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The Temporal Dynamics of Capable of Substantial Noninfringing Uses

R. Anthony Reese

University of Texas at Austin School of Law

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THE TEMPORAL DYNAMICS OF “CAPABLE OF SUBSTANTIAL NONINFRINGEMENT USES”

R. Anthony Reese*

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INTRODUCTION	197
I. SUBSTANTIAL NONINFRINGEMENT USES	200
A. <i>Noninfringing Uses: The Changing Legal Character of Fair Use</i>	200
B. <i>Substantiality: The Changing Amount of Authorized Uses</i>	206
C. <i>The Changing Character and Amount of Uses of Unprotected Works</i>	213
II. <i>Capable of Substantial Noninfringing Uses</i>	215
III. IMPLICATIONS	219
CONCLUSION	224

INTRODUCTION

The copyright issues raised by “dual-use” technologies—equipment that can be used both in ways that infringe copyright and in ways that do not—first gained prominence in connection with the litigation over videocassette recorders that culminated in the Supreme Court’s decision in *Sony* in 1984.¹ Copyright owners had asserted that Sony’s manufacture and distribution of VCRs rendered it liable for copyright infringement committed by customers using their Sony VCRs. The Supreme Court in *Sony* concluded that copyright law did not impose such secondary liability where the device in question was capable of substantial noninfringing uses (and that the VCR was such a device).

These issues came to prominence again in the context of peer-to-peer (p2p) software. After the development of some lower court jurisprudence

* Arnold, White & Durkee Centennial Professor, School of Law, The University of Texas at Austin; Visiting Professor, New York University School of Law, 2006-2007. Thanks to Christopher Leslie, the participants in the conference, and Jane Ginsburg, Clarisa Long, Tim Wu, and the other participants in the Fall 2006 Columbia Law School Colloquium in Intellectual Property Law for helpful conversations and comments on this paper.

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

on how to apply *Sony* to such software,² the Supreme Court heard the appeal of copyright owners from lower court decisions finding that *Sony* shielded Grokster and other suppliers of p2p software from liability for copyright infringements committed using that software. Many saw the case as an opportunity for further elaboration and guidance on the application of the principles announced in *Sony*.

The Supreme Court's majority opinion in *Grokster*, however, avoided almost any further development of the *Sony* principles.³ The Court read the lower court opinions as interpreting *Sony* to shield a defendant who disseminates a device capable of substantial noninfringing uses from *all* forms of secondary liability for copyright infringement committed using the device, including liability based on inducing users to commit such infringement. The Court ruled that this was a misunderstanding of *Sony*, and that an inducement claim could proceed against the supplier of a copying device even when the device was capable of substantial noninfringing uses. But the Court's opinion declined to offer any further guidance on *Sony*, turning instead to delineating in somewhat more detail, and applying to the record before it, the contours of inducement claims that it ruled *Sony* left open.⁴

For the purposes of this Symposium Article, I follow the Court's view that inducement is a basis for a secondary liability claim against a supplier of a dual-use device separate from a secondary liability claim against such suppliers based merely on "distribution [of the device] with knowledge that unlawful use will occur."⁵ And I assume that at least in some circumstances copyright owners will continue to pursue secondary liability claims based on distribution of dual-use devices.⁶ My goal here is to consider one aspect of the legal rules governing claims against the maker or supplier of a dual-use technology who manages to avoid any activity that would subject it to liability for inducement—the rules announced by the Supreme Court in *Sony*.

2. See, e.g., *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Inc.*, 380 F.3d 1154 (9th Cir. 2004); *In re Aimster Copyright Litig.*, 334 F.3d 643 (7th Cir. 2003); *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001).

3. *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Inc.*, 125 S. Ct. 2764 (2005).

4. *Id.* at 2778.

5. *Id.*

6. These claims may, of course, be in the alternative to claims for secondary liability based on inducement, but to the extent that a plaintiff copyright owner cannot establish inducement, a court would need to decide the alternative claims. Some have suggested that *Sony*-style claims might no longer matter after *Grokster*, because plaintiffs will find it easier to bring and win on inducement claims. See, e.g., Tim Wu, *The Copyright Paradox*, 2005 SUP. CT. REV. 229 (discussing various views on this question). I am not yet convinced that all of the action in the dual-technology infringement cases will shift to *Grokster*-style inducement claims, so I believe that it remains worthwhile to attempt to understand what shelter *Sony* provides to defendants.

The *Sony* Court held that selling “copying equipment” does not give rise to liability for infringement committed by users of that equipment under certain circumstances. Somewhat unhelpfully, the Court described the relevant circumstances in several ways. First, the Court said that the supplier would not be liable “if the product is widely used for legitimate, unobjectionable purposes.”⁷ The Court then immediately added that the product “need merely be capable of substantial noninfringing uses.”⁸ And then the Court immediately stated that in the case before it, the question was whether the VCR was “capable of commercially significant noninfringing uses.”⁹ These formulations indicate that whether disseminating a device leads to copyright liability depends on the device’s “capability” for noninfringing use, while leaving ambiguous whether the device must be capable of “substantial” or “commercially significant” noninfringing uses (assuming those are distinct quanta of use).

In the aftermath of *Grokster*, this *Sony* standard remains relevant in evaluating secondary liability claims against dual-use device makers and suppliers who do not engage in any of the inducement activity that formed a separate basis for liability in *Grokster*. Understanding how to evaluate whether a device is “capable of substantial noninfringing uses” thus remains an important question. While much of the briefing in the *Grokster* case focused on how the *Sony* standard should be interpreted or revised, the *Grokster* Court declined “to add a more quantified description” of the standard.¹⁰

In this Symposium Article, I consider one particular aspect of how to understand *Sony*’s standard of “capable of substantial noninfringing uses”: the temporal element of such capability. Does the passage of time affect whether a device is capable of substantial noninfringing uses, and if so how? Most discussions of *Sony* seem to take the analysis as a static one, a question to be answered about any particular device at the time of an infringement suit against the device’s distribution.¹¹ I suggest that the question of a device’s substantial noninfringing uses has a dynamic dimension as well, so that a device that might be capable of substantial

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

8. *Id.*

9. *Id.* The Court expressly declined to “give precise content to the question of how much use is commercially significant,” because it found that private, noncommercial home time-shifting “plainly satisfies this standard, however it is understood.” *Id.*

10. *Grokster*, 125 S. Ct. at 2778.

11. That is not to suggest that commentators have not focused on the fact that the uses of a dual-use technology can change over time; rather, only that they have not focused on the change in the application of the legal standard over time. For a discussion of the relevance of changing uses of technology to secondary liability for creating or supplying that technology, see, e.g., R. Anthony Reese, *The Problems of Judging Young Technologies*, 55 CASE WESTERN L. REV. 877 (2005).

noninfringing uses today (and could therefore be supplied to the public without creating secondary liability under copyright law) might tomorrow no longer be capable of substantial noninfringing uses (so that supplying the device could result in copyright liability).

In the sections that follow, I examine more closely four aspects of this temporally dynamic aspect of the *Sony* standard of “capable of substantial noninfringing uses.”¹² First, as to what constitutes a “noninfringing use,” I consider ways in which the very same use of a device might change its *character* over time, such that the use is noninfringing today but becomes infringing tomorrow (or vice versa). Second, as to whether the noninfringing uses of a device are “substantial,” I consider how the *amount* of a particular noninfringing use might change over time, so that even though the noninfringing nature of that use does not change, its substantiality or significance does. Third, I consider briefly changes in the uses of unprotected material. Finally, as to what constitutes uses of which a device is “capable,” I consider the possibility that *Sony*’s use of the term “capable” might be interpreted not to refer to the device’s technological capacity but rather to the ways in which people actually use the device, which may be significantly more subject to change over time than are the uses to which the device could be put.

