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THE FIRST SALE DOCTRINE IN THE ERA OF DIGITAL NETWORKS

R. ANTHONY REESE*

Abstract: The first sale doctrine has been essential to the balance in copyright law between authors' rights and public access to works. The growth of digital technology, however, has drastically changed the means of disseminating many types of works and, as a result, has undermined the first sale doctrine. This Article considers the long-term impact of technological change on the first sale doctrine. The Article focuses on the affordability and availability effects of the doctrine, reviewing the traditional causes and benefits of these effects, as well as the ways in which electronic commerce has weakened and could continue to weaken them. The Article concludes that it is still too early to determine the ultimate impact of digital technology on affordability and availability but suggests means of preserving these effects even as the first sale doctrine itself faces increasing technological challenge.

INTRODUCTION

For at least ninety-five years, the first sale doctrine in U.S. copyright law has allowed those who buy copies of a copyrighted work to resell, rent, or lend those copies. Copyright law is often viewed as a balance of providing authors with sufficient incentives to create their works and maximizing public access to those works.¹ And the first sale doctrine has been a major bulwark in providing public access by facilitating the existence of used book and record stores, video rental stores, and, perhaps most significantly, public libraries.

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¹ "[T]he [Copyright] Act creates a balance between the artist's right to control the work during the term of the copyright protection and the public's need for access to creative works." *Stewart v. Abend*, 495 U.S. 207, 228 (1990).

Technology, however, has begun to change dramatically the environment in which the first sale doctrine operates. The development of widespread computer networks such as the Internet has made it increasingly common for copyrighted works to be disseminated not by the distribution of physical copies but by transitory transmissions over digital networks, which end-users see or hear but do not retain.² And when copyright owners do choose to distribute digital copies of their works, they are increasingly distributing copies that are encrypted or otherwise protected by technological measures that restrict the copy owner's ability to access the work.

In 2001, the U.S. Copyright Office reported to Congress on the impact of electronic commerce and technological protection measures on the first sale doctrine. The report largely concluded that it was too soon to say what the effects of e-commerce and encryption would be on the doctrine, and, rather than recommending any legislative response to technological developments, counseled a "wait and see" approach.

This Article suggests that the "wait and see" approach will work best if we know what we are looking for. To best evaluate the impact of technological changes on the operation of the first sale doctrine in the coming years, we need a better idea of how the first sale doctrine has traditionally functioned. To that end, Part II considers what effects the first sale doctrine has produced in traditional copyright markets where copyright owners exploit their rights by distributing copies to the public. Part II discusses two principal effects of the doctrine: making access to copyrighted works more affordable to the public ("affordability"), and helping to ensure that works of authorship remain available to the public over time ("availability"). The impact on these affordability and availability effects should be a primary focus as we monitor how technological change affects the operation of the first sale doctrine.

Having identified these effects, the Article in Part III considers how electronic commerce and technological protection measures may

² In copyright terms, "copies" are "material objects . . . in which a work is fixed by any method . . . and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." 17 U.S.C. § 101 (2000). Technically, works can be embodied in both copies and phonorecords. "Phonorecords" are essentially a subset of what are colloquially termed "copies"; a phonorecord is a material object in which sounds (rather than, for example, images or text) are fixed. *See id.* § 101. Thus, an audio cassette, compact disc, or LP are "phonorecords." For convenience in this Article, I will generally use the term "copy" to include both copies and phonorecords.

change the existing dissemination patterns for copyrighted works, and suggests that the end result may be that fewer copies of many works will be distributed to fewer owners, and the copies that are distributed will be more difficult to transfer. This possible result highlights the fact that the effects of the first sale doctrine have been the effects of a particular legal rule operating in markets in which copyrightable works have been disseminated in large part by the distribution of freely-transferable physical copies. As e-commerce and encryption technology expand, the operation of the first sale doctrine will likely change largely because of changes in dissemination patterns. The first sale doctrine may remain on the books, authorizing copy owners to resell, rent, or lend their copies, but if few or no copies of copyrighted works exist, then the doctrine will essentially be a dead letter.

Part IV then undertakes a more speculative consideration of how this decrease in the circulation of usable, transferable copies might change the affordability and availability effects of the first sale doctrine. I draw the very tentative conclusion that while in some circumstances the new technological landscape may make access to copyrighted works more affordable and available, in many circumstances digital transmission and encryption might combine to reduce the affordability and availability of copyrighted works, as compared to the traditional model of wide distribution of copies subject to the first sale doctrine. If that happens, Congress may need to revise copyright law to preserve some of the affordability or availability effects of the doctrine. Congress has not ignored the impact that the growth of digital technology has had on the statutory rights of copyright owners, and has adjusted those rights as technology has changed.³ The impact of digital technology on the statutory limitations on copyright owners' rights may require similar changes.

In short, this Article seeks to determine what the benefits have been of a system in which copyrighted works are distributed in tangible copies that are freely alienable without the consent of the copy-

³ For example, Congress has prohibited the rental of phonorecords of sound recordings and copies of computer software out of concerns about the ease of digital piracy. *See infra* notes 138–140 and accompanying text. In addition, Congress granted sound recording copyright owners a limited right to control public performances of their works by means of digital audio transmission, but not by other means, because of concerns that such digital transmissions posed a significantly greater threat to copyright owner incentives than did non-digital performances. Digital Performance Right in Sound Recordings Act of 1995, Pub. L. No. 104-39, 109 Stat. 336 (codified at 17 U.S.C. § 106(6)).

right owner. That system has produced benefits to the public, and it seems appropriate to consider whether those benefits—or other compensating benefits—will accrue to the public when works are disseminated by electronic transmission, or by encrypted digital copy, rather than in traditional copy form. If a shift away from the distribution of tangible, freely alienable copies threatens to eliminate desirable effects of the first sale doctrine, then we will need to consider amending the Copyright Act to preserve those benefits.

I. BACKGROUND: THE FIRST SALE DOCTRINE AND THE DMCA REPORT

Since the first U.S. copyright act in 1790, copyright owners have had the exclusive right to “vend” copies of their works.⁴ But since at least 1908, copyright law has expressly recognized, first by court decision,⁵ and later by statutory provision,⁶ that the copyright owner’s right to control the sale of a particular copy of a work ends after the owner’s first transfer of that copy.⁷ This first sale doctrine has generally been viewed as a recognition in copyright of the law’s historic disfavor of restraints on the alienation of personal property.

Current copyright law gives owners the exclusive right to distribute copies of their works to the public “by sale or other transfer of ownership, or by rental, lease, or lending.”⁸ As in the past, however, the copyright owner’s control over subsequent distribution is limited. Section 109(a) of the Copyright Act provides, “Notwithstanding the provisions of section 106(3) [granting the exclusive right of distribution], the owner of a particular copy or phonorecord lawfully made under this title . . . is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy or phonorecord.”⁹ As a result, one who owns a lawful copy of a copy-

⁴ See Act of May 31, 1790, ch. 15, § 1, 1 Stat. 124.

⁵ *Bobbs-Merrill Co. v. Straus*, 210 U.S. 339, 350–51 (1908).

⁶ 17 U.S.C. § 41 (1909) (amended 1947) (current version at 17 U.S.C. § 109(a) (2002) (enacted 1976)).

⁷ This doctrine is not unique to the United States, though the specific contours of the copy owner’s rights vary from country to country. In civil law jurisprudence, the doctrine is generally known as “exhaustion”—the copyright owner’s initial authorized transfer of a copy of the work exhausts the owner’s right to control the distribution of that copy.

⁸ 17 U.S.C. § 106(3). Technically, the right is to distribute both copies and phonorecords of the work.

⁹ *Id.* § 109(a).

righted work may resell that copy or may rent it (in most cases),¹⁰ lend it, or give it away. Used bookstores, used compact disc (CD) stores, public libraries, and video rental stores all flourish in the shelter of the first sale doctrine.

The advent of computer networks, especially the Internet, has raised questions about whether and how the doctrine will operate in the digitally networked environment. In 1995, a presidential task force considered whether the first sale doctrine would allow someone who acquired a copy of a copyrighted work by receiving a digital transmission, for example by receiving an e-mail or downloading from a Web page, to then retransmit that work to another person, thus allowing the recipient of that second transmission to acquire a copy of the work.¹¹ The task force concluded in its “White Paper” that such transmissions were not protected by section 109(a).¹² This conclusion prompted much discussion about the need for a “digital first sale doctrine,”¹³ including the introduction of a bill in Congress to amend copyright law to allow users to “forward and delete” copies of works they received by transmission,¹⁴ a proposal that has been included in subsequent bills.¹⁵

In 1998, Congress enacted the Digital Millennium Copyright Act (DMCA),¹⁶ making major changes to U.S. copyright law, including providing legal support for technological protection measures, such as encryption, used by copyright owners to restrict access to their works.¹⁷ The DMCA outlaws the manufacture of and trafficking in devices or technologies that circumvent access or copy control measures

¹⁰ In a limited exception to the first sale doctrine, copyright law bars the rental of copies of computer programs and phonorecords of sound recordings without the copyright owner’s consent. *Id.* § 109(b). See *infra* notes 138–140 and accompanying text.

¹¹ INFO. INFRASTRUCTURE TASK FORCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS 92–94 (1995) [hereinafter WHITE PAPER].

¹² *Id.*

¹³ See, e.g., Keith Kupferschmid, *Lost in Cyberspace: The Digital Demise of the First-Sale Doctrine*, 16 J. MARSHALL J. COMPUTER & INFO. L. 825, 844–48 (1998); James V. Mahon, *A Commentary on Proposals for Copyright Protection on the National Information Infrastructure*, 22 RUTGERS COMPUTER & TECH. L.J. 233, 262–63 (1996); Digital Future Coalition, *Summary of Issues and Proposals to Amend the “NII Copyright Protection Act,”* at <http://www.arl.org/info/frn/copy/summary.html> (May 8, 1996).

¹⁴ The Digital Era Copyright Enhancement Act, H.R. 3048, 105th Cong. (1997) (proposed 17 U.S.C. § 109(f)).

¹⁵ See, e.g., Digital Choice and Freedom Act of 2002, H.R. 5522, 107th Cong. (proposed 17 U.S.C. § 109(f)).

¹⁶ Pub. L. No. 105–304, 112 Stat. 2860 (1998).

¹⁷ See 17 U.S.C. §§ 1201–1205 (2000).

used by copyright owners, and in some cases prohibits the act of circumventing such controls. Section 104 of the DMCA directed the Register of Copyrights and the Department of Commerce to report to Congress on the effect of the DMCA's technological protection provisions and "the development of electronic commerce and associated technology" on the operation of copyright law's first sale doctrine.¹⁸

In August 2001, the Copyright Office issued its *DMCA Section 104 Report*.¹⁹ For the most part, the Copyright Office recommended no changes to the first sale doctrine for the moment. With respect to the effect of the DMCA's provisions, the report essentially concluded that the use of technological protection measures either had not yet become widespread enough to have any measurable impact on the first sale doctrine or, where such measures were in widespread use, the possibility of reduction or elimination of a resale market for copies did not constitute interference with the operation of the first sale doctrine.²⁰ As for the impact of electronic commerce and associated technology on the first sale doctrine, the report focused on the scenario raised in 1995 in the White Paper, and rejected proposals to amend the law expressly to allow the owner of a lawfully made copy of a copyrighted work to transmit the work to another person, as long as the transmitting owner destroyed her own copy once the transmission was complete.²¹

¹⁸ 112 Stat. at 2876. In addition, the agencies were to report on the effect of the anti-circumvention provisions and e-commerce on section 117 of the 1976 Copyright Act, which allows owners of copies of computer programs to reproduce those programs for back-up and other purposes. *Id.* The Department of Commerce report was issued in 2001. NAT'L TELECOMM. & INFO. ADMIN., U.S. DEP'T OF COMMERCE, REPORT TO CONGRESS: STUDY EXAMINING 17 U.S.C. SECTIONS 109 AND 117 PURSUANT TO SECTION 104 OF THE DIGITAL MILLENNIUM COPYRIGHT ACT (2001), available at <http://www.ntia.doc.gov/ntiahome/occ/dmca2001/104gdmca.htm>.

¹⁹ U.S. COPYRIGHT OFFICE, LIBRARY OF CONG., DMCA SECTION 104 REPORT (2001), available at http://www.copyright.gov/reports/studies/dmca/dmca_study.html (last modified Jan. 8, 2003).

²⁰ *Id.* at 74 ("The first sale doctrine does not guarantee the existence of a secondary market or a certain price for copies of copyrighted works.").

²¹ *See id.* at 78–101. Libraries had expressed concerns about the impact of the DMCA's anticircumvention provisions and electronic commerce generally on interlibrary loan, off-site accessibility, archiving and preservation, the availability of works, and the use of donated works. *Id.* at 102. With respect to those specific concerns, the report concluded that virtually all of the libraries' concerns stemmed from the terms of licensing agreements between libraries and copyright owners and were therefore beyond the scope of Congress's mandate for the report. *See id.* at 102–05. The conclusion seems somewhat odd because the Copyright Office was directed to study the impact of "electronic commerce" on the first sale doctrine, and "electronic commerce" would seem to include the dissemination of

In several places, the Copyright Office's report did note that future developments might have "serious consequences for the operation of the first sale doctrine" that might require legislative attention at some later date.²² In short, the Copyright Office recommended a "wait and see" approach to the question of whether changes are required to the first sale doctrine in light of the use of technological protection measures or developments in electronic commerce. The Department of Commerce report took a similar position.²³

Taking seriously the Register's suggestion to wait and see whether electronic commerce will warrant changes to the first sale doctrine requires identifying what we might be looking for as we are waiting and watching. What effects has the first sale doctrine had on the copyright system in the past century, prior to the widespread deployment of digital networks? Understanding the doctrine's impact in the era when copyrighted works have been disseminated in very large part by distributing tangible and transferable objects will help us to know what we are looking for as we observe the impact of electronic commerce and the DMCA's anticircumvention provisions on the copyright marketplace. In turn, this will help us consider whether to amend copyright law to secure the first sale doctrine's benefits in the changed copyright market.

II. EFFECTS OF THE FIRST SALE DOCTRINE BEFORE THE EMERGENCE OF DIGITAL NETWORKS

For much of the twentieth century, many types of copyrightable works that were made available to the public were disseminated largely by the distribution of easily transferable tangible material objects.²⁴ Literary works were distributed in books, magazines, and

works in digital format, particularly for online use, pursuant to agreements often embodied in digital, online form.

²² *Id.* at xvii, 76 (discussing practice of tethering copies to particular devices); *see also id.* at xx (noting no convincing evidence of present-day problems but noting also that "[t]he time may come when Congress may wish to address these concerns should they materialize"); *id.* at xxi (noting that if the market does not respond to library concerns over the impact of electronic commerce on the first sale doctrine, "these issues may require further consideration at some point in the future").

²³ *See* NAT'L TELECOMM. & INFO. ADMIN., *supra* note 18 (concluding that NTIA believes legislative recommendations would be premature "at this time," but noting that "several areas . . . warrant further Congressional inquiry").

²⁴ Since 1978, federal copyright protection has attached to every original work of authorship fixed in a tangible medium of expression automatically upon fixation. 17 U.S.C. §§ 102(a), 302(a) (2000). As a result, an enormous amount of material is protected by copyright but never intended for distribution to, or actually distributed to, the public. This

newspapers, as well as on audio cassettes. Musical works were distributed in sheet music, on vinyl record albums, on magnetic cassettes, and on digital compact discs. Although motion pictures for many years were not widely distributed in the form of tangible copies, but instead disseminated largely by public performance in theaters and over television, in the last twenty-five years the development and availability of home videocassette players resulted in a dramatic shift to substantial distribution of motion pictures in tangible copies.²⁵ All of these copies were generally easily transferable: the owner of a book, record, videocassette, or other copy could easily lend, give, or sell that copy to another person who could then use the copy to obtain access to the work. In some cases, as with a record, CD, or videocassette, the party receiving the copy would need to have equipment to access the work stored on the object, but such equipment was generally available and in many instances widely owned by the public.

This system of distributing copyrighted works in tangible copies that are freely alienable under the first sale doctrine has had three primary beneficial effects on public access to those works. First, the system appears to have increased the overall affordability of access to copyrighted works. Second, the system has in many cases helped ensure the continued availability of such works to the public. Third, the system has allowed users to gain access to such works while maintaining their privacy or anonymity from the copyright owner. Given the space limitations of this Article, and because the impact of the first sale doctrine on consumer privacy has already been the subject of academic discussion, this Article will focus on the doctrine's affordability and availability effects.²⁶

material includes correspondence, diaries, sketchbooks, and snapshots. The focus of this Article is on copyrighted works actually disseminated to the public. In addition, my focus is on works distributed to the public at large, and not specialized or customized works distributed only to one user or a small group of users.

²⁵ "In 2001, \$10.3 billion was spent in the United States to buy copies of films for home use . . ." Rick Lyman, *In Revolt in the Den: DVD Has the VCR Headed to the Attic*, N.Y. TIMES, Aug. 26, 2002, at A1. For a typical film, the initial theatrical release accounts for about twenty percent of the producer's total revenue, while "home entertainment" accounts for more than forty percent. *Id.*

Television programming is perhaps the major category of copyrighted works widely disseminated to the public in a form other than copies, though in recent years even some TV programming has been made available for sale on video or DVD. Works of fine art are generally disseminated to the public by public exhibition of the original copy of the work, though in many instances reproductions of such works in copies are distributed to the public.

²⁶ See Julie E. Cohen, *A Right to Read Anonymously: A Closer Look at "Copyright Management" in Cyberspace*, 28 CONN. L. REV. 981 (1996); Julie E. Cohen, *Some Reflections on Copy-*

A. Affordability

1. Retail Price Competition

The most obvious way in which distribution in the form of legally alienable copies increases access to copyrighted works is by making copies of those works available to many consumers at a lower cost than the retail price charged by the copyright owner (or her licensees) for the purchase of a copy. The most direct way that the first sale doctrine has this effect is by allowing retail price competition where copyright owners sell through multiple retailers. This was the result of *Bobbs-Merrill Co. v. Straus*,²⁷ the U.S. Supreme Court case that is credited with originating the first sale doctrine. Once a copyright owner sells copies of a work at a wholesale price to a retailer, the retailer is free as a matter of copyright law to resell the copies to the public at whatever price she chooses. As a result, the copyright owner can set only her own price for a copy of the work, but cannot directly set the retail price that others charge for the work.²⁸

The public may also benefit from competition among retailers. More efficient retailers, with lower overhead costs, may be able to sell copies at a lower mark-up than less efficient retailers or retailers who wish to maintain a higher price-point for marketing reasons. Different retailers may offer different discounts on different works. In sum, retailers, for a variety of reasons, may offer copies at different prices, and consumers can benefit from this price competition, which exists in part because the copyrighted work is distributed in tangible copies by multiple retailers and because the first sale doctrine keeps the copyright owner who has sold copies to retailers from asserting control over those retailers' subsequent sale prices.²⁹

right Management Systems and Laws Designed to Protect Them, 12 BERKELEY TECH. L.J. 161, 183–87 (1997); Joseph P. Liu, *Owning Digital Copies: Copyright Law and the Incidents of Copy Ownership*, 42 WM. & MARY L. REV. 1245, 1328–32 (2001).

²⁷ 210 U.S. 339, 350–51 (1908).

²⁸ Attempts by copyright owners to control the price that retailers charge for copies of their works could constitute vertical price fixing in violation of antitrust laws. *See, e.g.*, *Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373, 400, 408 (1911); Claudia H. Deutsch, *Suit Settled Over Pricing of Music CD's at 3 Chains*, N.Y. TIMES, Oct. 1, 2002, at C1; Federal Trade Commission, Press Release, Record Companies Settle FTC Charges of Restraining Competition in CD Music Market (May 10, 2000), at <http://www.ftc.gov/opa/2000/05/cdpres.htm>.

²⁹ Again, in the absence of a first sale doctrine, antitrust principles that strongly disfavor resale-price-maintenance devices might similarly prevent copyright owner control over retailers' sale prices and achieve similar retail price competition. *See, e.g.*, *Dr. Miles Med. Co.*, 220 U.S. at 373.

2. Secondary Sale Markets

The first sale doctrine also provides many consumers the chance to purchase a copy of the work at a price lower than that charged by the copyright owner or by the initial retailer, who generally passes along the copyright owner's price as well as the retailer's mark-up. It does so by allowing the development of secondary markets for the sale of copies. Because the copies sold in these secondary markets are previously owned, rather than new, they usually sell at a lower price than that charged originally for a new copy of the work.³⁰ And because a single copy of a work can usually be sold repeatedly on the secondary market (perhaps at decreasing prices as the copy becomes more worn), each copy may allow several consumers to enjoy the lower price generally charged for a used copy. Used bookstores and used record stores are two primary examples of secondary markets for copyrighted works. Experience and evidence suggest that such secondary sales markets are significant, though I have been unable to find comprehensive statistics.³¹ By way of example, used books accounted for fifteen percent of Amazon's book sales in the second half of 2002,³² and in the third quarter of 2001, seventeen percent of all goods sold on Amazon.com were used goods.³³ Similarly, those responding to an annual survey by the National Association of Recording Merchandisers reported that in 2000 they sold about \$285 million worth of used CD albums, about 2.7% of the total dollar volume of sales of audio recordings by responding merchants.³⁴

³⁰ See Jane Birnbaum, *Without a Scratch, Used CD's Rise Again*, N.Y. TIMES, Sept. 6, 1993, at A1, available at 1993 WL 2108723 ("Used CD's . . . often have a price tag of \$2 to \$8 each, compared with \$11 to \$16 for new ones."); Ed Christman, *As Used-CD Biz Grows, Chains Get In On Act*, BILLBOARD, July 10, 1999, at 1, 92 (noting that used CDs are typically priced from \$5.99 to \$8.99). In the case of works that are out of print or otherwise unavailable from the copyright owner, the price of a copy on the secondary market might be higher than the original sale price.

³¹ See Ed Christman, *Wherehouse Quietly Debuts New Store Concept*, BILLBOARD, Sept. 30, 2000, at 76 (noting that sales of used CDs may amount to ten percent of sales for the Wherehouse record-store chain).

³² David D. Kirkpatrick, *Online Sales of Used Books Draw Protest*, N.Y. TIMES, Apr. 10, 2002, at C1.

³³ Nora Macaluso, *The Amazon Earnings Speculation Story*, E-COMMERCE TIMES, Jan. 21, 2002, at www.ecommercetimes.com/perl/story/15864.html; see also Steven Zeitchik, *Used Booksellers Discover the Joys of Amazon*, PUBLISHERS WKLY., July 30, 2001 (reporting that Amazon announced in July 2001 that eleven percent of total book, music, and video orders were for used goods).

³⁴ NAT'L ASSOC. OF RECORDING MERCH., 2000 ANNUAL SURVEY RESULTS 3 (2001).

These secondary markets may lower the cost of access to copyrighted works in two ways. First, consumers who can afford (or are willing) to pay the used price but not the new price may be able to buy a used copy and thus gain access to the work that they would not have if only new copies were available. Second, some consumers may be more willing to buy new copies because the first sale doctrine lowers their effective price. Because a consumer can resell her copy once she has used it and no longer wishes to retain it, the total price she will have paid will be the price charged for the copy less the amount she receives for the resale of the copy that the first sale doctrine enables.³⁵

3. Rental Markets

The first sale doctrine, in markets in which works are distributed in tangible copies, also increases access to works by enabling the creation of rental markets for those who wish to have access to a work but are unwilling or unable to pay the price charged to acquire ownership of a copy, either new or used.³⁶ Today, motion pictures are the principal category of works widely disseminated by rental.³⁷ Rental stores buy digital versatile discs (DVDs) and videocassettes sold by the copyright owner and exercise their first sale rights to rent the copies to the public.³⁸ A consumer who does not want to pay the price of buying a

³⁵ See Christman, *supra* note 30, at 92 (“We have a customer who is on the cutting edge and interested in a vast array of goods,” says [Mike] Dreesse [CEO of a 19-unit, Boston-based record-store chain]. “The used CDs add value to new product, because they know that they can get some of what they spent [on those titles] back.”); Ed Christman, *Both Retailer, Label Claims Backed By Used-CD Survey*, BILLBOARD, Oct. 2, 1993, at 4, 112 (noting that twenty-five percent of survey respondents saw “potential to sell unwanted CDs as an insurance policy that allows them to buy more CDs”).

Transaction costs in making the resale must also be included to determine the final effective price. Many college and graduate students, of course, rely on this reduction in total purchase price in buying texts.

³⁶ Rental markets also provide access to works to those who could afford to buy a copy but simply do not wish to pay any price to own a copy, as opposed to having time-limited access to the work. Thus, some people may simply not wish to own a videocassette or DVD of a film that they anticipate only watching once or twice, but would prefer to rent a copy and return it after viewing.

³⁷ Audiobooks are also available for rental rather than for purchase. See, e.g., K. Oanh Ha, *Success Story is Worth Listening To*, SAN JOSE MERCURY NEWS, Nov. 9, 2002, at 1C; Audio Publishers Association, Press Release, Audio Publishers Association Announces Results of Consumer Study (May 31, 2001), at http://www.audiopub.org/fass_pr.html (survey shows that six percent of audiobooks listened to are rented).

³⁸ Not all countries allow free rental of copies of copyrighted works (or works that would be protected by copyright in the United States and are protected by so-called

video of the film—or perhaps even the price of admission to a cinema to see a screening of the film—can usually pay a lower price to rent a copy of the film for a short time in order to view it.³⁹ Although motion pictures are the main types of works distributed by rental today, other types, such as literary works, have been distributed by rental in the past.⁴⁰

4. Public Lending

Public lending is a final way in which the first sale doctrine reduces the cost of access to copyrighted works. The doctrine allows libraries to acquire ownership of copies and phonorecords of copyrighted works and then lend those copies to patrons at no charge.⁴¹ A consumer who is not willing or able to pay the purchase or rental price for a copy of a work may be able to borrow a copy from a library at no direct charge.⁴²

“neighboring rights” abroad). The European Union has directed member states to grant copyright owners a right to control rentals that is not exhausted by the sale of the copy. *See* Council Directive 92/100/EEC, art. 1, 1992 O.J. (L 346) 61. Even before that directive, in many European countries the sale of a copy apparently did not exhaust the copyright owner’s right to control, or at least receive compensation for, rentals of the copy, at least for films. *See* Case 158/86, Warner Bros. v. Christiansen, 1988 E.C.R. 2605, [1990] 3 C.M.L.R. 684, 690 (1988) (Opinion of the Advocate General).

³⁹ Renting a video may be a more affordable option for multiple viewers. Families or groups of friends who wish to see a motion picture in a cinema will generally need to buy a ticket for each person, whereas the single price for the video rental will allow the entire family or group of friends to view the film (in private), thus allowing the cost of the rental to be spread over the entire group, making the per-capita price of the rental much lower than the per-capita ticket price.

⁴⁰ CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES 95 (1999) (noting that for-profit “circulating libraries” survived into the 1950s).

⁴¹ This feature of U.S. copyright law’s first sale doctrine is also not universal. “A handful of countries, mainly in Europe, have adopted one or another form of public lending right aimed at giving authors, and in some cases publishers, a right of remuneration for library borrowings even though no money changes hands at the library counter.” PAUL GOLDSTEIN, INTERNATIONAL COPYRIGHT: PRINCIPLES, LAW, AND PRACTICE 258 (2001). The European Union has directed its member states to adopt such a lending right. *See* Council Directive 92/100/EEC, *supra* note 38, arts. 1, 5.

⁴² Indeed, since the marginal cost of using a library’s copy of a work is basically zero, economic theory suggests that library availability of a work might lead users to make more use of the work than if they had to pay a lump sum to acquire a copy or a pay-per-use charge such as a rental fee.

Of course, a library patron faces nonmonetary costs in borrowing the copy, such as waiting for the library to acquire a copy, waiting for the library’s copy to be available if it has been borrowed by another patron, being able to retain the copy only for a limited time, and possessing the copy subject to a recall by the library. Many patrons, though, may be willing and able to bear those nonmonetary costs while not being able or willing to pay the monetary price for a new or used copy of the work.

Many library patrons are, of course, paying for their access either directly, through a membership fee or borrowing charge, or indirectly, through a tuition charge or tax payments. In the case of tax-supported public libraries, though, some patrons—perhaps including those least able or willing to pay directly for access to copyrighted works—may pay little or no tax to support libraries, thus paying little or nothing even indirectly for their access to library copies. Even for those who do pay taxes or other fees to support libraries, libraries lower the cost of access to copyrighted works by acting as a cost-spreading mechanism. Libraries spread the cost of acquiring and maintaining copies of a large number and variety of works over a large population. By paying a certain dollar amount for library support, a patron may get access to far more works than if the patron used the same amount of money to purchase, or even rent, copies. And while, in the absence of libraries, individuals could perhaps themselves pool their funds to purchase copies that they would own jointly, libraries reduce many of the transaction costs involved in locating other individuals interested in sharing the purchase and ownership of copies of particular copyrighted works and of administering the shared ownership and joint use of the purchased copies and phonorecords.

In addition, libraries reduce the cost of access to works that consumers wish to consult but not to own. Consider an encyclopedia. I might want to read an encyclopedia entry on Iceland if I need to know about that country, but I may be unlikely to pay the cost to buy a full set of encyclopedias (or even the “I” volume if sold separately) just to read that single entry. If my only option is to buy a copy, then I am likely to forego my desired access to the work. A library, however, offers a lower-priced alternative to the purchase of the encyclopedia—borrowing or consulting the encyclopedia to read the desired entry.⁴³ Libraries thus provide more affordable access to copyrighted works where a consumer simply does not wish to pay to buy a copy of the work and where no rental market exists. This affordable access is pos-

⁴³ A similar situation might arise for a consumer who wished to listen to a particular recorded song a single time. For example, the consumer might want to hear the song’s lyrics to refresh her memory of them, but she might be unwilling to buy a complete CD or cassette simply to hear one of the songs on that recording one or two times. Borrowing a phonorecord of the song from the library gives the patron access to the song that she might otherwise forego if she had to buy a CD to get access. Another example might involve periodical back issues. A consumer may be willing to buy every issue of a daily newspaper or monthly magazine, but not to pay to store all of those issues for future reference.

sible because of the first sale doctrine, which allows libraries to lend the copies they own without the need to obtain a distribution license from the copyright owner.⁴⁴

5. Possible Negative Effects on Affordability

The first sale doctrine might make access to copyrighted works less affordable by undermining a copyright owner's ability to directly capture revenue from resales, rentals, and loans of her work.⁴⁵ Without the first sale doctrine, the copyright owner might charge a lower initial sale price, because she would be able to control subsequent sales, rentals, or loans of the copy and could charge directly for those uses (though presumably at a lower price than for the initial sale). The copyright owner could spread her desired return on each copy over the entire range of transfers expected over the life of the copy.

Given the existence of the first sale doctrine, though, a rational copyright owner will take into account her ability to control only the first sale of a new copy and the fact that after that sale, the copy will exist and may compete in the market against her other new copies.⁴⁶

⁴⁴ In the absence of the first sale doctrine, even a library that merely makes a copy available in its collection might require permission from the owner of the distribution right in the work. *See* *Hotaling v. Church of Jesus Christ of Latter-Day Saints*, 118 F.3d 199, 201 (4th Cir. 1997) (holding that making a copy of a work available in a library collection constituted a distribution of a copy of the work to the public).

Before the enactment of the 1976 Copyright Act, the first sale doctrine was apparently unnecessary to allow the activities of libraries because, until 1978, the copyright owner did not have the right to control distribution of copies to the public by loan. Instead, the copyright owner's control was limited to the exclusive right to "vend" the work, and libraries loan, rather than vend, copies. *See, e.g.*, Act of May 31, 1790, ch. 15, § 1, 1 Stat. 124.

⁴⁵ An additional potential negative effect of the first sale doctrine, though not one directly related to affordability or availability, is that it may steer investment in copyrighted works to the production of works for which there will not be significant demand in the secondary market and that will therefore face less price competition from that market. The first sale doctrine may make copyright owners more likely to produce consumable works (e.g., student workbooks, etc.), time-sensitive publications (e.g., almanacs, recordbooks, etc.), and works that can be revised frequently (e.g., casebooks and textbooks) than they would be if new copies of copyrighted works did not have to compete with used copies.

⁴⁶ Copyright owners are clearly aware of the impact of the availability of used copies on the sale of new copies. The Author's Guild in December 2000 complained in an open letter to Amazon.com about the retailer's marketing of used copies, which the Guild contends will harm sales of new copies. *See* Letty Cottin Pegrebin & Patricia S. Schroeder, Letter to Mr. Bezos (Dec. 2000), at http://www.authorsguild.com/news/cap_press_amazon.htm. The recording industry has repeatedly complained about mainstream retailers selling used CDs. *See* Brian Garrity et al., *CD Pricing, Used Sales Debated*, BILLBOARD, June 8, 2002, at 1.

So she will presumably wish to set the price for a new copy at a level that will compensate at least in part for the future sales of new copies that she will lose to resales, rentals, or loans of the sold copy. She might therefore try to charge a price for the first sale (the only transfer she can control) that reflects not only the value of the copy to the initial purchaser but also some of the value of subsequent uses of the copy.⁴⁷ This higher first sale price could decrease the affordability of the work in the form of new copies.

The first sale doctrine itself, though, appears to limit this potential negative impact on affordability in at least two ways. First, although copyright owners faced with the first sale doctrine may charge a higher price for the first sale of a copy, the buyer is getting more for that price. Specifically, the buyer gets the right to resell, rent, or lend that copy, and as noted above, even if the price paid for a new copy is higher, the potential *effective* price is lower, because the buyer can recoup some of the purchase price by reselling the copy when she no longer wants it. Second, in a system with the first sale doctrine, the copyright owner's ability to charge a higher sale price will be limited by the fact that at some point after she begins to make the work available, she will face some degree of price competition for access to the work from others offering copies for resale, rental, or lending. Presumably, the more the copyright owner charges for new copies, the more attractive used or rental copies will become for many buyers. The copyright owner might thus be able to charge a higher sale price when the work is first released, because those who want a copy of the work will have no alternative suppliers. Later, though, that higher price may drive potential customers away from the copyright owner to resellers, renters, or lenders. Indeed, current copyright industries often seek to segment their markets chronologically, charging higher prices early on (e.g., for hardback book sales and first-run cinema tickets) and lower prices later (e.g., for paperback or remaindered book sales and for airplane, cable, and television movie showings).⁴⁸

⁴⁷ Compare *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 425–26 (2d Cir. 1945) (discussing monopolist's policy of controlling the size of a product's secondary market, which competes with the monopolist's market for new products, by increasing the price charged for new products to reduce the supply available on the secondary market).

⁴⁸ This no doubt reflects not only the increase in price competition for access to the work once copies have begun to circulate, but also the fact that in many cases those who are willing to pay the highest price for access to the work will want to have access as early as possible, whereas those who are willing to wait for later access are likely also to be willing to pay less for access at any time.

Additionally, giving copyright owners control over all distributions of every copy of their works seems unlikely to increase the affordability of access to their works overall, even if they might set a lower price for the initial sale of a copy. Most importantly, the transaction costs that copyright owners would incur in exercising control over all subsequent distributions—by sale, rental, or lending—would seem substantial. If every used bookstore, video rental store, and library in the United States had to locate and negotiate with the copyright owner of every title they wished to resell, rent, or lend, and had to remit compensation to the copyright owner for each resale, rental, or loan, many fewer such transactions would likely take place, and the prices charged in those transactions that did occur would be higher than under the first sale doctrine to offset the transaction costs.

B. *Availability*

In addition to fostering public access to copyrighted works at a variety of prices, the first sale doctrine also assures that works remain available to the public over time, without regard to price. This availability effect has two dimensions. The first involves situations in which a copyright owner stops making a work available during the copyright term, either permanently or temporarily. Owners might do so for a variety of reasons, both economic and noneconomic. If the work in question was disseminated by the copyright owner through the distribution of copies, that distribution makes it *possible* for someone other than the copyright owner to supply copies of the work once the copyright owner decides not to do so. The first sale doctrine makes it *legal* for those third parties to do so. Second, the first sale doctrine helps ensure access by contributing to the preservation and survival of works over time.

1. Where Copyright Owner Ceases to Make Work Available

a. *Works Out of Print*

Copies of a work most often become unavailable from the copyright owner because the owner allows the work to go “out of print.”⁴⁹ Copyright owners discontinue the sale of copies of significant num-

⁴⁹ For these purposes, the term “out-of-print works” encompasses works that are no longer available for sale to the public. The term would also include works such as motion pictures and television programs that have never been distributed in copies and are no longer being broadcast or exhibited in cinemas.

bers of copyrighted books and sound recordings each year. With respect to sound recordings, one estimate is that sixty percent of all titles are out of print.⁵⁰ As for books, “[i]n 1999, some ninety thousand books—many worthless, many others valuable—went out of print, according to the rueful vice-chairman of Barnes & Noble”⁵¹ Another source suggests that about 120,000 book titles may go out of print each year.⁵² This is a substantial number, as somewhere between 70,000 and 120,000 new titles are published annually.⁵³ No doubt the decision to allow a work to go out of print is generally an economically rational one for the publisher, who presumably perceives insufficient demand for copies of the work to justify the expenses involved in creating, storing, transporting, and marketing copies in the quantity needed to make a profit.⁵⁴

Of course, the fact that demand is insufficient to make it economical for a particular publisher to keep the work in print does not mean that the demand for copies is nonexistent, or even necessarily negligible.⁵⁵ Some works may go out of print due to changes in media

⁵⁰ Ed Christman, *Record-Rama Revolves Around Inventory*, BILLBOARD, Oct. 2, 1993, at 72.

⁵¹ JASON EPSTEIN, *BOOK BUSINESS: PUBLISHING PAST, PRESENT, AND FUTURE* 16 (2001). Of the 187,280 book titles published in the United States between 1927 and 1946, only 4,267, or about 2.2%, were in print in 2002. Deirdre K. Mulligan & Jason M. Schultz, *Neglecting the National Memory*, 4 J. APP. PRAC. & PROCESS 451, 472 (2002). The trend of books going out of print seems reasonably constant, as Mulligan and Schultz report the following availability of books in 2001: 180 of the 13,470 titles published in 1910 (1.3% in print); 307 of the 8,422 titles published in 1920 (3.6% in print); 174 of the 10,027 titles published in 1930 (1.7% in print); 224 of the 11,328 titles published in 1940 (1.9% in print); and 431 of the 11,022 titles published in 1950 (3.9% in print). *Id.* at 462 n.33.

⁵² According to Andrew Grabois, senior director at R.R. Bowker Co., the company that produces *Books in Print*, over two million records in the *Books in Print* database have a status of out of print or out of stock indefinitely. The company no longer tracks out-of-print titles on an annual basis, but Mr. Grabois stated that when the company stopped doing so in about 1994, the number of titles that went out of print monthly was about 10,000. This number, according to Mr. Grabois, “is consistent with what the large book chains are experiencing today.” E-mail message from Andrew Grabois to Beth Youngdale, Librarian, University of Texas Law Library (Aug. 21, 2002) (on file with author).

⁵³ ANDRÉ SCHIFFRIN, *THE BUSINESS OF BOOKS* 7 (2000) (giving figure of 70,000); Gary Ink & Andrew Grabois, *Book Title Output and Average Prices: 1999 Final and 2000 Preliminary Figures*, in *THE BOWKER ANNUAL: LIBRARY AND BOOK TRADE ALMANAC* 485 (Dave Bogart ed., 2001) (reporting total of 119,357 titles published in 1999).

⁵⁴ The term “publisher” here encompasses not only traditional print publishers, but also any entity regularly engaged in distributing copies of copyrighted works to the public. Thus, film studios that sell DVDs and videocassettes of movies are “publishers,” as are record labels that sell CDs of sound recordings.

⁵⁵ See, e.g., Mark Brown, *Old Favorites: You Can Hear 'Em, But Just Try to Buy One*, DENVER ROCKY MOUNTAIN NEWS, Dec. 5, 1999, at 4D (noting that “the money scramble and licensing squabbles” can make popular recordings unavailable).

formats, such as the current transition from videocassettes to DVDs, as a copyright owner discontinues a work in an older format long before making it available in a new format.⁵⁶ In some instances, the structure of the industry may simply dictate that it is not profitable to produce and sell copies in limited numbers.⁵⁷ “Older books . . . are . . . put out of print if they do not sell an ever stricter minimum amount of copies, often as few as 2,000 a year. As a result, many classics are no longer available.”⁵⁸ And the existence of secondary markets for books and recordings, as well as services that will search for used copies of out-of-print works, indicates that demand exists for access to many out-of-print works. The first sale doctrine, in copyright markets in which works are widely disseminated by the sale of copies to the public, helps provide access to out-of-print works. Those who wish to read, watch, or listen to a work that is out of print might be able to acquire a used copy of the work, or to rent or borrow a copy.⁵⁹ The first sale doctrine thus helps ensure that even when demand for a work falls below the point at which it is profitable for the copyright owner to continue to sell copies of the work, the work may remain available to the public.

⁵⁶ Peter M. Nichols, *Home Video: Classics on VHS Are Fading Out*, N.Y. TIMES, Jan. 17, 2003, at B36 (“[Some film titles] are available on DVD, but others cut from VHS aren’t and won’t be at least for a while. ‘Studios are good at putting out DVDs, but they have so much it could take years for stuff that goes off the VHS market to come back on in DVD,’ said Irv Slifkin of Movies Unlimited, a Philadelphia mail-order distributor.”).

⁵⁷ In a perfect market, one would expect that a firm that owned the copyright in a work but found it unprofitable to produce and sell copies at the level at which they are demanded would sell its copyright interest to a firm, perhaps a niche producer, which could produce the small number of copies required to fill demand and do so at a profit. In the actual market, however, few such firms might exist, or the larger copyright owner might view such a firm as a competitor and so choose to withhold the copyright, and keep the book out of print, rather than assist a competitor in producing a profitable product. Indeed, the copyright owner might keep the book out of print, rather than licensing the rights to a competitor, in the hope that some consumers who wish to buy the out-of-print book will instead find that another title issued by the copyright owner is an acceptable substitute and will purchase a copy of that title instead.

⁵⁸ SCHIFFRIN, *supra* note 53, at 117–18.

⁵⁹ See Karen Bruno, *Footlight Caters to Soundtrack Collectors*, BILLBOARD, Mar. 12, 1994, at 46. One record store owner refuses to sell the last copy of any item. “Of course, since Record-Rama won’t sell the last copy of any title, sometimes a sought-after record may be on its shelf. But in the interest of making sure everyone has access to the music—even rare, out-of-print titles—[the owner] runs a record-rental business.” Christman, *supra* note 50, at 72. Although Congress in 1984 prohibited commercial rental of copyrighted sound recordings without the copyright owners’ consent, the prohibition does not bar someone who owned a particular record before that law was enacted from renting out that particular record. Pub. L. No. 98-450, § 4(b), 98 Stat. 1727, 1728 (1984). For further discussion see *infra* notes 138-140, and accompanying text.

b. *Withdrawal or Suppression of Work by Copyright Owner*

Copies of a work may also become unavailable because the copyright owner refuses to supply them, rather than merely allowing the work to go out of print. Copyright owners may actively suppress a work for a number of reasons.⁶⁰ The author of a work may become dissatisfied with it, perhaps believing that it is of inferior quality in comparison to her other works, or that it represents views that have substantially changed. After the silent-film era, for example, actress Mary Pickford withheld her films from television and cinemas and threatened to burn them, afraid that future viewers would laugh at her.⁶¹ The story of the recording of the Cat Stevens song *Peace Train* by the band 10,000 Maniacs offers another example. The band included its recording of the song on its multi-platinum 1987 album *In My Tribe*. In 1989, when songwriter Stevens was reported as supporting the *fatwa* against author Salman Rushdie, 10,000 Maniacs removed their version of *Peace Train* from future pressings of the album and stopped performing it.⁶² Copies of the band's version of the song were thus no longer available from the copyright owner.

In some cases, an author's heirs, as successors to her copyright, may seek to suppress a work. Lord Macaulay pointed out that James Boswell's son felt that Boswell's *Life of Johnson* portrayed Boswell "in a ludicrous and degrading light" and that had the son succeeded to the father's copyright he would likely have suppressed the work.⁶³ In general, if an author (or her heir) owns the copyright in a work, she may refuse to allow any further exploitation of the work, whether by sale of copies or by performance or display. In effect, the author seeks to use

⁶⁰ In addition to the types of suppression discussed in the text, a copyright owner might refuse to sell copies of a work to particular customers. For example, a British publishing company recently refused to sell a copy of a book to an Israeli university, "due to the actions of the Israeli government." Helena Flusfeder, *Israelis Fight Cut to Book Supply*, *TIMES HIGHER EDUC. SUPP.*, Nov. 1, 2002, at 48. In such situations, as discussed below, the first sale doctrine allows the refused customer to obtain a copy of the work from a source other than the copyright owner.

⁶¹ EILEEN WHITFIELD, *PICKFORD: THE WOMAN WHO MADE HOLLYWOOD* 1-2, 370-72 (1997).

⁶² See Allan Laing, *Journey of a Troubled Soul*, *HERALD* (Glasgow), Dec. 8, 2001, at 12; Steve Johnson, *A Peace Plan High on Harmony, Low on Steam*, *CHI. TRIB.*, May 13, 1992, at 2-2; *20/20 Downtown: The Cat's Many Lives* (ABC television broadcast, July 9, 2001).

⁶³ THOMAS MACAULAY, Speech Before the House of Commons (Feb. 5, 1841), in 8 *THE WORKS OF LORD MACAULAY* 195, 206 (Lady Trevelyan ed., 1866), quoted in Wendy J. Gordon, *Authors, Publishers, and Public Goods: Trading Gold for Dross*, 36 *LOY. L.A. L. REV.* 159, 187-88 (2002).

the copyright in the way an author could use the right of withdrawal in some countries that recognize moral rights.⁶⁴

In many cases, of course, a dissatisfied author will have transferred the copyright to a publisher in order to benefit from the publisher's superior resources for exploiting the work. In the United States, where moral rights are generally not recognized, such a dissatisfied author-transferor would not be able to use an inalienable moral right of withdrawal to discontinue exploitation of the work. Instead, absent any contractual arrangement to the contrary between the author-transferor and the publisher-transferee, the publisher will be free to disregard the author's (or her heir's) wishes and continue to make the work available to the public.⁶⁵ But even in these circumstances, the author or her heirs may at some point be able to implement the desire to withdraw the work. United States copyright law gives authors (or their designated statutory successors) an inalienable and unwaivable power to terminate their transfers of copyright, generally during a five-year period starting thirty-five years after the transfer is signed.⁶⁶ Thus, a dissatisfied author may be able to terminate the publisher's copyright interest, reclaim her ownership of the work's copyright, and prevent further dissemination of the work. Indeed, the Supreme Court has expressly recognized the possibility that the reversion of rights to the author may result in the work being withheld from the public: "[N]othing in the copyright statute would prevent an author from hoarding all of his works during the term of the copyright."⁶⁷

⁶⁴ See GOLDSTEIN, *supra* note 41, at 290; Neil Netanel, *Copyright Alienability Restrictions and the Enhancement of Author Autonomy: A Normative Evaluation*, 24 RUTGERS L.J. 347, 385–86 (1993).

⁶⁵ An example of such a situation might be the music group Ministry's first album, *With Sympathy*. The group's lead singer now "detests" and "disclaims" the early work, which is radically different from its later work and which he claims resulted from coercion by the recording company. See, e.g., Robert Hilburn, *The Face of Fame, The Face of Anger*, L.A. TIMES, Aug. 2, 1992, Calendar, at 2; Marty Hughley, *Dark Side of the Tune*, OREGONIAN, Aug. 13, 1999, Arts & Living, at 43; Jim Sullivan, *Ministry's Vicious and Fierce Music*, BOSTON GLOBE, Jan. 13, 1990, Arts & Film, at 12. If, as is common, the recording company owns the copyright in the album, then the group may well denounce their early work, but they will not have the authority to stop further circulation of it.

⁶⁶ See 17 U.S.C. § 203 (2000). Termination is not available for works made for hire, and termination does not extinguish all of a transferee's rights to exploit a derivative work. Before the 1976 Copyright Act, the renewal provisions of copyright law gave authors a similar, though less certain, opportunity to reclaim copyright ownership that had been transferred to a third party by vesting the renewal term of copyright in the original author rather than in the party that owned the copyright at the time of renewal.

⁶⁷ *Stewart v. Abend*, 495 U.S. 207, 228–29 (1990).

Although withdrawing copyright owners might most commonly be dissatisfied human authors, they might also, in some circumstances, be corporate authors or copyright owners.⁶⁸ For example, companies may decide that their works are no longer appropriate or that disseminating the works will bring public opprobrium.⁶⁹ In those situations, the company might well discontinue all exploitation of the work.⁷⁰ *Silverman v. CBS Inc.* presents an example of this situation.⁷¹ CBS owned the copyright in many radio and all television episodes of *The Amos 'n' Andy Show*. The TV program originally aired from 1951 to 1953, and continued airing in reruns and syndication thereafter.⁷² In response to complaints from civil rights organizations that the programs were demeaning, CBS in 1966 decided to take the TV episodes off the air. For at least twenty-one years, CBS did not allow the transmission of any of the radio or TV episodes, and as of 1989 had “no current plans to use the [works] within the foreseeable future.”⁷³ As a result, people who had an interest in viewing or listening to *Amos 'n' Andy* episodes could not obtain access to them through the copyright owner.⁷⁴ Given that works remain under copyright protection for at least seventy years and in some cases perhaps up to 150 years, it may not be unusual for attitudes to change significantly during a work’s copyright term, such that a copyright owner might choose to shelve a work entirely for fear of offending some segment of the public.⁷⁵ In-

⁶⁸ A corporate entity can be an “author” because the work-made-for-hire provisions of the 1976 Act deem the employer to be the “author,” and not merely the initial copyright owner, of any work made for hire. 17 U.S.C. § 201(b).

⁶⁹ Other motives might lead to withdrawal. Harper’s was preparing to publish the book Leo Trotsky was writing when he was murdered in 1940, but the prospect of a war in which the United States would be allied with Stalin’s Soviet Union led the editor, after consulting a friend in the State Department, to hold the book. “Accordingly, the copies of Trotsky’s books that had already been printed were left to gather dust in the Harper’s warehouse until the end of the war.” SCHIFFRIN, *supra* note 53, at 131.

⁷⁰ As an economic matter, if there is even a limited market for the work, it might be rational for the company to sell its copyright interests to another entity that is willing to distribute the work to that market, but it is clear that such economically rational behavior does not always occur, as the examples in the text indicate.

⁷¹ 870 F.2d 40, 42 (2d Cir. 1989).

⁷² *Id.*

⁷³ *Id.* at 45.

⁷⁴ In fact, pre-1948 radio episodes of *Amos 'n' Andy* were in the public domain due to nonrenewal, so copies of those episodes might have been available to the public. *Id.* at 43.

⁷⁵ The basic term of copyright is the life of the author plus an additional seventy years. 17 U.S.C. § 302(a) (2000). Thus, if the author dies as soon as the work is completed, the copyright will last for seventy years. If, on the other hand, the author completes the work at a young age, say twenty, and lives a long life, say to age 100, the work will be protected by

deed, a recent skirmish over Speedy Gonzales cartoons suggests that the *Amos 'n' Andy* incident is not entirely an isolated one.⁷⁶

Worldwide Church of God v. Philadelphia Church of God, Inc. offers another example of a corporate copyright owner suppressing a work.⁷⁷ In that case, Herbert Armstrong, the founder and longtime leader of the plaintiff Worldwide Church of God (WCG), wrote a book entitled *Mystery of the Ages* when he was ninety-two years old. He died shortly after completing the work, and WCG distributed over nine million copies of the work to the public free of charge.⁷⁸ Within two years, however, WCG decided that the work contained ecclesiastical, historical, doctrinal, and social errors,⁷⁹ and “conveyed outdated views that were racist in nature.”⁸⁰ WCG then destroyed nearly all copies of *Mystery* in its possession and ceased all further dissemination of the work. WCG explained that it “kept [*Mystery*] out of print based on a ‘Christian duty’ to keep [its] doctrinal errors out of circulation.”⁸¹ Although WCG had vague plans to issue an annotated edition of *Mystery*, it apparently had taken no steps toward such an edition more than a decade after it ceased publishing the work.⁸²

In situations such as these, in which an author or copyright owner decides to withdraw a work from circulation, the first sale doctrine provides the public with an alternative means of access to the work, at least where the work has been distributed in copies. Once the copyright owner places authorized copies in circulation, she will be unable as a matter of copyright law to control the further circulation of those copies.⁸³ Even if the copyright owner refuses to issue a single

copyright for 150 years. For works made for hire, the term of copyright is the shorter of ninety-five years from publication or 120 years from creation. *Id.* § 302(c).

⁷⁶ See Tom Kuntz, *Adiòs, Speedy. Not So Fast.*, N.Y. TIMES, Apr. 7, 2002, at 4–3 (reporting allegations in the Hispanic community that Warner Brothers cartoons featuring the character Speedy Gonzales were largely absent from the programming of The Cartoon Network because of network fears that the cartoons embody negative stereotypes); see also John Leland & John W. Fountain, *Film Brings in Cash and Controversy*, N.Y. TIMES, Sept. 26, 2002, at A25 (reporting calls for the deletion of jokes mocking Martin Luther King, Jr. and Rosa Parks from video and DVD releases of the film *Barbershop*).

⁷⁷ 227 F.3d 1110, 1113 (9th Cir. 2000).

⁷⁸ *Id.* About eight million copies were distributed in serial format in the church’s magazine, while 1.24 million copies were distributed in book form. *Id.*

⁷⁹ *Id.* at 1113, 1119; *id.* at 1122 (Brunetti, J., dissenting).

⁸⁰ *Id.* at 1113.

⁸¹ *Id.* at 1122 (Brunetti, J., dissenting).

⁸² *Id.* at 1119, *id.* at 1122 (Brunetti, J., dissenting).

⁸³ She could, of course, attempt to buy back all existing copies. Although copyright law would present no obstacle to such an attempt, it would also not provide her any assistance. Such an effort would seem difficult and, in the case of any work distributed in significant

additional copy during the copyright term, those who want access to the work can still borrow copies that exist in libraries or buy used copies that turn up on the resale market.⁸⁴ Although such methods of access may be less convenient and affordable than buying a copy of a work that is maintained in print by its publisher, they give the public a much greater opportunity to encounter a work than would exist without the first sale doctrine and the distribution of copies. Indeed, the *Silverman* and *Worldwide Church of God* cases offer an instructive contrast. Because episodes of television programs were not generally distributed to the public by the sale of copies prior to 1966, when CBS withdrew *Amos 'n' Andy*, that decision apparently was effective in denying the public virtually all access to the series.⁸⁵ By contrast, WCG had distributed millions of copies of *Mystery of the Ages* in its two years of publication, so that even after WCG withdrew the work, many individuals owned copies that they could read or resell, and the work remained available in “some libraries and used bookstores.”⁸⁶

Is this availability effect good or bad? Continued public access to a work, even in the face of a copyright owner's desire to suppress the work, is generally a salutary effect of the first sale doctrine. Copyright law seeks to encourage the creation *and* dissemination of works of authorship, and some dissemination is better than none.⁸⁷ Although the law might not take a strong position on whether an individual consumer who wishes to see an *Amos 'n' Andy* episode should be able to

numbers, extremely expensive. And if some copies are held by libraries, they seem unlikely to be interested in selling their copies back to a copyright owner who wishes to withdraw the work, given their mission of circulating information.

⁸⁴ In addition, the existence of copies outside the control of the copyright owner may ensure that the work is available to competitors after the copyright term expires, so that those competitors will be able, if they choose, to reprint or otherwise exploit the work. Thus, this availability effect of the first sale doctrine also has an impact on affordability, by allowing competitors to supply copies of the work once it enters the public domain.

⁸⁵ CBS licensed the use of one complete episode of *The Amos 'n' Andy Show* and several excerpts in a 1984 independent documentary, *Amos 'n' Andy: Anatomy of a Controversy*. It has also allowed clips to be used in a documentary aired on its affiliated network, TV Land, and in a TV special documenting the fiftieth anniversary of the CBS Television City studio complex. See e-mail from Elizabeth McLeod, radio and TV historian, to Bert Greene, Law Student, University of Texas (July 17, 2002) (on file with author).

⁸⁶ *Worldwide Church of God*, 227 F.3d at 1123 (Brunetti, J., dissenting). Although the book may have been “difficult to obtain through usual channels,” it was at least possible to obtain copies. *Id.*

⁸⁷ See, e.g., *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 158 (1948) (“[R]eward to the author . . . serves to induce release to the public of the products of his creative genius.”); *Fox Film Corp. v. Doyal*, 286 U.S. 123, 127 (1932) (“The . . . primary object in conferring the [copyright] monopoly lie[s] in the general benefits derived by the public from the labors of authors.”).

do so, it seems better to facilitate access to previously publicly disseminated works where possible.⁸⁸

Where the copyright owner has already exploited the work to the public, some members of the public may have fairly persuasive arguments in favor of access to particular copyrighted works. Such claims might arise from an individual's personal connection to a work. Imagine, for example, not being able to reread your favorite novel—not being able to read again a work that may have significant intellectual, emotional, and artistic resonance for you—because the copyright owner believes that the work is not good enough and declines to make further copies available. Or imagine a couple not being able to listen to a recording of “their song”—the soundtrack, as it were, to their meeting and courtship.⁸⁹ Although such individuals' claims for access to such works might not be sufficient to justify requiring copyright owners to make works available, their claims do seem strong enough to consider the availability that results from the first sale doctrine as a benefit of the doctrine.

In some situations, reasons for wanting to keep works accessible may be even stronger. Watching episodes of *Amos 'n' Andy* might provide a social or cultural historian or drama critic with useful information or important insights that would help shape her own work, and the same could well be true of many works of popular culture, literature, art, and information. Also, availability of the works themselves to a wider public would allow that public to judge for itself the claims made by the historian or critic.

The *Worldwide Church of God* case presents an example of an extremely strong reason for thinking that preserving access to copyrighted works benefits the public. In that case, WCG's doctrinal shift away from its founder's positions led to a schism, and two “defrocked” WCG ministers founded the defendant church to adhere to the doc-

⁸⁸ The first sale doctrine's availability effect has probably increased in importance as the copyright term has lengthened. For the first 120 years of U.S. copyright law, the longest time that anyone would have to wait for a work to enter the public domain, and thus escape from a copyright owner's ability to suppress it, was forty-two years. Until 1976, the longest wait would be 56 years. Today, the *shortest* period of a copyright owner's exclusive control is 70 years, and the longest period could stretch to 150 years in some cases.

⁸⁹ See, e.g., COLE PORTER, *Begin the Beguine*, in THE COMPLETE LYRICS OF COLE PORTER 133 (Robert Kimball ed., 1983); see also L. A. Johnson, *They're Playing Our Song: Couples Reflect on the Soundtrack of their Relationships*, PITTSBURGH POST-GAZETTE, Feb. 11, 1999, at D1 (“Some couples love their song because it was playing at a special place or during a defining moment in their relationship. Other couples love their song because the words describe their relationship. Songs—as well as rituals and experiences they don't share with others help define a couple's union as special.”).

trine espoused by WCG's founder. The splinter church viewed *Mystery* "as a divinely inspired text necessary for proper interpretation of the Bible"⁹⁰ and as "the core text essential to its members' religious observance."⁹¹ Indeed, the splinter church made reading the text a requirement for baptism.⁹² Because the copyright owner had withdrawn the work from further publication, access to previously circulated copies, facilitated by the first sale doctrine, provided the only way for the church and its members to obtain access legally to what they viewed as the central text of their religious experience.

In sum, the first sale doctrine helps ensure some access to copyrighted works even over the objections of copyright owners, at least for works that have been distributed in copies.⁹³ Although copyright owners may well have legitimate and economically rational reasons for withdrawing a work, many members of the public will also have legitimate interests in continuing access to such works. The first sale doctrine mediates between those competing interests, allowing a copyright owner who has distributed copies to limit access to her work by refusing to produce and distribute any further copies, but offering the public an alternative avenue by which *some* access to the work is possible.⁹⁴ The doctrine ensures that copyright law protects copyright

⁹⁰ *Worldwide Church of God*, 227 F.3d at 1122 (Brunetti, J., dissenting).

⁹¹ *Id.* at 1118.

⁹² *Id.* at 1122 (Brunetti, J., dissenting).

⁹³ Indeed, in some cases, the first sale doctrine will allow a work to circulate where the work's human *author* wishes it to do so, even though the work's *copyright owner* does not wish to engage in further dissemination.

⁹⁴ In a sense, an author's decision to publish a work is essentially irreversible, in that the author has no guarantee that she will later be able, if she wishes, to retrieve the work entirely. Even if the author has not distributed copies of the work but has merely publicly performed it or displayed it, she will be unable to erase it from the memory of those who witnessed the display or performance. The accuracy and comprehensiveness of the memories of the work will obviously vary with the audience member and the length and type of work involved, as well as the frequency with which it is displayed or performed. Many radio listeners could perhaps quite accurately perform musical works they have heard repeatedly, while movie- and theatergoers would no doubt be harder pressed to recreate the films and plays they see, though some could no doubt recite substantial portions of dialogue, and some could certainly write a summary of the film that would be detailed enough to infringe on the work's copyright. *See, e.g.,* *Tompkins v. Halleck*, 133 Mass. 32, 33 (1882) ("[O]ne Byron and one Mora attended the representation [of the plaintiff's play at a theater], on three or more occasions, with the intent of copying and reproducing the drama as there enacted. Byron committed as much of the play as he could to memory, and, after each performance, dictated it to Mora until the copy was completed. [The performance of the play from Byron's manuscript was] found to be in all substantial particulars identical with the plaintiff's drama . . .").

The inability to effectively withdraw a work after it has been made public might lead an author never to publish the work in the first place. But this consequence of publication

owners' rights but does not give them the extreme version of control over information that existed for many years in the Soviet Union, where changes in politics would lead not just to new editions of books, but to previously circulated copies of books being withdrawn or physically altered.⁹⁵

c. *Temporary Withdrawal for Marketing Reasons*

Even when a copyright owner has no objections to the continued dissemination of her work, copies can become unavailable from the copyright owner because she purposely, though temporarily, withholds the work as part of a marketing strategy. Disney, for example, routinely uses such a strategy in marketing many of its animated films. The company makes a film available to the public for a limited time, both for viewing in theaters and for purchase on videocassette or DVD, and then withdraws the film from the market for a number of years, allowing demand for the film to build up by making access to it artificially scarce.⁹⁶ This may indeed be a savvy marketing strategy on Disney's part, and might earn it a greater return on sales of tickets and copies than it would earn if it continually sold copies of its films with no moratoria. But the practice means that a consumer who wishes to see a particular film at a particular time will not be able to obtain access to the film from the copyright owner—either in the form of a copy for rental or purchase or a performance for viewing—

has largely been true in U.S. copyright law for over 200 years and does not seem to have seriously diminished the quantity and quality of copyrighted works made available to the public.

⁹⁵ See, e.g., DAVID KING, *THE COMMISSAR VANISHES: THE FALSIFICATION OF PHOTOGRAPHS AND ART IN STALIN'S RUSSIA* 10–12 (1997). After Lavrenti Beria, the head of the KGB's predecessor organization, was executed, subscribers to the *Great Soviet Encyclopedia* were sent pages to replace the positive article on Beria that was originally printed in the "B" volume of the encyclopedia with one on the Bering Sea. See CHRISTOPHER ANDREW & VASILI MITROKHIN, *THE SWORD AND THE SHIELD* 2 (1999); CHARLES R. MORRIS, *IRON DESTINIES, LOST OPPORTUNITIES* 84 (1988). Such tactics apparently continue today, though perhaps with less success than in the Soviet Union. The publisher of the journal *Human Immunology* decided to withdraw a controversial article it had published in September 2001. "Elsevier Science [the publisher of the electronic database in which the journal appeared] removed the electronic version of the article and sent a letter to subscribers telling them to ignore it in the print edition or, preferably, to 'physically remove the relevant pages.'" Andrea L. Foster, *Elsevier's Vanishing Act*, *CHRON. OF HIGHER EDUC.*, Jan. 10, 2003, at A27.

⁹⁶ See, e.g., Peter M. Nichols, *'Beauty' Was Big, But Make Way for 'Aladdin,'* *N.Y. TIMES*, Sept. 12, 1993, § 2, at 42. Disney is not the only film studio to engage in this practice, though other studios apparently generally withdraw films for shorter periods. See Daniel Cerone, *The Seven-Year Hitch*, *L.A. TIMES*, Mar. 19, 1991, at F-1.

at the time that the consumer wants access. Indeed, the consumer might have to wait several years for the copyright owner to offer access to the film.

Here again, the distribution of copies to the public and the operation of the first sale doctrine combine to provide an alternative avenue of access to a work that the copyright owner withholds. The consumer who cannot buy a copy of a Disney film from Disney at any particular time may nonetheless be able to buy the film on a used videocassette or DVD from someone who bought a copy when Disney was selling them. Even if the consumer cannot buy a used copy, she may be able to rent one from a video store or borrow one from a library. Again, this availability may be more than just a convenience. Given that a Disney movie can be unavailable from the copyright owner for years at a time, the first sale doctrine might allow, for example, a parent to share her favorite Disney film from her childhood with her own children when they are at the appropriate age for the film. If the parent must wait to get access to the film on Disney's schedule, she may find that when Disney re-releases the film her child is too old to enjoy it fully.⁹⁷ Given the importance of copyrighted works to many people, facilitating individuals' access to works without waiting for the copyright owners to re-release them seems a beneficial effect of the first sale doctrine.

2. Preservation of Copyrighted Works

The distribution of works to the public in the form of copies also plays a role in the preservation of works over time. Preservation raises many issues of access similar to those already considered in this section, but concerns an even wider variety of works and over a much greater period of time. Will a particular work exist at all fifty years after it is created, or 200 years later, when it will likely have entered the public domain?

⁹⁷ See Cerone, *supra* note 96, at F-1.

If you're a parent waiting patiently for your toddlers to grow a wee bit older before buying them one of those classic Walt Disney animated films you've seen advertised on videocassette, you might want to reconsider your plans. With Walt Disney Home Video's limited-time only policy, which removes animated classics from the marketplace after a prescribed time period, your children may hit puberty before the title you want becomes available again—if it becomes available at all.

Id.

Distributing works in multiple copies to a variety of owners can help ensure that a work will survive longer into the future. History shows that dispersed ownership of copies contributes to a work's survival:

The works of authors such as Homer and Virgil survived intact because of their enduring popularity and the multiple copies that were made at different times. But many of the works that we regard as fixtures of our culture (including Plato) were lost for centuries and are known to us only because of a copy or two that turned up in medieval monasteries or in the collections of Arab scholars. Some works of undoubted greatness did not survive at all: Sophocles is known to have written some one hundred and twenty plays, of which we possess only nine.⁹⁸

The survival effect of the proliferation of copies applies not only to works of literature and philosophy, but also to important historical material. For example, *The Book of the Icelanders*, a history of Iceland's first 250 years, was written in the early 1100s. In the seventeenth century, two paper transcripts of the book were made from a vellum manuscript dating from around 1200. Within a few decades, the vellum manuscript was lost and the book is known today only from the two paper copies.⁹⁹ Contemporary preservationists have learned the historical lesson that disseminating many copies of a work helps the work survive and sometimes use wide distribution of copies as an in-

⁹⁸ ALEXANDER STILLE, *THE FUTURE OF THE PAST* 308 (2002); see also J.O. Ward, *Alexandria and its Medieval Legacy*, in *THE LIBRARY OF ALEXANDRIA: CENTRE OF LEARNING IN THE ANCIENT WORLD* 163, 167–68 (Roy MacLeod ed., 2000) (“[W]e should not assume that the survival of even the best items was an easy matter. During the low ebb of the Dark Ages, say 550–750 AD, books almost ceased to be copied, meaning that even such literature as had survived the late antique disasters was at risk of disappearing. . . . Many texts hung by a single thread . . . and would require good luck in the centuries to follow.”).

⁹⁹ Margrét Eggertsdóttir, *Manuscript Resources in Iceland* 3–4, available at <http://www.asu.edu/clas/acmrs/Eggsdottir.pdf> (last visited Jan. 15, 2003); see also ARI THORGILSSON, *THE BOOK OF THE ICELANDERS* 40 (Halldor Hermannsson ed. trans., 1930).

tentional strategy for long-term preservation.¹⁰⁰ One organization calls this archiving principle “Lots of Copies Keeps Stuff Safe.”¹⁰¹

Why does dispersed ownership of copies contribute to a work’s survival? Copies, like all physical objects, are subject to the ravages of time, use, environmental conditions, and other factors. The more copies of a work that exist, the higher the probability that some copy or copies will survive those ravages.¹⁰² As one historian noted, throughout history

[t]he great concentrations of books, usually found in the centres of power, were the main victims of . . . destructive outbreaks, ruinous attacks, sackings and fires. . . . In consequence, what has come down to us is derived not from the great centres but from “marginal” locations, such as convents, and from scattered private copies.¹⁰³

If a work exists in hundreds or thousands of copies, there is a statistically greater chance that some copy will survive over time than if the work exists only in a single copy or a limited number of copies. Assume, for example, that any single copy of a work has a one in one hundred chance of being destroyed by any cause in any given year. If only one copy of the work exists, then after 200 years the chance that the copy still survives is only 13%.¹⁰⁴ On the other hand, if one hundred copies exist in separate places, each facing a one in one hundred

¹⁰⁰ See, e.g., Kendra Mayfield, *Word Up: Keeping Languages Alive*, WIREDNEWS, Nov. 4, 2002, at <http://www.wired.com/news/print/0,1294,54345,00.html> (linguists seeking to preserve information about dying languages for future generations plan to mass-produce long-lasting analog disks of information and distribute them worldwide); Claire Tristram, *Data Extinction*, TECH. REV., Oct. 2002, at 37, 42 (describing researcher’s plan for detailing a “virtual” computer in a few pages of text “which could be distributed via the Web and copied out on paper everywhere, assuring their survival”).

¹⁰¹ “Collections among . . . libraries are redundant, distributed, decentralized,” which “ensures that readers don’t lose access to the documents at the whim of the publisher, by malicious act, by natural disaster, by official edict, or simply by being lost.” See LOCKSS: *Project Descriptions - Frequently Asked Questions*, at <http://lockss.stanford.edu/projectdesfaq.htm> (last visited Apr. 2, 2003); see also The Long Now Foundation, *Rosetta Disk*, at <http://www.rosettaproject.org:8080/live/disk> (last visited Feb. 28, 2003).

¹⁰² See, e.g., ANTHONY SLIDE, NITRATE WON’T WAIT 21 (1992) (“In the 1970s, the Museum of Modern Art was able to acquire from Eastern Europe a print of [D.W.] Griffith’s 1919 feature, *A Romance of Happy Valley*. Almost 30 years earlier, [its curator] had turned down the opportunity to acquire the only surviving nitrate print of the film in the United States.”).

¹⁰³ LUCIANO CANFORA, *THE VANISHED LIBRARY 196–97* (Martin Ryle trans., 1987).

¹⁰⁴ Under the assumptions given, for one copy, the chance that the copy still exists at the end of one year is 0.99. The chance that the copy still exists at the end of 200 years is $.99^{200}$, or .133, just over thirteen percent.

chance of being destroyed each year, then after 200 years the chance that at least one copy still survives is 99.9999944%.¹⁰⁵

Distribution of copies increases a work's chances of survival beyond the mere raw probabilistic increase of sheer numbers of copies. If a copyright owner sells copies to a variety of owners, many owners will likely maintain their copies under somewhat different conditions. Some copies may be quickly discarded; others will be retained. Some copies will be heavily used; others will hardly be used at all. Some copies will be kept in locations with low humidity or low temperatures, others at high temperatures or humidity. Some copies will be in locations well protected against fire, others in places not very susceptible to floods. Some copies will be held by institutions, such as libraries and archives, that consciously seek to provide the optimal environment to maximize the life of the copies they own and that have the technical resources to maintain and preserve those copies. Overall, the greater the diversity of environments in which copies of a work exist, the more likely it is that some copies will reside in locations and under conditions that will allow them to survive.

The Dawson City collection of films from the 1920s offers one dramatic example of the preservation impact of diversely situated copy holders.¹⁰⁶ Dawson City in the Yukon was the end of a geographic chain of distribution for motion pictures in the 1920s. At the time, motion picture prints were often shown in one town and then sent to the next town in the chain to be shown there, before being sent on yet again. Motion picture copyright owners generally retained ownership in the prints they sent to theaters for exhibition and required those prints to be returned when the movie's run ended in the final town in the distribution chain. Films that ended up in Dawson City, however, apparently were often allowed to remain there to save the expense of returning the prints to the studios. By 1929, some 500

¹⁰⁵ If 100 copies exist, at the end of 200 years either all of the copies will have been destroyed or some copy or copies will have survived. The likelihood that all copies are destroyed, plus the likelihood that not all copies are destroyed, must equal 1, so the likelihood that not all copies are destroyed is equal to 1 minus the likelihood that all of the copies are destroyed. At the end of 200 years, the likelihood that any one copy has been destroyed is 0.87 (given that the likelihood of that one copy surviving is, as noted in note 104, 0.13). The likelihood that all 100 copies have been destroyed at the end of 200 years is therefore 0.87^{100} , or 0.000000056. The likelihood that *not* all 100 copies have been destroyed—that is, that at least one copy has survived—is therefore 1 minus 0.000000056, or 0.999999944, or 99.9999944%.

¹⁰⁶ See Sam Kula, *There's Film in Them Thar Hills!*, AMER. FILM, July/Aug. 1979, at 14; see also SLIDE, *supra* note 102, at 99–101.

reels had accumulated and were used to fill in a swimming pool that was being covered over to build an ice rink. In 1978, excavation for a building project uncovered the reels. They were in surprisingly good condition in large part because of the extremely cold climate of the region: low temperature is the only known retardant of the deterioration of the nitrate film on which early motion pictures were printed. The end result of the fortuity that led the film copies to remain in the Yukon is that at least portions of some motion pictures that otherwise do not exist can be seen today.¹⁰⁷ Although other copies of those motion pictures had been made when the films were originally shown, those other copies had, in some cases, been lost or destroyed or had deteriorated.¹⁰⁸

Copy ownership thus leads to preservation, and distributing copies of a work to the public increases, perhaps significantly, the likelihood that a work will survive into the future. The first sale doctrine plays a key role in this “preservation effect” of diverse copy ownership. Some consumers who acquire copies of a work might be less likely to do so if they could not later resell those copies. Libraries, in particular, would have far less incentive to buy copies, and to pay to store them, if they could not freely lend those copies to their patrons. Furthermore, most libraries would presumably be unable to engage in extensive preservation efforts for copies that will only be able to circulate many, many years in the future, when a copyright eventually expires. In addition, the doctrine allows the free flow of copies to an increased variety of environments. The secondary sale market means that different consumers than those who initially bought copies from the copyright owner can acquire copies, increasing the chances that copies will be held in different places and under different conditions. Finally, the first sale doctrine contributes directly to the survival of copies over time. Many copies would eventually disappear without the first sale doctrine: the consumer who is moving, has run out of shelf

¹⁰⁷ See Kula, *supra* note 106, at 15 (noting that the majority of the films recovered were considered to have been lost); *id.* at 18 (noting that among the films recovered was “the only known surviving copy” of a 1917 Harold Lloyd film); Library of Congress, Motion Pictures in the Library of Congress, at <http://lcweb.loc.gov/rr/mopic/mpcoll.html> (Apr. 24, 2002).

¹⁰⁸ Of course, the first sale doctrine probably would not apply to the Dawson City film prints, because those copies presumably had been *licensed* rather than sold to exhibitors. The example simply illustrates that the greater the variety of environments in which copies exist, the higher the likelihood that some of those copies will survive. The first sale doctrine, by facilitating a market in ownership of copies of a work, helps to increase the variety of owners and storage environments for those copies.

space, or simply no longer wants the copy would presumably discard it if she could not sell or donate the used copy to some other owner.

Why is preserving copyrighted works a good thing? Aiding the preservation of works of authorship is entirely consistent with copyright's goal of enabling access to such works. Most works will no doubt command little or no popular or mass consumer interest 100 or 200 years after their creation, though clearly some classics will remain in demand. But unknown or little-known older works still have value that makes them worth preserving. At the very least, such works have value to historians—not only art historians or literary historians (depending on the nature of the work) but also social and cultural historians, and in the case of informational works such as newspapers or magazines, to historians of every stripe.

With respect to artistic works, survival over time may be of more than just historical interest. Such works might one day find renewed commercial, popular, or critical interest. New markets and technologies may arise that allow wider dissemination and exploitation of older works. For example, few cinemas screened movies from the 1930s and 1940s after the movies' original runs ended. For many years, that meant that copyright owners of those films had few opportunities to exploit many of their works commercially beyond occasional screenings of blockbuster classics on television. The development of cable television and the home videocassette markets, however, provided new outlets for such works, giving their copyright owners significant new commercial opportunities and giving more people the chance to view the movies. In addition, an older work might occasionally be rediscovered and become popular again—perhaps more popular than when it was first created. Or tastes may change, and a work that found little audience or recognition when created might appeal more strongly to the sensibilities of a later generation. Herman Melville's *Moby-Dick* and Kate Chopin's *The Awakening* are examples of books that were poorly received by critics and the public when they were first published, and only after many years languishing in obscurity came to be regarded as important works.¹⁰⁹ We

¹⁰⁹ Gay Barton, *Chopin, Kate O'Flaherty*, 4 AMERICAN NATIONAL BIOGRAPHY 277, 836, 837–38 (John A. Garraty & Mark C. Carnes eds., 1999); Hershel Parker, *Melville, Herman*, 15 AMERICAN NATIONAL BIOGRAPHY, *supra*, at 277, 280–83; *see also* Toby Mundy, *Good Books*, PROSPECT, Oct. 2002, at 24, 29 (“William Faulkner, now considered by many to be . . . the most important American writer of the 20th century, struggled to find readers during his early career.”); Erica Noonan, *Ahab's Wife*, AP ONLINE, Dec. 1, 1999, 1999 WL 28144980 (“*Moby-Dick* was a commercial failure in America, selling fewer than 6,000 copies before

might be quite dissatisfied if the only nineteenth-century literature available today was that which was considered most popular and commercially or critically successful in its own day.¹¹⁰

The survival of old artistic works may also be important in the creation of new works. Surviving older works may prove fertile sources for contemporary authors, seeking little-known stories and characters to incorporate into their own new creations. Derivative works—such as songs, motion pictures, and modern adaptations—may be based upon works largely forgotten until the derivative work appears. Martin Scorsese’s Oscar-nominated film *Gangs of New York* offers an example of a work that had faded into obscurity giving rise to a later work. The film derives from Herbert Asbury’s book *The Gangs of New York*, first published in 1927.¹¹¹ “For years, [the book] was available only in . . . thrift shops, guest-room night tables and the occasional country cottage bookshelf. That’s where the director Martin Scorsese, then in his 20’s, found it one icy New Year’s Eve, while he was house-sitting on Long Island.”¹¹² Scorsese read the book and became obsessed with the idea of making a film based on the book’s stories. The persistence of copies of the Asbury book long after it had apparently gone out of print provided the opportunity for the later film.

Furthermore, a contemporary author of a derivative work may prove more talented, or more in touch with her audience, than the original author, and a work that generated only limited interest when it was first created might become the basis for a derivative work that is extremely good, or extremely popular, or both. Or a work might prove to be better suited to a medium that did not exist when the work was created; a mediocre film from the 1950s might be the basis for a tremendously popular computer game in the 2000s.

Given the length of the copyright term, copyright owners would seem to have an economic interest in preserving their works, even those that are not currently in high demand, in anticipation of possible future remunerative uses. But the difficulty of predicting whether any particular work will be of future interest, coupled with the poten-

Melville’s death in 1891. . . . The book was out-of-print for decades before eventually earning a place in virtually all university American literature classes.”).

¹¹⁰ Even if we largely agree with the taste of the original public and/or critics, we are surely happier being able to survey a broader selection and decide for ourselves. See Mundy, *supra* note 109, at 29 (“It is impossible to guess which of today’s books will be revered by our great-grandchildren.”).

¹¹¹ Polly Shulman, *An Icy Night, an Old Book, and Decades Later . . .*, N.Y. TIMES, Sept. 8, 2002. § 2, at 34.

¹¹² *Id.*

tial expense of maintaining and preserving copies, might well result in insufficient commercial incentive for copyright owners alone to preserve their works zealously. For example, some film studios for many years saw little value in spending the money necessary to preserve prints of many of their motion pictures because there was little or no market for showing those movies.¹¹³ Only later, when cable television and home video markets developed, did those studios that had preserved their works find that new and unforeseen markets offered them commercial opportunities that had not previously existed. And even zealously protective copyright owners are unlikely to maintain as many copies in as many varied environments as would result from public distribution of copies. The owner's most carefully preserved copies are probably more vulnerable than all of the hundreds, thousands, or millions of copies of a work held by different owners throughout the country.

III. DIGITAL NETWORKS AND TECHNOLOGICAL PROTECTION MEASURES ARE LIKELY TO CHANGE DISSEMINATION PATTERNS

The affordability and availability effects described in the preceding section result from the operation of the first sale doctrine in an environment in which copyrighted works are distributed in freely transferable copies, as they have been in numerous important copyright fields for many years.¹¹⁴ Today, however, while the first sale doctrine remains in place, the environment in which it operates is changing, as digital networks and technological protections become more widespread. Thinking about the future of the doctrine requires understanding these changes. Unfortunately, many of the changes are just getting underway, and we have no crystal ball to reveal what the copyright environment will look like in fifty, twenty-five, or even ten years. The early years of digital networks have made clear that predicting how such networks will be employed is fraught with dangers, both of being too shortsighted about the truly innovative use of those networks and of being overenthusiastic about how quickly and deeply

¹¹³ See, e.g., SLIDE, *supra* note 102, at 17–18 (Film producers in the 1910s and 1920s “paid scant attention to the need to safeguard their films for . . . future commercial release. With an average of 6,000 feature films produced in each decade, there was little, if any, need to resurrect an old film for reissue.”).

¹¹⁴ “Freely transferable” here means not only that the copy can be transferred, but that it can be accessed by the transferee just as easily as it had been by the transferor.

they will change existing practices.¹¹⁵ Nonetheless, it is already clear that copyrighted works are increasingly being disseminated over digital networks and with technological protection measures, and those trends will almost certainly continue.¹¹⁶ As a result, the era of digital networks will likely lead to fewer works being distributed to the public in the form of copies, or at least in copies that are effectively transferable as a practical or legal matter.¹¹⁷

Some digital content may simply never be distributed in copies at all, but may instead reside in copy form only on a centralized computer server, and be transmitted to individual users when they request it. This is the model by which many Web sites operate today. Works of authorship are posted on the Web site and a consumer can access the works by requesting that the Web site's computer transmit the works to her. This is, in essence, an on-demand variation of broadcasting as a means of disseminating copyrighted works.¹¹⁸ Like a Web site operator, a broadcaster uses a copy of a TV or radio program to transmit the program to viewers or listeners. In each case, the audience can see or hear the work but does not receive a copy.¹¹⁹ Thus, disseminating a

¹¹⁵ See, e.g., Liu, *supra* note 26, at 1321–22, 1349–50 (noting the risks of being overoptimistic about the development, efficiency, and low cost of, e.g., micropayments systems, metering technology, etc.).

¹¹⁶ See *id.* at 1249, 1255.

¹¹⁷ See JANE C. GINSBURG, FROM HAVING COPIES TO EXPERIENCING WORKS 2 (Columbia Law School, Public Law Working Paper No. 8, 2000), available at http://papers.ssrn.com/paper.taf?abstract_id=222493 (“[I]n a world of access conditioned on non-retention of digital . . . copies, we will be able to summon up the work at any time, but we may not be able to have our own copy.”).

¹¹⁸ It is also in some ways analogous to exploiting a copyrighted work by public performance—such as showing a movie in a cinema or performing a song in concert—or public display—such as by exhibiting a painting in a gallery—without distributing any copies of the work to the public.

¹¹⁹ One who receives a television broadcast might, of course, make a copy of the work received. That act of reproduction, however, might infringe on the work's copyright. When the Supreme Court ruled that home videotaping of broadcast television constituted fair use, it excused only “time shifting” which it defined as “the practice of recording a program to view it once at a later time, and thereafter erasing it.” *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 423 (1984) (emphasis added). The court declined to consider the legality of home-taping for purposes of “library building,” or any question of “the sharing or trading of tapes.” *Id.* at 458 n.2 (Blackmun, J., dissenting). By hypothesis, lawfully made time-shifting copies will not remain in existence to be transferred to other persons, having been erased. Home tapes made for purposes other than time-shifting might well constitute infringing copies and thus not be transferable under the first sale doctrine, which only applies to lawfully made copies.

A similar analysis applies to storage of Web-transmitted material on a recipient's computer. Although that material will be stored transitorily in the random-access memory (RAM) of the user's computer, such storage will be only temporary. Users may be able to

work by transmitting it to users over a digital network such as the Internet will not place a significant number of authorized copies of the work in the public's hands.

Another model of digital network dissemination of copyrighted works would result in many consumers having copies of those works. In this model, when a work stored on a central computer is transmitted to a consumer, the consumer's computer would store the received transmission locally in a permanent form. This is essentially what is today called a download—the consumer ends up with a copy of the work at the end of the transmission. Disseminating works by download will result in authorized copies ending up in the hands of individual members of the public.

Consumers, however, may find these copies significantly harder to transfer under the first sale doctrine as compared to traditionally distributed copies. As an initial matter, many downloaded works will be stored on the user's hard disk. The file stored on the disk will constitute the lawfully made copy that section 109 entitles the user to transfer.¹²⁰ But transferring that material object—the hard disk—will generally entail removing the disk from the computer (or selling the computer along with the hard disk), and also transferring all of the other data on the hard disk (or removing that data). Under the terms of the first sale doctrine, transferring an album of songs that has been downloaded to a hard disk will be far less convenient than selling a used CD. A consumer could copy the file on her hard disk to a CD or other removable medium, which would be significantly easier to transfer. That copying, however, would be an act of reproduction within the scope of the copyright owner's exclusive reproduction right, which the first sale doctrine would not excuse. Unless the reproduction onto the CD was allowed by the copyright owner or some provision of copyright law (such as fair use), the CD would not be a "lawfully made" copy that section 109(a) allows to be transferred.¹²¹

When a consumer downloads a file, she might store it directly on a removable medium such as a diskette or a CD, rather than on her hard disk, in which case her lawfully made copy, which section 109(a)

store Web-transmitted material more permanently, but such reproduction of the transmitted works could constitute infringement, so that the user's copies would not be subject to the first sale doctrine. On the copyright issues raised by RAM storage, see R. Anthony Reese, *The Public Display Right: The Copyright Act's Neglected Solution to the Controversy over RAM "Copies,"* 2001 U. ILL. L. REV. 83.

¹²⁰ See 17 U.S.C. § 109(a) (2000).

¹²¹ See *id.*

allows her to transfer, would be far more easily transferable than if it were on a hard disk. But few consumers do this, and in any case technological protection measures may pose other obstacles to the free circulation of the downloaded copy.¹²² Indeed, these obstacles could hinder circulation of works disseminated digitally not only by transmission, but also by the distribution of digital copies (such as a CD or DVD).

A primary technological obstacle would be the practice of “tethering” individual copies to a particular playback or access device. The file that a consumer downloads might be coded so that it can be viewed or heard only on the computer on which it was originally downloaded.¹²³ Tethered copies are

copies that are encrypted with a key that uses a unique feature of a particular device . . . to ensure that they cannot be used on any other device. Even if a tethered copy is downloaded directly on to a removable medium such as a Zip disk or CD-RW, the content cannot be accessed on any device other than the device on which it was made.¹²⁴

Although a consumer would be free to transfer the CD or diskette containing the downloaded file, anyone who received the copy would be unable to access the work stored on it. As the Copyright Office noted, “Disposition of the copy becomes a useless exercise, since the recipient will always receive nothing more than a useless piece of plastic.”¹²⁵

The same effect might also be achieved through technological measures other than tethering. A consumer’s downloaded copy might

¹²² One additional obstacle is that a downloaded copy might be less attractive to a potential transferee than a used copy originally produced and issued by the copyright owner. The potential transferee of a CD containing a download made by another consumer has few assurances that the CD actually contains the work it purports to contain or of the quality of the copy. Middlemen might arise to assume a quality assurance role, though such a change would be likely to increase the costs of buying such a copy.

¹²³ An example of such a tethering system is the Adobe Acrobat eBook Reader involved in *United States v. Elcom Ltd.*, 203 F. Supp. 2d 1111 (N.D. Cal. 2002). The software operated so that when a purchaser downloaded an ebook, “the copy of the ebook can only be read on the computer onto which it has been downloaded.” *Id.* at 1118; see also *TurboTax Anti-Piracy Code Spurs Backlash*, L.A. TIMES, Jan. 9, 2003, at C3 (The product activation code for certain tax preparation software “essentially ties the software to a single computer to prevent buyers from sharing. Customers can use TurboTax on other computers, but printing and electronic filing of tax returns must be done from the original computer.”).

¹²⁴ U.S. COPYRIGHT OFFICE, *supra* note 19, at 75 (footnote omitted).

¹²⁵ *Id.* The report continues, “The only way of accessing the content on another device would be to circumvent the tethering technology, which would violate section 1201.” *Id.*

not be tethered to a particular device, but might be time-limited. For example, a consumer might download onto a CD an e-book that she could only view on her screen for thirty days after downloading. At the end of the thirty days, her e-book reader would be unable to open the file and display the book's content (though she might be able to contact the copyright owner, pay an additional fee, and have the file activated for an additional period).¹²⁶ Here again, although the user can easily transfer her downloaded copy, her transferee does not obtain a copy that can be used to access the work, at least not without contacting, and paying, the copyright owner, assuming the owner can be located and is willing to sell further access.

Legal obstacles, rather than technological ones, might also hinder the transferability of digital copies, whether downloaded via transmission or distributed by the physical transfer of tangible media. The copyright owner might disseminate the work pursuant to a license, under which the copyright owner purports to maintain ownership of the copy, mere possession of which is transferred to the licensee. Software vendors today routinely distribute computer programs in tangible media, such as CD-ROMs, but the license agreement that accompanies the disc often indicates that the consumer obtains only possession of the CD-ROM in which the program is stored and a license to make certain uses of the program. If such license provisions are enforceable, then the licensee would not be the "owner" of the copy in her possession, and the first sale doctrine only exempts "owners" of copies from the copyright owner's distribution right.¹²⁷ Thus, although a buyer might possess a copy of the work that is technologically accessible on any appropriate device, the buyer would be unable to sell, rent, or lend the copy to the public without infringing on the copyright owner's distribution right.

Legal restrictions on transfer might be more direct. Traditional retail sales of copies of copyrighted works have involved essentially no express terms and conditions between the buyer and seller, instead being subject to the provisions of copyright law and the general state-

¹²⁶ See generally Jeff Howe, *Licensed to Bill*, WIRED, Oct. 2001, available at <http://www.wired.com/wired/archive/9.10/drm.html>.

¹²⁷ See Liu, *supra* note 26, at 1290 & n.159 ("Several federal courts have held that the first sale doctrine does not apply to software users who have licensed the software, because they have not acquired title to a particular copy."). Compare, e.g., *Adobe Sys. Inc. v. Stargate Software Inc.*, 216 F. Supp. 2d 1051 (N.D. Cal. 2002) (holding that shrinkwrap or clickwrap license made software purchaser licensee, not copy owner), with *Softman Prods. Co. v. Adobe Sys. Inc.*, 171 F. Supp. 2d 1075 (C.D. Cal. 2001) (holding that software purchaser was copy owner, despite purported license).

law provisions on sales of goods. As works are increasingly disseminated in digital format, it becomes easier for copyright owners to attempt to impose express contractual terms and conditions on the buyer as part of the transaction, often by means of a standard shrink-wrap or clickwrap agreement to which the buyer must agree before obtaining the copy or access to it. Those conditions might include an express agreement by the purchaser not to transfer the copy (by sale, rental, or loan) once she has acquired it. Because such provisions have not been widely used for a significant length of time, their enforceability is not entirely clear, and may be preempted by federal copyright law.¹²⁸ But if the provisions are enforceable, they could dramatically curtail the transferability of copies obtained by digital transmission.¹²⁹

The future development of digital networks and technological protections, and the ways in which copyright owners will use them, are hard to predict. Nevertheless, given current trends in dissemination by digital transmission, and in the use of technological protection measures and legal restrictions on transfers, it seems quite possible that in the near future we will have fewer copies of copyrighted works held by fewer owners, and fewer of those copies will be readily transferable.¹³⁰

¹²⁸ See, e.g., Mark A. Lemley, *Beyond Preemption: The Law and Policy of Intellectual Property Licensing*, 87 CAL. L. REV. 111 (1999); Mark A. Lemley, *Intellectual Property and Shrinkwrap Licenses*, 68 S. CAL. L. REV. 1239 (1995).

¹²⁹ Having discovered these approaches in the context of digital copies, copyright owners might try them with analog copies as well, such as distributing books with accompanying license agreements that purport to classify the transaction as a license, in which the purchaser obtains only possession of her copy (the book) but not ownership of that copy, or purporting to restrict directly the purchaser's right to transfer her copy. It is unclear whether courts would recognize such transactions as licenses, see *infra* note 215, or would continue to find that in reality the purchaser became the owner of the copy and was entitled to redistribute it under section 109. As to express restrictions on transfer, the Supreme Court case that established the first sale doctrine, *Bobbs-Merrill Co. v. Straus*, did in fact involve an attempt by the copyright owner to impose a contractual restriction on resale by printing the restrictive term in every copy of the work, and the Court rejected that attempt. 210 U.S. 339, 341 (1908).

¹³⁰ See, e.g., GINSBURG, *supra* note 117, at 17 ("In a world of instant access, the hard copy of the future is likely to look very much like the hard copy of a relatively distant past. That is, deluxe editions will persist as attractive objects. Inexpensive mass market versions may eventually disappear, because their primary value is to convey content, not to cherish as an object. Online access may ultimately replace hard copies for content conveyance . . .").

IV. CHANGING DISSEMINATION PATTERNS AND THE EFFECTS OF THE FIRST SALE DOCTRINE

In the pre-digital era, the first sale doctrine has benefited the public by helping to make copyrighted works distributed in copies more affordable and more available. Soon we may find that fewer transferable copies of copyrighted works circulate, as works are increasingly disseminated by digital transmission and in encrypted (or otherwise protected) copies. What impact will this have on the beneficial affordability and availability effects of the first sale doctrine?

The expansion of digital technology might well increase the affordability and availability of copyrighted works. Indeed, this has been the promise of such technology: greater access to more works at a lower cost. Should this promise become reality, we need not necessarily worry if few freely circulable copies exist to which the first sale doctrine applies. But the promised benefits of the digital copyright environment may not fully materialize. The impact of a shift from distribution of tangible copies to dissemination by digital transmission will depend on whether copyright owners adopt any or all of the business models discussed in the preceding section, on the prices charged and terms given by copyright owners, as well as on other variables.

Given all this uncertainty about the future of digital technology, this Part only preliminarily explores how the shift to digital dissemination might affect the operation and benefits of the first sale doctrine. The tentative suggestion is that such a shift could eliminate important ways in which copy distribution and the first sale doctrine have enhanced affordability and availability. To some extent, new dissemination patterns may enhance affordability or availability, producing similar, or perhaps greater, effects than the first sale doctrine has. In many other ways, however, digital dissemination may reduce the doctrine's affordability and availability effects, forcing policymakers and academics to consider whether the copyright system can find other mechanisms to promote affordability and availability.

A. *Affordability*

What impact will the shift from distribution of reusable tangible copies to dissemination by digital transmission have on the first sale doctrine's affordability effects? The answer seems likely to depend in significant part on the business models and price structures that emerge for copyrighted works or particular subclasses of works. This Section sketches some of the possibilities.

1. Potential for Maintaining or Increasing Affordability

As an initial matter, digital dissemination, especially by transmission, may in many instances increase the affordability of an initial purchase of a copy of a work. Dissemination by transmission—for example, downloading a work from a remote computer—could be much cheaper than the traditional distribution of physical copies. By transmitting the work over a computer network, the copyright owner (or her agent) is spared the costs of producing the individual copies, of transporting and handling those copies, and of maintaining retail operations for the sale of those copies to consumers. Dissemination by transmission is not costless, of course;¹³¹ however to the extent that it is cheaper than physical distribution, the cost savings, or some portion of them, could be passed on to the consumer in the form of a lower purchase price.

In addition, in some cases, dissemination by digital transmission may have the potential to replicate, or perhaps extend, the affordability effects that the first sale doctrine has had in tangible-copy markets after initial copy sales. Much will depend on the costs to copyright owners of digital dissemination and on the prices consumers pay for digital access. But at least in theory, digital dissemination, like the first sale doctrine, promises to offer access to copyrighted works at a lower cost than the purchase of a copy to those consumers interested in paying for limited access to works rather than ownership of copies of them.

Markets for purchasing such limited access existed before digital dissemination. Video rental markets, paid library memberships, cable television subscriptions, and pay-per-view television are all examples of existing markets in which a consumer pays for access to, but not ownership of, copies of copyrighted works.¹³² The price for such limited access is generally lower than the price paid to acquire an unlimited-use copy. In the future, a pay-per-use system over digital networks, or a

¹³¹ Although dissemination of copyrighted works over computer networks promises to be cheaper than physically producing and distributing multiple copies, network dissemination still involves costs including computer storage and bandwidth, and those costs are not always minimal. See Matthew Mirapaul, *Music Made with Soda Cans and Soggy Hamburger*, N.Y. TIMES, June 24, 2002, at E2 (describing a musician who found that heavy traffic to his Web site over a week, in which only 250 people downloaded an album available at the site, resulted in a bill of about \$1,800 from his Internet service provider); see also SCHIFFRIN, *supra* note 53, at 148 (“[E]stablishing and maintaining a site that will attract an audience is an expensive venture involving substantial design and advertising budgets.”).

¹³² On consumer home recording, see *supra* note 119.

monthly subscription that allows access to a large catalog of works, seem likely to be good analogs to, and perhaps substitutes for, the existing video rental market or a paid library membership. In each case, the consumer pays a price that allows access to a work (or a catalog of works) for a limited time period, and that price presumably reflects a discount from the cost of purchasing a copy (or copies) that the consumer could access repeatedly. As a general matter, if the price charged for online access to a work is similar to that charged for viewing access or a loan or rental copy, then these consumers might not experience much effect on affordability as a result of the shift away from copy distribution.

This impact of digital transmission may go beyond simply replacing existing video rentals with Internet pay-per-view. Digital networks may allow this model of online dissemination to emerge, for some consumers and some works, for which the pre-digital market essentially offered only the purchase of copies and not the option to purchase limited access to a work at a price lower than the copy price. That is, the shift to online dissemination may create new markets to satisfy currently unserved demand for limited, on-demand access to copyrighted works. Although a rental market exists today for motion pictures and subscription or pay-per-view access exists for television programming, these business models generally do not extend to other kinds of copyrighted works, at least not to those marketed to the general public. It seems plausible, however, that some consumers might prefer paying for access to other kinds of works on a rental or per-use basis, rather than purchasing a copy.¹³³

One example might be periodicals. Some people who buy a copy of a newspaper or magazine may wish only to read that copy themselves and then dispose of it, and not to retain any portion of it, give or lend any part of it to another person, or reread it at a later date. In the pre-digital world, such consumers generally had no option but to buy or borrow a copy of the periodical. With the emergence of digital networks, such a consumer might find that paying a subscription or per-issue access charge for online access to current editions of the work offers the functional equivalent of buying a disposable tangible

¹³³ Some consumers might also prefer such a per-use payment to simply borrowing a copy of a work, because the per-use charge might be cheaper than the nonmonetary costs of borrowing.

copy, and the publisher might charge a lower price for such online access than for a copy of the periodical.¹³⁴

Some of these new markets have already begun to develop. Websites for newspapers such as *The New York Times* and *The Los Angeles Times* sell access to individual articles.¹³⁵ Encyclopedia Britannica offers the full content of its encyclopedia online for an annual or monthly subscription fee, offering a new alternative to previous choices of buying a copy of the encyclopedia, consulting it at a library, or foregoing access altogether.¹³⁶ Additionally, the major recording labels have launched two online music services, MusicNet and Press-play, that give users the ability to listen to a limited music catalog on demand for a monthly fee.¹³⁷

Technological protection measures might also increase the market for time-limited access to copyrighted works, particularly in markets for the rental of sound recordings and computer software. In 1984 and 1990, Congress gave copyright owners control over the rental of sound recordings and computer software, despite the first sale doctrine's general authorization of rental by the copy owner.¹³⁸ These changes were prompted by concerns that these rentals contributed to infringement—consumers who rented a music CD or software might make a copy of the music or software for themselves before returning the rented copy. Indeed, at the time of the record rental amendment, Congress heard evidence that many of the two hundred or so record rental establishments in the United States sold blank

¹³⁴ If, on the other hand, the price of online access is higher than the price of buying a copy, then the consumer would presumably continue to buy a copy and discard it when done—assuming that online access supplements, rather than replaces, the sale of copies. See *infra* note 141 and accompanying text.

As noted above, *supra* note 43, another example may be sound recordings. There are, for example, songs that I want to hear infrequently enough that I would not be willing to buy a CD containing the song but more frequently (or at more convenient times) than they are played on the radio. Being able to listen to such songs on demand as part of a monthly subscription to an online music service, or on payment of a small fee, would be a desirable model of access not available before the digitally networked era.

¹³⁵ See L.A. TIMES, Online Archive Pricing, at <http://pqasb.pqarchiver.com/latimes/> (last visited Jan. 29, 2003); N.Y. TIMES, Premium Archive, at <http://www.nytimes.com/premiumproducts/archive.html> (last visited Jan. 29, 2003).

¹³⁶ See Encyclopedia Britannica, Subscription Service Registration, at <http://safe.britannica.com/subscribe/sub/Welcomer.jsp> (last visited Jan. 29, 2003).

¹³⁷ Some of these services may be selling more than mere limited access to works, as they may allow customers to save or print a copy of the works the customers access.

¹³⁸ Computer Software Rental Amendments, Pub. L. No. 101-650, tit. viii, 104 Stat. 5089, 5134-35 (1990); Record Rental Amendment of 1984, Pub. L. No. 98-450, 98 Stat. 1727.

tapes to renters and engaged in other practices that seemed likely to encourage renters to make copies.¹³⁹

Congress was particularly concerned about the rental of works in digital format, because of the ease of copying such information, the quality of the resulting copies, and the increased durability of digital copies over analog copies.¹⁴⁰ Since the amendments, copyright owners do not appear to have rushed to enter markets for renting sound recordings and computer software, presumably because of the same piracy concerns that motivated Congress. If legally backed technological controls prevent one who possesses a CD from copying the music or software stored on the CD, but allow her to listen, view, or operate the work, copyright owners might be willing to allow digital copies of their works to be rented. Indeed, if copy controls can address the piracy concerns that motivated the amendments restricting the first sale doctrine, those amendments could be repealed, allowing the development of markets for music and software rentals, if there is demand for such rentals.

2. Potential for Decreasing Affordability

For consumers who want limited access rather than copy ownership, the shift to digital dissemination may keep works as affordable as they have been under the first sale doctrine, or may make them more affordable. But for consumers who want to acquire their own copies of a copyrighted work, a shift to digital transmission might result in generally higher prices than are charged today in markets in which works are distributed in copies and the first sale doctrine allows those copies to circulate freely.

¹³⁹ H.R. REP. NO. 98-987, at 2 (1984), *reprinted in* 1984 U.S.C.C.A.N. 2898, 2899.

¹⁴⁰ *See, e.g., Audio and Video First Sale Doctrine: Hearings on H.R. 1027, H.R. 1029, and S.32 Before the Subcomm. on Courts, Civil Liberties, and the Admin. of Justice of the House Comm. on the Judiciary*, 98th Cong. 5 (1985) (statement of Stanley Gortikov, President, Recording Industry Association of America) (“[T]echnology has brought us something even more remarkable and, at the same time, even more threatening: the digital compact disc. . . . Unlike vinyl LP’s and tapes, it does not wear out. To the record rental store, it is like a bottomless well. It can be rented over and over again, and taped over and over again, without any loss of quality. Thus, the success of the compact disc could spur an enormous and rapid growth in the number of record rental stores.”); S. REP. NO. 98-162, at 2-3 (“The Committee is concerned that this record rental problem will soon worsen as a result of a new technological breakthrough—the development and imminent marketing of the digital ‘compact disc’—which promises to increase record rentals even more. The compact disc is a small, virtually indestructible record album. It is difficult to damage, it will last a very long time, and it provides better sound reproduction than ever before. Rental shops will soon be able to rent out each compact disc hundreds of times . . .”).

Consumers may have good reasons for wanting to own a copy rather than to acquire only limited access to copyrighted works. If a consumer is certain to access a work repeatedly, it may be cheaper to pay once for a copy of the work and obtain the right and ability to use the work as much as desired, rather than to pay a per-use charge or an ongoing monthly subscription fee. Buying a copy also offers certainty as to price and availability. A consumer who buys a copy knows up front the price she must pay for unlimited access. A consumer who pays for each use of the same work, or who pays on a monthly basis, must take the risk that the copyright owner will raise the price of access, or reduce the availability of the work. A lawyer who subscribes to Westlaw on a monthly basis to consult West's case reporters online might someday find Westlaw's monthly subscription price higher than she can afford to pay, at which point she will not have access to any of the West reporters, old or new. A lawyer who buys copies of West's reporters each month may also find at some point that the monthly price of new volumes is prohibitive, but that lawyer will still be able to consult the volumes she has already purchased. For these and other reasons, many consumers may prefer to buy copies of copyrighted works rather than merely buying limited access to those works. How will the shift to digital transmission and encrypted copies affect affordability of works for users who want to buy copies?

The impact on those who want to buy an unused copy is unclear. Depending on the business model chosen by the copyright owner, such a copy might not be available at all. Such consumers would find themselves in the position of those who wanted to buy copies of motion pictures or radio and television programming for most of the twentieth century: copies simply were not generally available to the public. The same is true for most Web sites today.¹⁴¹ If copyright owners make their works available solely by digital transmission, those who want to buy copies will simply be out of luck.

If a copyright owner sells both copies and digital access to a work, it is unclear what effect the addition of the digital access market would have on the price of a new copy. That price might increase to account for possibly higher costs of producing fewer copies. Or a copyright owner might charge a higher price per copy in order to limit the quantity sold, because each copy sold could potentially be

¹⁴¹ One might, of course, copy the content on a Web site, just as one might record a radio or television broadcast, to have a permanently accessible copy. But doing so would risk infringing the copyright in the work. *See supra* note 119.

rented and lent, thus competing with the copyright owner's own market for providing limited access to the work directly to customers by digital transmission.¹⁴² On the other hand, a copyright owner might charge a lower price for a copy in this new environment. After all, the owner herself would be earning income from both the sale of copies and the sale of limited access, whereas in the traditional copy-distribution system the owner generally earned no additional revenue from limited access markets such as copy rentals or loans.¹⁴³

The shift to digital dissemination might increase the cost of buying a used copy. If a work is disseminated solely by online transmission, there may be few or no used copies to circulate on a secondary market. Even if a work is disseminated both by transmission and by copy distribution, some consumers are likely to substitute digital transmission for the purchase of a copy. Thus, the copyright owner may sell fewer copies and thus fewer copies will be available for resale.¹⁴⁴ In addition, the digital copies distributed by the owner may not be transferable for the legal and technological reasons discussed above. These factors would reduce the number of usable copies available on the secondary market. If demand for used copies remains relatively stable, then the price of a used copy can be expected to rise.

The overall effects of a shift to digital dissemination on the market for lending copies—the library market—are also unclear. For works disseminated only by digital transmission, libraries simply will not be able to acquire copies of those works that can be physically lent to patrons. This would significantly curtail the affordable access by public lending that the first sale doctrine has traditionally facilitated. A digitally disseminated work, though, might not be completely unavailable to libraries. The copyright owner might distribute the work in copies, but in “tethered” copies. A library could acquire such a copy and make it available to patrons to consult in the library, on the tethered equipment, though the library could not lend the copy to a patron for use on her own equipment. The inability of patrons to borrow the copy and access it when and where they choose would raise, perhaps substantially, the nonmonetary costs of library access to the work.

Libraries might also be able to provide patrons access to digitally transmitted works, perhaps at a time and place of the patron's choos-

¹⁴² See *supra* notes 45–47 and accompanying text.

¹⁴³ See *supra* notes 45–46 and accompanying text.

¹⁴⁴ See Garrity, *supra* note 46, at 83 (“Internet piracy . . . is resulting in even less liquidity in the secondary market, because less new product is being purchased.”).

ing, by obtaining from the copyright owner a license allowing any of the library's patrons to access the work. A library might, for example, contract with the provider of an online encyclopedia or dictionary, such that anyone with borrowing privileges from that library would be able, from any computer, to access the work.¹⁴⁵ It is unclear as a general matter whether the cost to a library of providing such online access would be higher or lower than the cost of purchasing copies to lend to its patrons. The cost per patron use of online access might easily exceed the cost of a copy of the work, spread across the number of patron uses of that copy. On the other hand, the cost per use might be no more expensive than the cost of buying a copy, or might actually be cheaper.¹⁴⁶ Much would depend on the prices charged, how those prices compare with the price of copies, whether the price is charged as a periodic subscription or on a per-use basis, what restrictions are placed on the use of the work by the library and its patrons, and how heavily a work is used. In addition, libraries that provide access in this manner, rather than buying copies to lend, could remain vulnerable to a copyright owner's pricing decisions, particularly if libraries contract with copyright owners for relatively short terms. