent Clause require some breathing room for the development of speech technologies unencumbered by the prospect that copyright holders can dictate the design of those technologies or else sue the developer to stop the technology in question. This does not mean that copyright industries have no role in shaping new speech technologies through informal dealings or dialogue with the technology sector. Both sectors could benefit from collaborative joint enterprises that attempt to give the public more options and products instead of the two sides wasting resources on threats of litigation or litigation itself. But, ultimately, the copyright industries should not have a “veto” over the speech technologies. The Creation-Operation-Output spectrum is a *balance* of competing interests and involves some tradeoffs for all sides—with the goal of serving the public interest foremost in mind consistent with the Copyright Clause and First Amendment. The balance I have struck is faithful to how the Supreme Court has approached copyright-technology cases.³⁶⁵

The technology companies’ objections can be addressed by my second response above: a balance must be struck between rewarding copyright holders and promoting the development of speech technologies. My

365. See *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 928 (2005) (“The more artistic protection is favored, the more technological innovation may be discouraged; the administration of copyright law is an exercise in managing the tradeoff.” (citation omitted)); *id.* at 941 (“The [*Sony*] case struck a balance between the interests of protection and innovation by holding that the product’s capability of substantial lawful employment should bar the imputation of fault and consequent secondary liability for the unlawful acts of others.”); *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984) (“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.”). Copyright holders have the opportunity to stop technological uses of their works by inventing and patenting the underlying technology in question. In order to stop purely functional uses of their works in new technologies, copyright holders must patent the new functions.

framework of technological fair use provides greater breathing room for speech technologies, but in a way that balances the competing interest of copyright holders. Although I have made the fair use factors more specific to technology cases, given fair use's history and case law, some fact-specific weighing of these factors is inevitable. Nonetheless, my framework offers an improvement over the status quo. It provides greater guidance and breathing room than before. For example, instead of uncertain claims of fair use, both Google and Amazon have pretty clear claims of fair use under my framework. Had courts already recognized technological fair use as a doctrine, Google and Amazon might well have continued to develop their technologies as they originally intended, instead of caving in to the demands of copyright industries.

B. ONLY ONE PART OF THE COPYRIGHT SYSTEM

One must also bear in mind that technological fair use is only one part of the puzzle in analyzing the relationship between technologies and copyright law. Readers should not inflate the effect that such a doctrine alone can have on innovation of speech technologies, or expect that my framework should resolve every single controversy raised by a speech technology under copyright law.

Within the copyright system, technological fair use is only one part of copyright law's approach to new technologies. Indeed, new technologies are addressed in a number of ways, not just under fair use. There are (1) findings of no infringement for specific technologies in various cases,³⁶⁶ which obviates the need for analyzing fair use;³⁶⁷ (2) doctrinal and statutory exemptions for technologies, such as the *Sony* and DMCA safe

366. See, e.g., *Cartoon Network LP, LLLP v. CSC Holdings, Inc.*, 536 F.3d 121 (2d Cir. 2008); *Religious Tech. Ctr. v. Netcom On-Line Comm'n Servs., Inc.*, 907 F. Supp. 1361 (N.D. Cal. 1995).

367. This approach dates back to some of the oldest technology cases. See *White-Smith Music Publ'g Co. v. Apollo Co.*, 209 U.S. 1 (1908) (holding that perforated musical sheets for pianolas did not constitute a copy), *superseded by statute*, Copyright Act of 1976, Pub. L. No. 94-553, § 102(a), 90 Stat. 2541, 2544-45 (codified as amended at 17 U.S.C. § 102(a) (2006)); *Kennedy v. McTammany*, 33 F. 584 (C.C.D. Mass. 1888) (holding that perforated paper for organettes was not an infringement of copyrighted sheet music), *appeal dismissed*, 145 U.S. 643 (1892). See also *Teleprompter Corp. v. Columbia Broad. Sys., Inc.*, 415 U.S. 394 (1974) (holding that cable television retransmissions of copyrighted television broadcasts without copyright holders' permission did not constitute a public performance of those works and was thus not an infringement); *Fortnightly Corp. v. United Artists Television, Inc.*, 392 U.S. 390, 398-401 (1968) (holding that a cable television provider's transmission of copyrighted motion pictures without a license did not constitute a public performance within the meaning of the Copyright Act). Likewise, Congress may step in and tailor an exemption or compulsory license related to a new technology, as was the case with cable retransmission of broadcast television programs. See 17 U.S.C. § 111; Wu, *supra* note 134, at 322-23.

harbors;³⁶⁸ (3) compulsory licenses related to technologies;³⁶⁹ (4) the basic standards of liability, including *Grokster*'s active inducement claim;³⁷⁰ and (5) customs and industry practices for many technologies that are never tested in court.³⁷¹

Further study should be devoted to analyzing how these different components relate and how they might be revised or tailored to provide a more overarching and systematic approach to the difficult issues raised by speech technologies and their continual intersection with copyright law. For example, I would characterize (1) and (2) above as examples of *quasi-technological fair use* in which the results reached were equivalent to a finding of fair use, thus allowing the technology in question to continue.³⁷² Future research should examine these cases for a more complete picture of copyright's treatment of speech technologies.

C. INTERNATIONAL DIFFERENCES

Another major challenge for technological fair use is international: how can technological fair use operate effectively in a global market, where technologies often have an international reach? While the United States recognizes an open-ended fair use doctrine, other countries typically rely on specific exemptions in their copyright acts.³⁷³ Thus, even if U.S. courts do recognize technological fair use, technology developers must still face the prospect that their speech technologies will not receive similar treatment in other countries. Of course, if the developer can easily divide up its market distribution by countries (choosing only to enter those markets with favorable copyright law), the legal problem is solved—though consumers in other countries may suffer in being denied access to the speech technology. But, sometimes, market differentiation is difficult, if not impossible, especially for Internet applications.

For example, although U.S. courts have recognized a fair use in the use of thumbnail photos for visual search engines, a German lower court ruled that such thumbnail photos constitute copyright infringement in

368. See, e.g., *Sony*, 464 U.S. at 442; 17 U.S.C. § 512. See also *supra* note 231 and accompanying text.

369. See, e.g., 17 U.S.C. § 111.

370. See, e.g., *Grokster*, 545 U.S. at 935–37. See also *Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1160–61 (9th Cir. 2007) (finding no direct liability for Google's inline linking or framing of copyrighted images stored on third-party servers under the "server" test).

371. See Lee, *Warming Up*, *supra* note 128, at 1476–79 (analyzing informal copyright practices).

372. See also *supra* note 231 and accompanying text.

373. See PAUL GOLDSTEIN, *INTERNATIONAL COPYRIGHT: PRINCIPLES, LAW, AND PRACTICE* 293–94 (2001).

Germany (which does not recognize fair use), a decision that was later overturned.³⁷⁴ Instead of fair use, the German Federal Court of Justice relied on implied consent (by website owners) to find Google image search did not violate German copyright law.³⁷⁵ Although the result in Germany eventually came out in favor of allowing image search technology, the case points to the lack of international consensus on determining exemptions to copyright. Likewise, even if GBS were recognized as a fair use in the United States, it too would likely face challenges in other countries—as is evident by the number of countries and foreign copyright holders that have objected to the proposed settlement.³⁷⁶ Indeed, a Paris court ruled recently (after the revised settlement had been struck in the U.S. case) that GBS violates French copyright law with respect to certain works of French origin.³⁷⁷ The international challenge of providing workable breathing room for speech technologies on a global scale is a topic that deserves far greater discussion than I can devote here. For present purposes at least, my theory of technological fair use is limited to recognition in the United States, where the tradition of the freedom of the press is strongest.

VII. CONCLUSION

As the start of the twenty-first century has witnessed already the

374. The Regional Court of Hamburg found the use of thumbnail images in search indexes violates the German Copyright Act. See LG Hamburg, 9/26/2008, 308 O 42/06. Some German commentators have recognized the need to incorporate greater flexibility in statutory exemptions under German copyright law to deal with and allow new technologies. See, e.g., Matthias Leistner, *The Role and Design of Limitations and the Need for Flexibility: Image Search on the Web as a Topical Example*, in DOES ONE SIZE FIT ALL?, Proceedings of the ATRIP Congress 2008, EE, (A. Kur ed., forthcoming 2010). Eventually, the German Federal Court of Justice (Bundesgerichtshof, BGH) overturned the lower court decision and ruled in favor of Google based on the notion that the website owner impliedly consented to allow her photographs to be used in Google image search. See BGH, I ZR 69/08; Karin Matussek, *Google Wins 'Thumbnail' Images Ruling in German Court (Update 2)*, BLOOMBERG, April 29, 2010, <http://www.businessweek.com/news/2010-04-29/google-wins-thumbnail-images-ruling-in-german-court-update2-.html>.

375. See Matussek, *supra* note 374.

376. See, e.g., Sharon LaFraniere, *In China, Objections to Google's Book Scans*, N.Y. TIMES, Oct. 31, 2009, at B4 (discussing objections by French and German governments, as well as by Chinese authors); Kelly Fiveash, *Germany Says 'Nein' to Google Book Deal*, REGISTER, Sept. 2, 2009, http://www.theregister.co.uk/2009/09/02/germany_opposes_google_books_settlement/ (discussing opposition from the German government); Honor Mahony, *Europe's Heated Reaction to Google Books*, BUS. WK., Sept. 9, 2009, http://www.businessweek.com/globalbiz/content/sep2009/gb2009099_774179.htm (discussing the criticism from European publishers, booksellers, and authors to Google's plan); Stanley Pignal, *France to Oppose Google Book Scheme*, FIN. TIMES, Sept. 7, 2009, <http://www.ft.com/cms/s/0/a38e5268-9bdd-11de-b214-00144feabdc0.html> (discussing opposition by the French government).

377. Matthew Saltmarsh, *Paris Court Orders Google to Stop Digitizing French Books and Pay Damages*, N.Y. TIMES, Dec. 19, 2009, at B3.

emergence of many new and wondrous speech technologies, copyright law must be prepared to handle difficult questions posed by new technological uses of copyrighted works. This Article offers a framework intended to provide better guidance for courts in handling the difficult and complex analytical issues posed by technological fair use claims. Such guidance is needed because so much is at stake in these cases—not only the legality of a speech technology, but also potentially billions of dollars in growth to the U.S. economy and new technological innovations that can transform people's lives.