I. SUBSTANTIAL NONINFRINGEMENT USES

A. *Noninfringing Uses: The Changing Legal Character of Fair Use*

Applying *Sony* to any particular device obviously requires understanding which of the device’s uses are or might be noninfringing. One major category of noninfringing uses that will likely be relevant for most devices includes uses of works that are permitted by the copyright statute, including, most significantly, uses that qualify as fair uses, expressly classified by section 107 of the Copyright Act as not infringing the copyright owner’s exclusive rights.¹³ The Court in *Sony*, of course, placed great weight on fair uses enabled by the VCR, having decided that unau-

12. I do not consider here other ways that the passage of time might affect whether a device is capable of substantial noninfringing uses. For example, the legal character of one or more of a device’s uses could change if Congress were to amend the Copyright Act, or due to some incremental change in the device itself (such as, for example, providing a remote control with every VCR). In addition, the emergence of previously unforeseen uses for the device might alter the conclusion as to whether the device is capable of substantial noninfringing uses.

13. 17 U.S.C. § 107 (2005). Another significant category of uses permitted by statute is uses of works in which copyright protection has expired; this category is considered in more detail below.

thorized home time-shifting constituted fair use.¹⁴ The legal character of any particular use as either an infringement or as a noninfringing fair use, however, may well change over time, and such a change could affect whether the noninfringing uses of a device are or are not substantial.

Courts determine whether a particular use of a copyrighted work qualifies as fair on a case-by-case basis through consideration of at least the four factors set forth in section 107 to guide analysis.¹⁵ When a dual-use device enables uses that qualify as fair use, those fair uses constitute noninfringing uses to be weighed in analyzing whether the device's noninfringing uses are "substantial." In recent years, it has become increasingly clear, however, that fair use has a temporally dynamic aspect. That is, whether a use is fair can change over time. In particular, a use that a court adjudges to be fair at time *A* quite conceivably can come to be adjudged as not fair, and instead infringing, at a later time *B*.¹⁶ And this change in the fairness of a particular use could affect the analysis of whether a device's noninfringing uses are substantial.

Perhaps the clearest recent example of how the fairness of a use can potentially change over time involves the use of thumbnail images in visual search engines. Visual search engines such as Ditto¹⁷ and Google Image Search¹⁸ aim to enable users to locate images (photographs, drawings, etc.) on the Web that are relevant to some particular topic.¹⁹ A user can enter a search query, in text form, and in response the search engine will display a page of search results indicating which online images in the search engine's index appear related to the query and providing a link to the Web page on which each image appears. In contrast to purely textual search engines, however, the visual search engine's results page typically includes a thumbnail version of the possibly relevant image.²⁰ The thumbnails make it possible, among other things, for the user to

14. 464 U.S. at 447–55.

15. See, e.g., *id.*

16. For proposals that the scope of fair use in a particular work should change even more over time, with more uses qualifying as fair as time passes after the work's publication, see Justin Hughes, *Fair Use Across Time*, 50 UCLA L. REV. 775 (2003); Joseph P. Liu, *Copyright and Time: A Proposal*, 101 MICH. L. REV. 409 (2002).

17. See Ditto.com, <http://www.ditto.com/default.aspx> (last visited Dec. 4, 2006).

18. See Google Image Search, <http://www.google.com/imghp> (last visited Dec. 4, 2006).

19. The following description of the operation of visual search engines is based largely on the facts in *Kelly v. Arriba Soft Corp.*, 336 F.3d 811 (9th Cir. 2003), and *Perfect 10 v. Google, Inc.*, 416 F. Supp. 2d 828 (C.D. Cal. 2006).

20. The thumbnail is typically reduced in both size and resolution from the original image on the Web. *Kelly*, 336 F.3d at 815; *Perfect 10*, 416 F. Supp. 2d at 833 n.4.

determine relatively quickly whether or not any particular image in the search results is of interest.²¹

When a search engine creates and stores thumbnail versions of copyrighted images available online, and transmits those thumbnails to users as part of search results, its activities come within the scope of the exclusive rights of the owner of copyright in the original image, and some copyright owners have sued over those activities. In April 1999, photographer Leslie Kelly sued the operators of the Ditto search engine, alleging, among other claims, that Ditto's creation, as part of its index, of thumbnail versions of Kelly's photographs posted on the Web constituted copyright infringement. With respect to Ditto's creating, storing, and displaying thumbnail versions of Kelly's images in the course of indexing online images and providing search results to its users, the district court and the Ninth Circuit both concluded that Ditto's activities constituted fair use. A key element of the Ninth Circuit's decision was its analysis of the fourth statutory factor, "the effect of the use upon the potential market for or value of the copyrighted work."²² The court essentially determined that the availability on Ditto's search engine of thumbnail versions of Kelly's photographs did not harm the market for or value of those photographs largely because it decided that all of the relevant markets for the photos were markets for full-size versions, and that the thumbnail versions would not substitute for the full-size images in those markets.²³

In November 2004, Perfect 10, owner of copyright in a large number of adult-oriented photographs, sued Google alleging, among other claims, that Google infringed on Perfect 10's copyrights by presenting, in search results returned by Google Image Search, thumbnail versions of Perfect 10's copyrighted photos.²⁴ Google argued that its creation and search-engine use of those thumbnail versions constituted fair use. The district court, not surprisingly, largely followed the Ninth Circuit's *Kelly* decision in analyzing Google's fair use claim. But the court departed in part from that analysis, particularly as to the fourth factor.

The district court followed the *Kelly* court's view that a search engine's thumbnail images would not harm the copyright owner's markets for full-size versions of those images (which Perfect 10 was exploiting through the sale of both printed magazines featuring its photographs and subscriptions to controlled-access Websites displaying the photographs).

21. Textual search engines often similarly provide, for the same reasons, one or two sentences of text surrounding the search term.

22. 17 U.S.C. § 107(4) (2005).

23. *Kelly*, 336 F.3d at 821–22.

24. These photos were generally posted without Perfect 10's permission on third-party Websites not controlled by Perfect 10 or Google.

But the district court also considered the possibility that Google's thumbnails would negatively affect Perfect 10's ability to exploit its copyrighted images in the market for *thumbnail-sized* images. In early 2005, after it filed its suit against Google, Perfect 10 entered into a licensing agreement with Fonestarz Media in Britain "for the worldwide sale and distribution of [Perfect 10] reduced-size copyrighted images for download and use on cell phones," resulting in the sale of about 6,000 images per month in the United Kingdom.²⁵ The district court determined that "Google's use of thumbnails likely *does* harm the potential market for the downloading of [Perfect 10's] reduced-size images onto cell phones."²⁶ The court concluded that Google's use of copyrighted images posted online as part of an image search engine, unlike Ditto's use, was not fair use, largely because of the court's determination that a market now existed for thumbnail versions of copyrighted images.²⁷

The *Perfect 10* decision is currently on appeal, and the Ninth Circuit may reverse the district court and conclude that Google's use, like Ditto's use, qualifies as fair use. But even if the outcome in this particular case changes, the district court's ruling in *Perfect 10* nevertheless serves as a useful reminder that a use of copyrighted material can be adjudged fair use and then, even within the space of a few years, a nearly identical use can be adjudged not to be fair use.²⁸

A primary avenue for change in whether a particular use is fair is the nature of the markets for copyrighted works. Courts treat the fourth statutory fair use factor as extremely important in their analysis and that factor focuses in large part on the effect of a defendant's use on the copyright owner's ability to exploit her work in the market. Because markets can change dramatically over time, a court's view of the fourth factor can also change dramatically, and that change may well be dispositive of the outcome of the fair use determination. For example, in a case involving corporate photocopying of scientific and academic journal articles, the Second Circuit ruled that the emergence of a collective licensing agent (the Copyright Clearance Center (CCC)) that granted

25. *Perfect 10*, 416 F. Supp. 2d at 832.

26. *Id.* at 851.

27. The *Perfect 10* court's different fair use conclusion also rested in part on another difference between the Google and Ditto facts: the court concluded that it was possible that Google Image Search was directing users to third-party Websites on which indexed images appeared and that such Websites participated in Google's AdSense program, through which Google raises money from advertisers by placing ads on third-party Websites (which share in the revenues from those ads). *Id.* at 846-47. The court therefore concluded under the first fair use factor that Google's use of thumbnail versions of Perfect 10 images was more commercial than was Ditto's use of Kelly's images, and thus the first factor weighed slightly against fair use (while the *Kelly* court had found that the first factor favored a finding of fair use). *Perfect 10*, 416 F. Supp. 2d at 849; cf. *Kelly*, 336 F.3d at 820.

28. See also *Am. Geophysical Union v. Texaco, Inc.*, 60 F.3d 913 (2d Cir. 1994).

licenses from publishers allowing corporate photocopying of their materials could lead to a different outcome in deciding whether such photocopying was fair use than would have resulted before the CCC existed.²⁹ The court concluded that “the right to seek payment for a particular use tends to become legally cognizable under the fourth fair use factor when the means for paying for such a use is made easier,” and that therefore “an unauthorized use should be considered ‘less fair’ when there is a ready market or means to pay for the use.”³⁰

In the context of image search engines, it may well be that the development of a market in which copyright owners can license reduced-sized and reduced-resolution versions of their images will mean that search engines’ display of thumbnail images for indexing purposes may no longer constitute fair use. Similarly, in the context of the *Sony* decision itself, the fact that copyrighted television programming is increasingly made available on demand over the Internet shortly after broadcast might cast some doubt today on whether unauthorized time-shifting does not harm the value of or market for that programming. Time-shifting might, for example, reduce the revenues that copyright owners might derive from those Internet transmissions either by selling downloads (on iTunes, for example) or by selling advertising time during streaming transmissions of the programs. In other contexts, such as photocopying, it may be that the creation by copyright owners of clearinghouse mechanisms that make possible low-transactions-cost licensing of uses that previously would have been too cumbersome for effective licensing will similarly create new markets. Those new markets may be harmed by unlicensed uses that just a few years before would have caused little if any economic harm to the value of the copyrighted works used. Indeed, the scope of fair use that can be made with any particular device may as a general matter be more likely to diminish than expand over time, given the importance courts place in fair use analysis on a use’s effect on the work’s value and markets and a general tendency for more, not fewer, markets to develop over time.³¹

A change in whether a use enabled by a device is fair or infringing can significantly affect analysis of the device under *Sony* because of the unusually categorical nature of fair use determinations in dual-use technology cases. In a typical fair use case, a court has before it a defendant

29. *Id.* at 930–31 (distinguishing previous precedent, which found systematic library photocopying to be fair use, before existence of CCC).

30. *Id.* at 931.

31. In addition, judicial reluctance to take into account as part of the fair use analysis any benefit that the defendant’s use confers on the value of or market for the copyright owner’s work might exacerbate such a general trend toward diminishing fair use. *See, e.g., Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 590 n.21 (1994).

actually charged with direct copyright infringement who asserts that her activities constitute fair use. The court therefore can, and usually does, consider all of the specific facts related to the defendant's particular use (and the plaintiff's particular work) in deciding whether the use is fair. And because fair use generally requires a very fact-intensive, case-by-case analysis, any ordinary fair use decision often offers only weak precedential support for any subsequent case.³² For example, the Supreme Court's decisions in *Harper & Row v. Nation*³³ and *Campbell v. Acuff-Rose*³⁴ offer guidance on the relevant analysis in future cases involving publishing excerpts from forthcoming books or parody versions of popular songs. But they will rarely dictate decision in those future cases, which will almost always involve different copyrighted works and different amounts of copying by different defendants in at least somewhat different circumstances. On the other hand, when a court considers the fair use question in a dual-use technology case, it is usually not considering a specific user's particular activities with a particular copyrighted work, but rather an entire category of uses, made (or potentially made) by many users of the device in question, in very similar ways. And courts in those cases have typically announced decisions that such *categories* of use either are or are not fair. In *Sony*, for example, the Court concluded that time-shifting—which it defined as a member of the public recording a program that she cannot watch as it is being televised on free broadcast television, viewing that recorded program once at a later time, and then erasing the recording—constituted fair use.³⁵ A fair use decision in this context essentially immunizes a large amount of conduct, announcing certain parameters that define conduct as acceptable as long as it remains within them.

In the dual-use context, then, changes in whether a category of use is fair will usually not arise from differences in the facts surrounding particular instances of the use, but rather will more likely occur because of changes in the circumstances affecting the category as a whole. As a result, a determination that a use that was previously considered a fair use is now an infringing use will condemn not just a particular defendant's activities in a particular case, but likely an entire category of activity.

32. See, e.g., *Campbell*, 510 U.S. at 577 (“[T]he statute, like the doctrine it recognizes, calls for case-by-case analysis.”).

33. 471 U.S. 539 (1985).

34. 510 U.S. 569 (1994).

35. 464 U.S. 417, 448 (1984). Similarly, the Ninth Circuit in *Napster* concluded fairly categorically that exchanging music files over a p2p network did not constitute fair use, and also that doing so either for purposes of music sampling or space shifting did not constitute fair use. *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1014–19 (9th Cir. 2001).

Thus, the impact of such a change can dramatically affect the calculation of whether a dual-use device's noninfringing uses are substantial.

A court evaluating a copyright claim against the supplier of a dual-use device will consider, as the *Sony* Court itself did, ways in which the device allows the defendant's customers to engage in fair use. The quantum of such potential fair uses will help the court determine whether the device's noninfringing uses are "substantial" or "commercially significant." But the preceding discussion reminds us that uses of the device which a court in a secondary liability suit determined were fair uses might subsequently be determined to be infringing uses. To the extent that the previously fair uses were necessary to the court's determination that the device's noninfringing uses were "substantial," the change in the fair use status of those uses would appear, all other things being equal, to convert the device from one whose dissemination does not itself lead to copyright liability into one that does.

B. *Substantiality: The Changing Amount of Authorized Uses*

A second category of noninfringing uses relevant to a device's legality under *Sony* includes uses that would be infringing under the statute if made without permission but that are in fact authorized by copyright owners. The *Sony* decision itself considered such uses, in addition to statutorily permitted uses; the Court not only decided that unauthorized home time-shifting constituted fair use,³⁶ but also discussed the amount of broadcast television programming for which copyright owners had authorized time-shifting.³⁷

The impact of authorized use on whether a device meets the *Sony* test may change over time as well. As with the potential fair uses discussed in the preceding section, the legal character of any particular use can change over time depending on whether the copyright owner has or has not authorized the use. Perhaps more significantly, though, for authorized uses, because the authorizations of multiple copyright owners are cumulative, it is possible that even if no particular use changes its legal character from infringing to noninfringing based on the copyright owner extending or withdrawing authorization, the total amount of potential noninfringing uses of which a device is capable may well, at different times, rise above or fall below the level of substantial.

The total amount of uses of copyrighted works that are authorized, and therefore noninfringing for purposes of *Sony*, can obviously change over time. Authorized use depends on authorization from a copyright owner, and owners can, of course, change their minds and grant or with-

36. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 447-55 (1984).

37. *Id.* at 443-47.

draw authorization.³⁸ Indeed, in the context of *Sony* itself, at least two copyright owners, the National Basketball Association and the Faith Center Church, who had indicated at trial that they did not object to home recording of their programs, renounced that position just weeks after the Supreme Court decision in the case.³⁹

A more recent potential example of how copyright owners can change the amount of possible authorized use of a device comes from the *Grokster* case itself. At oral argument in March 2005, Donald Verrilli, representing the copyright owners, discussed iPod use:

[L]et me pick out the iPod . . . because it's the most current example, I guess. From the moment that device was introduced, it was obvious that there were very significant lawful commercial uses for it. And let me clarify something I think is unclear from the amicus briefs. The record companies, my clients, have said, for some time now, and it's been on their Website for some time now, that it's perfectly lawful to take a CD that you've purchased, upload it onto your computer, put it onto your iPod.⁴⁰

In February 2006, public comments submitted in a Copyright Office rulemaking proceeding by a group of organizations representing most of the major copyright industries, including the Recording Industry Association of America, which represents owners of a very large proportion of copyrighted sound recordings, elaborated on Verrilli's comment: "[T]he statement attributed to counsel for copyright holders in the *Grokster* case . . . is simply a statement about authorization, not about fair use."⁴¹ The acknowledgement before the Court that copying one's own CD to one's iPod is "perfectly lawful" apparently meant that such use was lawful because the copyright owners had authorized it, and not because copyright law otherwise allowed such use. But if the lawfulness of such use depends on the consent of the copyright owners, then it is not difficult to imagine owners at some point withdrawing that consent and announcing on their Websites that such use is no longer permitted. As a

38. Whether or not such a withdrawal would affect uses that had previously been authorized, or would only operate entirely prospectively, would depend at least in part upon the nature of the previous authorization. If an author at time *A* gave a user an "irrevocable" authorization, then the author's decision at a later time *B* to stop authorizing such use of the work would not ordinarily affect the continued use by the original authorizee, but would presumably prevent any other persons from become authorized users.

39. JAMES LARDNER, *FAST FORWARD: A MACHINE AND THE COMMOTION IT CAUSED* 256 (rev. ed. 2002).

40. Transcript of Oral Argument at 11–12, *Grokster*, 125 S. Ct. 2764 (2005) (No. 04-480) available at http://www.supremecourtus.gov/oral_arguments/argument_transcripts/04-480.pdf.

41. Ass'n of Am. Publishers et al., *DMCA Rulemaking, Joint Reply Comments* 22 n.46 (Feb. 2, 2006), available at http://www.copyright.gov/1201/2006/reply/11metalitz_AAP.pdf.

result, a large amount of what had been potentially noninfringing uses of iPods and similar devices would instead become infringing, and that would seem to reduce the likelihood that such devices are capable of *substantial* noninfringing uses, such that *Sony* would shield the makers of such music players from claims of liability for end-user infringements.

Of course, it is also possible to imagine a reverse scenario. A court evaluating the copyright liability of a dual-use device supplier might determine that copyright owners have authorized so few uses of their works that such uses add little or nothing to the substantiality of the device's noninfringing uses under *Sony*. That conclusion could be an important factor in deciding to impose secondary liability based on supplying the device to infringing end users. But at some later date, one or more copyright owners could decide to authorize uses of their works with the device in question. Such authorization might be sufficiently great that the device's noninfringing uses would become substantial, so that if a court were to conduct the *Sony* analysis at that later time, the device supplier would not face liability for selling the device.

With respect to the authorized use component of noninfringing uses under *Sony*, a combination of recent legal and technical developments may mean that for most dual-use devices, there will likely be many more authorized uses going forward than there were in the past. As a result, the substantiality requirement of the *Sony* test is more likely to be met today by authorized uses than it was previously.

In the *Sony* case, after all, only the authorization of a relatively small number of copyright owners mattered. The case involved copyrighted works transmitted over broadcast television, and those works represented a small portion of all existing copyrighted works owned by a small subset of all copyright owners. (The copyrights in most books, newspapers, magazines, still photographs, and computer software, for example, were irrelevant to the question of authorized uses of VCRs in *Sony*.) In *Sony*, the Court first determined that within the relevant subset, some copyright owners had authorized viewers to record their works for time-shifting purposes, and then weighed such authorized uses as relevant noninfringing uses of the VCR. But given the relatively small number of copyright owners whose works were available on broadcast television, a fairly small change in levels of authorization might have had a significant impact on the determination of substantial noninfringing uses in *Sony*. Today, however, the potential quantum of relevant use authorized by copyright owners is likely in most cases to be much greater, because of legal and technological changes that have taken place in the last three decades and that have in many circumstances created a much larger,

more heterogeneous group of copyright owners whose decisions will generally be relevant to the question of authorized use.

As an initial matter, far more people own federal copyrights today than ever before. For nearly 200 years, U.S. copyright law was essentially an “opt-in” regime that required an author to take affirmative steps in order to secure copyright protection, at least once she chose to publish her work. Starting in 1978, and ending in 1989, however, U.S. copyright law fundamentally changed to a regime in which federal protection not only subsists automatically in every original work of authorship at the instant it is created,⁴² but persists without the need for any affirmative steps to comply with any formalities even when the work is made public. Because of this change, many more works of authorship are protected by federal copyright today and many more people now own copyrights (indeed, essentially everyone does) and are thus people whose authorization for use of their works is potentially relevant in determining a device’s capabilities under the *Sony* standard.

I do not want to overstate the impact of this legal change alone. Even though federal copyright had imposed strict formalities as a condition to protecting published works since 1790, for all of U.S. history works of authorship were generally protected from the moment of fixation by state common-law copyright. Thus, the primary significance of the legal shifts in 1978 and 1989 was to federalize the legal protections available to every author upon creation and to eliminate formalities so that those not actively seeking copyright protection when publishing their works nonetheless enjoyed such protection. In the context of noninfringing use, the real importance of the change to a default federal copyright regime is the interaction of that legal change, which created many more federal copyright owners, with changes in the technologies for creating and disseminating works of authorship.

Technological advances have greatly increased the number of people who as a practical matter can produce copyrighted works of almost all types. In the past, individual creators could fairly easily (as a technological matter, not necessarily a creative one) create literary works (using a typewriter, or just a pen and paper), musical compositions (perhaps using an instrument such as a guitar to compose the work and musical staff paper to notate it), and pictorial works (perhaps using a canvas, paints and paintbrush, or pastels and a sketch pad). But some types of works were difficult for individuals to produce, at least at high levels of quality. Photography required not just a camera and film, but also either dark-room space and equipment or the resources to pay for developing and

42. 17 U.S.C. § 302(a) (2000). Creation in this sense means fixed in some tangible, physical form. See 17 U.S.C. § 101 (defining the terms “created” and “fixed”).

printing the photos. Creating motion pictures required even more substantial investments in equipment for capturing the images and processing the prints. And producing sound recordings typically required access to specialized studio space with expensive equipment. Advances in digital technology, however, have made the equipment necessary to produce relatively high-quality still photographs, motion pictures, sound recordings, and other types of works of authorship increasingly cheaper and more available. As a result, many more individuals are today creating copyrighted works of types that a generation ago were generally created only by the copyright industries.

A second important technological change is the dramatically increased availability and affordability of means for individuals outside the traditional copyright industries to disseminate to the public these works that they can now more affordably create. For example, twenty years ago, even if an individual had access to the equipment and technical knowledge necessary to produce a quality sound recording, publishing that recording would typically have required significant resources to produce the physical records or tapes and transport them to listeners (or to convince one or more of a relatively small number of radio broadcasters to transmit the music to listeners). Today, of course, the same individual could not only use relatively inexpensive and widely available equipment to produce her sound recording, but could offer it for extremely wide dissemination relatively easily and cheaply, by, for example, posting it on her own website, making it available over p2p networks, or offering it for download on a social networking or independent music website.

This combination of legal and technical changes means that copyright ownership is more distributed today than ever before, and that many of these new copyright owners are producing and distributing works of all kinds. Some (though by no means all) of these new copyright owners also seem to have less interest in directly commercially exploiting the dissemination of their works. There may be many reasons for this. An owner may be interested in wide exposure for her work, because it will earn her recognition or will spread the ideas expressed or information embodied in the work, and may believe that making the work freely available will increase such exposure. Or she may believe that widely disseminating the work will promote other means of generating revenue, so that, for example, making a sound recording available freely or cheaply online will create demand for tickets to hear the recording artist perform in concert. Perhaps the author opposes the current copyright system on ideological grounds, or is part of an academic or artistic community that has a norm of making works widely available,

perhaps in part so that all members of the community are free to take parts of others' works in creating their own. Or perhaps the author recognizes that her work is not of such high quality that she will be able to compete effectively in the commercial marketplace. Whatever the reason, more copyright owners today than thirty years ago do not seem to wish to control the dissemination and use of their works for commercial purposes. As a result, more uses of copyrighted works seem likely to be authorized today, when copyright ownership is spread so broadly, than were authorized just a couple decades ago, when for most practical purposes the relevant population of "copyright owners" was principally the commercial copyright industries such as publishers, record companies, motion picture studios, television broadcasters, and so on.

And due to another recent legal innovation, those copyright owners who want to authorize wide use of their works now have an easy way to express that authorization by using emerging mechanisms such as Creative Commons licenses.⁴³ A core purpose of Creative Commons licenses is to provide a copyright owner with a relatively low-cost means of indicating to the public that she authorizes a wide range of uses of her works that would otherwise constitute copyright infringement. The group's menu of a relatively small number of standardized authorizations from which an owner can choose, and the already-prepared legal language of the license document (together with a "plain English" statement of the license, and a means for computers to recognize which license terms are attached to particular digital objects), significantly reduce the transactions costs for copyright owners in granting broad public authorization to use their works. To the extent that more copyright owners than ever before wish to authorize many uses of their works that they could otherwise prohibit, mechanisms such as Creative Commons licenses allow them to do so expressly in a relatively cheap and convenient manner.

Indeed, mechanisms such as Creative Commons licenses make information about authorized uses more easily available than it was in the *Sony* case itself. Today, search engines can be used by anyone with an Internet connection to easily survey many of the works that have been licensed under Creative Commons terms.⁴⁴ In *Sony*, by contrast, determining what uses of television programming were authorized was much more cumbersome. In the case of some local PBS stations, printed program guides indicating whether the owners of copyright in each program had authorized unrestricted, restricted, or no home taping of the

43. See Creative Commons, <http://creativecommons.org/> (last visited Dec. 4, 2006).

44. See, e.g., Creative Commons Search, <http://search.creativecommons.org/> (last visited Dec. 4, 2006).

program.⁴⁵ But most of the evidence at trial about authorization involved depositions and testimony from spokespersons for sports leagues and religious and educational broadcasters (including Fred Rogers of *Mr. Rogers' Neighborhood*), indicating that those copyright owners did not object to home taping of their broadcasts.⁴⁶ Thus, the conclusions about authorization in *Sony* primarily involved copying that the defendants were able to demonstrate through trial evidence was unobjectionable to copyright owners, but that VCR users engaged in home time-shifting (and those who supplied them with the VCRs they used) did not necessarily have any reason to know was authorized use. Today, through mechanisms such as Creative Commons licenses, many uses will have been expressly authorized by copyright owners in advance.

Because of the now-increased reach of copyright ownership, copyright licensing mechanisms, and digital technology for producing and disseminating works of authorship, there are today many, many more published copyrighted works than there were at the time of the *Sony* case for which copyright owners have authorized many uses. This means that for most dual-use devices that process copyrighted works, much more content will be available for use under the copyright owner's authorization today than thirty, twenty, or even ten years ago. This vastly expanded amount of authorized use should count significantly in the calculation of a device's noninfringing uses under the *Sony* standard.

This increase in authorized use may not be relevant, though, for all types of dual-use devices. Indeed, the changes discussed in this section might largely be irrelevant to a *Sony* analysis in 2007 of a VCR or, more likely, a digital video recorder such as TiVo. To the extent that copyright infringement allegations based on consumer recording use of such devices focus on users recording copyrighted programming transmitted by television broadcasters (whether over the air or through cable or satellite), virtually all of that programming will likely be owned by a relatively small number of copyright owners, keenly interested in exploiting the commercial potential of their works and largely uninterested in the kind of broad authorization made possible by mechanisms such as Creative Commons licenses. Despite the extremely significant ways in which the Internet and other digital technologies have opened up new channels for disseminating works of authorship, some dissemination channels are still quite closed to ordinary authors—particularly broadcast and cable television, and broadcast and satellite radio. In defending against secondary liability claims based on the supply of dual-use devices specifically designed to handle works disseminated through these

45. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 445 (1984).

46. *See, e.g.*, LARDNER, *supra* note 39, at 90–91, 104.

channels, the suppliers will likely not be able to point effectively to a large amount of authorized use as noninfringing use. Copyright owners who have released works under Creative Commons licenses may not (depending on the license terms) object to the use of those works on commercial television or radio, or to the reuse of their works by those who receive them by those transmissions. However, few such works seem likely, at least at the present time, to be carried over these closed networks, making the widespread authorization of their use irrelevant in measuring the substantiality of the noninfringing uses of devices that copy from such transmissions.

With respect to “general purpose” devices that can acquire and manipulate works of authorship from many sources, however, the trend in recent decades seems decidedly toward a very much increased number of copyrighted works whose owners have authorized widespread uses, making it more likely that such devices’ noninfringing uses will be “substantial” under *Sony*.

C. The Changing Character and Amount of Uses of Unprotected Works

Both of the types of changes discussed so far with respect to a device’s noninfringing uses can be seen in connection with a third category of such uses: uses of unprotected works. Uses that are noninfringing under copyright law because, while they come within the scope of a copyright owner’s exclusive statutory rights, involve public domain works are an important category of noninfringing uses relevant to the legality of dual-use devices.⁴⁷ But changes made to copyright law in the course of the last decade mean both that some uses that were previously noninfringing because of the public domain status of the work used are now infringing, and also that the overall amount of work in the public domain available for use may have decreased.

The *Sony* Court considered public domain works only briefly, but made clear their relevance in calculating the substantiality of noninfringing uses. The opinion noted that the district court made no finding about how many televised works were unprotected but that the record indicated the showing of at least one film in which copyright had expired and

47. In speaking of the expiration of copyright protection, I mean to include both works formerly protected by federal copyright law (the term of which has now expired, either simply through the passage of time or in part because of a failure to renew the copyright for an additional term when the initial term expired, as was required until 1992 for works published prior to 1978, or to place proper notice on published copies and phonorecords of the work as was required until 1989) and works formerly protected by state common-law copyright (which protection has now ended due to publication without compliance with the formalities required until 1978 to secure federal statutory copyright protection).

some programs that were U.S. government works and therefore not protected by copyright.⁴⁸ “To the extent that such broadcasting is now significant, it further bolsters our conclusion [as to noninfringing uses]. Moreover, since copyright protection is not perpetual, the number of audiovisual works in the public domain necessarily increases each year.”⁴⁹

The Court’s view that the amount of material in the public domain would “necessarily” increase each year has proven to be overoptimistic, as a result of two changes to copyright law since *Sony*. One change, enacted as part of the United States’ adherence to the TRIPs agreement, restored copyright protection to many foreign works that had previously entered the public domain here.⁵⁰ This restoration effectively changed the legal character of particular uses and made infringing the use of works that had previously been entirely legal.

The second important change was, of course, the Sonny Bono Copyright Term Extension Act, which effectively imposed a 20-year moratorium on the entry of published works into the public domain between 1998 and 2018.⁵¹ This amendment, while not changing the character of any particular use from noninfringing to infringing, does affect the overall amount of potential noninfringing use. Quantifying the effect of the change is difficult, but it seems very likely that at the moment many fewer publicly available works are entering the public domain through the expiration of copyright each year than in the past due to term extension.

For some types of works, this change in the amount of available public domain material may be relatively unimportant. With respect to literary works, for example, the long history of literary authorship means that a very large number of such works was in the public domain long before *Sony* was decided, or foreign copyrights were restored, or the copyright term was extended. To the extent a dual-use device allows use of literary works, the ability of device users to copy, adapt, distribute, perform, or display public domain literary works will already be significant, even if, at the margins, somewhat fewer literary works are now in the public domain, and newly entering the public domain, than in the recent past. But with respect to works such as computer software and

48. See 17 U.S.C. § 105 (2000).

49. *Sony*, 464 U.S. at 443 n.23.

50. 17 U.S.C. § 104A.

51. Sonny Bono Copyright Term Extension Act, Pub. L. No. 105-298, 112 Stat. 2827 (1998) (codified at 17 U.S.C. §§ 302–04). As I have noted elsewhere, older unpublished works are continuing to enter the public domain between 2003 and 2018 despite the extension. R. Anthony Reese, *Public But Private: The Unpublished Public Domain*, 85 TEX. L. REV. (forthcoming 2007).

video games, and even motion pictures and sound recordings, many fewer such works will have been in the public domain before Congress enacted the restoration and term extension provisions. For a dual-use device that involves the use of these types of works, limiting the size of the public domain may have a greater impact on whether the device's potential uses of public domain works add any meaningful amount of noninfringing use to the total measure of the device's noninfringing uses.

II. *Capable* OF SUBSTANTIAL NONINFRINGEMENT USES

The *Sony* test offers an escape from potential secondary liability for the supply of a dual-use device if the device is "capable of substantial noninfringing uses."⁵² The previous section considered the paradigm categories of noninfringing uses relevant to a substantiality determination and argued that how substantial such uses are may vary over time, even for the same device. In this section, I consider whether evaluating a device's *capability* might also vary over time, a possibility strongly suggested in the *Grokster* case.

While, as noted above, the opinion of the Court in *Grokster* offered no real clarification on how to analyze whether a device is capable of substantial noninfringing uses, Justices Ginsburg and Breyer each offered a concurring opinion that did address precisely that question in the context of the p2p dispute before the Court.⁵³ Those two opinions can be read to suggest a temporally dynamic view of a device's "capabilities" for purposes of the *Sony* analysis.

Justice Ginsburg and Justice Breyer clearly disagree on many points about how *Sony* should be understood and applied. Justice Ginsburg concluded that at the very least the copyright owners in *Grokster* had raised a genuine issue of material fact as to whether the defendants were liable for users' infringements based on supplying their p2p software to users.⁵⁴ In response, Justice Breyer wrote his concurring opinion to explain his contrary conclusion that on the record before the Court, the defendants were entitled to summary judgment under *Sony* on a secondary liability claim based merely on their dissemination of the

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

53. Each concurrence attracted the support of three members of the Court. Because Chief Justice Rehnquist, who has since died, joined Justice Ginsburg's concurrence, and Justice O'Connor, who has since retired, joined Justice Breyer's concurrence, the views of the justices who expressed positions on the issue and who remain on the Court are evenly divided, with two sitting justices supporting each position. *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Inc.*, 125 S. Ct. 2764 (2005).

54. *Id.* at 2783 (Ginsburg, J., concurring).

software.⁵⁵ But Justice Ginsburg and Justice Breyer seem to agree about what the “capable of substantial noninfringing uses” test means, at least with respect to the temporal dimension. Neither treats the test as a question of what functions a device has the technological *capacity* to execute. Instead, both treat the issue of whether a device is capable of substantial noninfringing uses as a question of what uses of the device are actually being made or are *likely to actually* be made in the future.

Justice Ginsburg acknowledged that the time-shifting considered in *Sony* was only one “potential use” of the VCR.⁵⁶ But she explained that the record in *Sony* demonstrated that “most” VCR buyers used their VCRs “principally” for time-shifting, making it clear that the amount of noninfringing use to which VCRs were in fact put at the time of trial was substantial or “commercially significant” in any sense of those words.⁵⁷

Reviewing the Ninth Circuit decision in *Grokster*, she faulted the court for concluding that the defendants had shown, and that *Sony* only required them to show, that their p2p software was “*capable* of substantial noninfringing uses.”⁵⁸ Her principal objection was evidentiary: the lower court relied merely on “anecdotal evidence of noninfringing uses,” based “almost entirely” on defendant-submitted declarations which reveal “mostly anecdotal evidence, sometimes second-hand, of authorized copyrighted works or public domain works available” over p2p networks.⁵⁹ She did not suggest that the problem was that the evidence did not show that the defendants’ software made it *possible* for users to disseminate public domain works, or works by copyright owners who had authorized dissemination. Instead, she faulted the lower court for relying on evidence that primarily centered on the possibility of such use and not on whether it was *actually* taking place. She thus contrasted a statement in Brewster Kahle’s declaration that those who download public domain films from the Internet Archive are free to redistribute them via p2p networks with his deposition statement that he personally “has no knowledge of any person downloading [such a] film” using the defendants’ software.⁶⁰ The conclusion Justice Ginsburg drew from the summary judgment record was that the plaintiffs had entered evidence showing that the defendants’ products “were, and had been for some time, overwhelmingly used to infringe and that this infringement was the

55. *Id.* at 2787 (Breyer, J., concurring).

56. *Id.* at 2783–84 (Ginsburg, J., concurring).

57. *Id.* at 2784.

58. *Id.* at 2784–85.

59. *Id.* at 2785.

60. *Id.* See also *id.* (citing deposition statement of Richard Prelinger that he did not know whether any user had used defendant Grokster’s software to make a Prelinger Archive public domain film available).

overwhelming source of revenue from the products.”⁶¹ She concluded that the record “was insufficient to demonstrate, beyond genuine debate, a reasonable prospect that substantial or commercially significant noninfringing uses were likely to develop over time.”⁶² Justice Ginsburg’s focus is thus clearly on the ways in which a defendant’s device is actually used, and in which it is likely to actually be used in the future. She does not appear to question the lower courts’ conclusion that p2p software is technologically capable of disseminating works of authorship in noninfringing ways. But, in her view, that technological capability is not the relevant question; instead, the question is how frequently a device is in fact being used, or is likely to be used in the future, for noninfringing purposes.

Justice Breyer, unlike Justice Ginsburg, concluded that the record supported summary judgment for the defendants on the non-inducement-based secondary liability claims, because the defendants’ software satisfied *Sony*’s “capable of substantial noninfringing uses” requirement. Justice Breyer credited the various declarations proffered by the defendants that “explained the nature of the noninfringing files on Grokster’s network,” and he was less troubled than Justice Ginsburg that the explanation came “without detailed quantification,” noting that the witnesses in *Sony* had also not provided such quantification.⁶³ To the extent that quantification was important, Justice Breyer believed that the record sufficiently established that “some number of files near 10%” of the total on the defendants’ networks are noninfringing, and that this figure was “very similar to the 9% or so” of the time-shifting that had been shown in *Sony* to be authorized by copyright owners.⁶⁴ Because Justice Breyer read the *Sony* opinion to indicate that authorized time-shifting alone was a “substantial or commercially significant noninfringing use”,⁶⁵ he concluded that the level of noninfringing use demonstrated in the *Grokster* record was sufficient to meet the *Sony* standard.

Justice Breyer’s opinion makes fairly clear, though, that he viewed the showing of noninfringing uses of the defendants’ software as important not because it demonstrated uses of which the software was capable, but rather because it showed “that it is reasonable to infer quantities of lawful use roughly approximate to those at issue in *Sony*.”⁶⁶ Thus, like

61. *Id.* at 2786.

62. *Id.*

63. *Id.* at 2789 (Breyer, J., concurring).

64. *Id.*

65. *Id.* at 2788.

66. *Id.* Justice Breyer stated that Grokster’s *Sony* defense was not defeated just because the noninfringing uses “account for only a small percentage of the total number of uses of Grokster’s product,” noting that *Sony* had involved the same proportionate relationship between infringing and noninfringing uses. *Id.* at 2789. Justice Ginsburg’s opinion, on the other

Justice Ginsburg, Justice Breyer treated the application of the *Sony* standard as a question of the extent to which a device is actually used for noninfringing purposes, not as a question of its technological capacity for such purposes.

This focus on how users *actually* use a device was even more clear when Justice Breyer expressly addressed *Sony's* “capable of” language, which he read as directing inquiry to the “potential future uses of the product.”⁶⁷ Here, he concluded that while *Sony* seemed to shield a defendant from liability if 10% of the current use of its device was noninfringing, in fact he read the case to indicate that “a figure like 10%, if fixed for all time, might well prove insufficient, but that such a figure serves as an adequate foundation [to excuse liability] where there is a reasonable prospect of expanded legitimate uses over time.”⁶⁸ In evaluating this possibility on the record before him, he did note the capability of the defendants’ software—it “permits the exchange of *any* sort of digital file”—but principally because that capability allowed “a likely inference that lawful p2p sharing will become increasingly prevalent.”⁶⁹ As a result, he concluded that “the foreseeable development of [noninfringing] uses, when taken together with an estimated 10% noninfringing material, is sufficient to meet *Sony's* standard.”⁷⁰ As he said later in the opinion, in defending the *Sony* standard, “*Sony's* word ‘capable’ refers to a plausible, not simply a theoretical, likelihood that [noninfringing] uses will come to pass, and that fact anchors *Sony* in practical reality.”⁷¹ Thus, it is clear that for Justice Breyer, as for Justice Ginsburg, the question of “*capable* of substantial noninfringing uses” is a question of whether a device is, or is likely to be, *actually* used substantially for noninfringing purposes.

In essence, despite their many disagreements over interpreting *Sony* and applying it to the record before them, both Justice Ginsburg and Justice Breyer based their opinions on a view that the fundamental question at stake in applying *Sony* to any particular dual-use device is whether there is a “reasonable prospect” or “plausible likelihood” that over time a substantial portion of the *actual* uses to which the device is put will be noninfringing uses. Thus, both opinions can be read to suggest that a device supplier is shielded by the rule in *Sony* only if the device either is

hand, suggests that even a large absolute amount of noninfringing use might not be sufficient to meet the *Sony* standard if such use is small relative to infringing uses. *Id.* at 2786 (Ginsburg, J., concurring).

67. *Id.* at 2789 (Breyer, J., concurring).

68. *Id.*

69. *Id.* at 2789–90.

70. *Id.* at 2790.

71. *Id.* at 2792.

already “widely used for legitimate, unobjectionable purposes” as *Sony* itself stated, or if it is likely to become widely used for such purposes in the future.

III. IMPLICATIONS

My primary purpose in this Symposium Article has been to explore how a dual-use device’s capability of substantial noninfringing uses might change over time. This exploration suggests many questions about the implications of the temporal dynamic of the *Sony* test. In concluding, I would like to raise some of these questions, although considering definitive answers to them is beyond the scope of this Article.

The view of Justices Ginsburg and Breyer that analyzing whether a device is “capable of substantial noninfringing uses” requires measuring how much current actual use of the device is noninfringing, and how much actual noninfringing use of the device is likely to occur in the future, raises the most significant questions. Most fundamentally, this approach will require much thought about how to measure and predict, with sufficient accuracy, how a device is and will be used. In many instances, of course, measuring current, actual use of a device will be difficult, particularly if that use mostly occurs in private (as with a VCR) or if the amount of use is too large to observe comprehensively (as with p2p software). Measurement will therefore likely rely in many instances on surveys and sampling techniques.

Taking the next step and predicting with some accuracy and certainty how people will use a device in the future seems to present a much more difficult problem. The *Sony* decision offered essentially no guidance on how to predict future uses, focusing instead on evidence of VCR use at the time of trial. In *Grokster*, even Justice Breyer, in deciding that noninfringing uses of p2p software would likely grow in the future merely concluded that because “more and more uncopyrighted information is [being] stored in swappable form [there is] nothing in the record that suggests that this course of events [i.e., an increase in lawful p2p sharing] will *not* continue to flow naturally as a consequence of the character of the software taken together with the foreseeable development of the Internet and of information technology.”⁷² This seems a relatively weak evidentiary basis for predicting that actual noninfringing uses of p2p software will grow to a greater proportion of the total uses than they are today. Indeed, one could probably fairly easily construct an argument about the “foreseeable development of the Internet and of

72. *Id.* at 2789–90.

information technology” that could support the conclusion that the infringing proportion of p2p use will remain steady or even grow over time. If the legality of a device that is currently not yet widely used for legitimate purposes turns on how consumers will use the device in the future, we will surely need to develop more sophisticated means to predict the various ways in which consumers will use the device and the relative proportion of such uses. And we will need confidence in the relative accuracy of those predictions if they will serve as the basis for deciding to prohibit devices that *can* be, and are being, used for noninfringing purposes.

Predicting a device’s future uses may involve many factors, such as which consumers are likely to use the device, what alternative technologies are available, what alternative methods are available for getting access to the relevant types of works of authorship, and so forth. But predicting future uses also might need to take into account the shifting legal character of particular uses, as described in Part I. For example, if the VCR had been found capable of substantial noninfringing uses because of a determination that unauthorized time-shifting would remain the principal use for the VCR’s recording function well into the future, should that determination also have taken into account whether such time-shifting would still qualify as fair use once copyright owners offered popular television programming for on-demand, advertiser-supported online viewing within a few hours after the program is broadcast over the air? As difficult as it may be for courts accurately to predict how people will use a device in the future, it may be even more difficult to predict which of those future uses will qualify as fair uses, or be authorized by copyright owners, even when we know the magnitude of current fair and authorized uses.

With respect to authorized uses, the fact that copyright owners, through mechanisms such as Creative Commons licenses, have freely authorized much use of copyrighted material would presumably offer only limited assistance in predicting the level of a device’s future noninfringing uses. The device’s technological *capability* to make a large number of authorized uses will not make the device “capable of substantial noninfringing uses” if that test turns on the extent to which people will likely actually use the device in the future in connection with such authorized content. If few consumers will actually use the authorized works on the device, then authorized uses will count very little in this version of the *Sony* analysis. Having many works released under, for example, Creative Commons licenses will not matter, unless those works appeal to the public enough to get people to copy, play, or modify those works using dual-use devices. More authorization makes more nonin-

fringing uses possible, but does not in itself make them likely to occur. Determining how much the available authorized content will appeal to the public will be another difficulty in any serious attempt to evaluate a device's legality based on whether future consumers will make substantial noninfringing uses of the device.

Still another problem for determining a device's legality based on predictions of future use is the question of the proper time horizon for such predictions. How quickly should courts demand that a substantial proportion of a device's use be noninfringing? For example, should p2p software be condemned if a court believes that still only about 10% of the material disseminated using the software will be noninfringing after the software has been in use for five more years? Or should a device be given a longer period in which consumers can come to take advantage of its capacity for noninfringing uses? If so, how long should the time horizon be? Ten years? Twenty-five years? Fifty years? Adopting too short a time horizon might lead courts to bar devices whose noninfringing uses grow relatively slowly, while adopting too long a time horizon, particularly in areas of rapid technological development, might allow a device to flourish and then become obsolete before actual noninfringing uses of the device ever rise to the substantial level.

In addition to the difficulty of determining whether a device is capable of substantial noninfringing uses when that analysis is based on predicting future uses, another dramatic consequence of this view of *Sony* is that the answer to the question could change over time based on how the public actually ends up using the device. Justice Breyer, for example, concluded in *Grokster* that *Sony* permitted distribution of the defendants' software because of the "reasonable prospect" that the current 10% of the software's use that he accepted as noninfringing would expand over time. Imagine that over the next 25 years, evidence shows that in fact, the proportion of noninfringing uses of p2p software remains at 10%. Under Justices Ginsburg's and Breyer's view, it seems likely that at some point we would have to conclude that the "reasonable prospect" foreseen by Justice Breyer in 2005 had not come to pass. In the absence of any other relevant explanatory circumstances,⁷³ we would presumably also have to conclude that the reasonable prospect of expanded legitimate use no longer exists.

At that point, under this reading of *Sony*, should a court hold that *Sony* no longer applies to the device in question, and those who make

73. For example, evidence might show that particular circumstances over the preceding 25 years prevented the expansion of actual noninfringing uses of the p2p software, and that those circumstances have since changed in a way that will now allow the expansion of such uses.

and disseminate the device can be held liable for infringements committed by the device's users? Such an approach might mean that even when a court has decided that a device is capable of substantial noninfringing uses and has therefore rejected copyright owners' secondary liability claims based on supplying the device, copyright owners might be able at a later date to bring a subsequent suit raising the same secondary liability claims. In the later suit, the plaintiffs might well be able to convince the court that the device is no longer capable of substantial noninfringing uses. That might be because uses that previously contributed to the determination of substantial noninfringing uses are no longer noninfringing (perhaps because a court determines that they are no longer fair uses) or are no longer as substantial as they previously were (perhaps because copyright owners have in large numbers withdrawn their authorization). Or the plaintiff might persuade the court that although the potential noninfringing uses of the device remain the same as at the time of the original suit, the lack of public adoption of the device for those uses means that the device does not meet the *Sony* test, viewed (as Justices Ginsburg and Breyer view it) as a question about the extent of actual noninfringing uses of the device. In either event, the result would be that *Sony* would seem no longer to immunize anyone who supplied the device from distribution-based secondary liability claims, and suppliers would instead face liability for such dissemination.

Should we allow copyright owners to return to court at some later date and seek to establish that a device previously shielded by *Sony* no longer meets the "capable of substantial noninfringing uses" standard? If so, how long must they wait between suits? How frequently, and how many times, can copyright owners seek to prove that customers have not in fact made the proportion of noninfringing uses that the court initially predicted they would make when it ruled that the device was capable of substantial noninfringing uses?

To what extent should intervening activities by device makers, consumers, and others, in reliance on the original court decision that the device was legitimate, affect how and whether a court will revisit a device's capability of substantial noninfringing uses? The device's original suppliers, and in many cases their competitors, will have invested in producing and marketing the device. Other businesses may have entered complementary markets enabled by the device's distribution. Members of the public will have purchased the devices or complementary products with the understanding that they may use them at least for certain purposes.⁷⁴ If a court initially decides that a device is *not* capable of

74. In some circumstances, a decision that distribution of a device is no longer protected under *Sony* could affect the ability of prior purchasers of the device to continue to use

substantial noninfringing uses, that decision too might have invited conduct in reliance upon it (though perhaps to a lesser degree than an initial decision of legality).⁷⁵

And will repeated litigation over a dual-use device tend to favor either copyright owners or device makers? If a first court's final determination that a device is "capable of substantial noninfringing uses" is subject to later re-examination to evaluate the accuracy of the predictions of likely future uses on which the first court's determination rested, theoretically either a losing copyright owner or a losing device maker could seek a new decision when more facts about consumer use of the device are known. As a practical matter, though, a device maker who loses under *Sony* would probably find it more difficult to get a court to later re-evaluate the device. If a court rules that *Sony* allows imposing liability for distributing a device, then the device most likely will not gain wide distribution, and there will be little opportunity for people to make any use of the device, infringing or otherwise.⁷⁶ Thus, a device maker will not likely have significantly better information at the time of subsequent litigation as to how people actually use, or are likely to use, the device. On the other hand, if a court rules that *Sony* permits distribution of the device, then losing copyright owners will probably be able to monitor how consumers use the device and to gather evidence of actual use patterns that they can present to attempt to persuade a court that the predicted noninfringing uses have not in fact come to pass.

devices they bought when distribution was legal. For example, a decision that the VCR's recording function was no longer capable of substantial noninfringing uses might also imperil the sale of blank videocassettes (since they might no longer be suitable for substantial noninfringing uses), which would, over time, significantly limit the ability of those who purchased legal VCRs to use them for recording.

75. Copyright owners, in particular, may have relied on the illegality of distribution of the device, for example, by deciding to forgo using technological protection measures in conjunction with their works if the illegality of the copying device convinces them that such measures are unnecessary. Or they may have entered into license agreements with producers of the device that permit its distribution only in return for royalty payments.

76. This will not necessarily be true for all dual-use devices. In most cases, some number of devices will have been distributed before the court's final decision imposing liability, and those devices might continue to be used, offering some evidence of how patterns of use develop. That continued use may or may not be particularly accurate as a predictor of how a wider segment of the population would use the device if it were generally available. And in some cases, continued use of the device after a ruling imposing liability might be more difficult, or impossible, for some technologies. Napster's p2p software, for example, was of little use once Napster shut down its central servers. If the *Sony* Court had imposed liability for selling VCRs with recording capability, one wonders whether the videocassettes necessary for recording would have remained widely available long enough to provide continued useful evidence of the ways in which owners of existing VCRs used those machines.

CONCLUSION

Whether a dual-use device is capable of substantial noninfringing uses is a question that has a temporal dimension. The dynamic nature of the answer to that question over time may be inevitable with respect to the analysis of whether particular uses of the device are fair uses, and of whether the amount of authorized uses of the device is or is not substantial, given the way in which the fairness of a use, and the authorization for any specific use of any particular work, can change over time. It is, of course, not entirely unusual to ask the same legal question at different times and get different answers, if factual circumstances have changed in a relevant way. Thus, a change in the determination of whether a device is capable of substantial noninfringing uses may make sense if in fact important uses of the device are no longer noninfringing, or if the amount of such potential noninfringing uses has significantly diminished.

The other temporally dynamic dimension of the “capable of substantial noninfringing uses” test identified in this Symposium Article seems to depend on changed factual circumstances principally because of interpreting the test’s relevant question to be how people likely *will* use the device instead of how they *could* use the device. The potential problems caused by this reading of the test might cast doubt on the wisdom of this interpretation, and counsel for applying the *Sony* standard with reference to a device’s actual technological capacities.

Some questions raised in this Symposium Article may have little practical import. Once courts have decided whether a device is capable of substantial noninfringing uses, they may be so reluctant to revisit that question that they simply will not entertain attempts for a new evaluation of the same technology based on new facts. For example, it is difficult to imagine a court today imposing liability on makers and sellers of VCRs, even if it were to decide that unauthorized time-shifting under contemporary market conditions no longer constituted fair use and that many copyright owners who authorized time-shifting in the mid-1970s no longer did so. The changing nature of fair use and of the quantum of authorized use may thus matter little beyond how much use is fair or authorized at the time of the initial evaluation of the device’s noninfringing uses. If, however, Justices Ginsburg’s and Breyer’s *Grokster* opinions correctly interpret *Sony*’s “capable of substantial noninfringing uses” test to require courts to predict how people will use a dual-use device in the future, then questions about such predictions may become critical in deciding whether dual-use devices can be offered to the public.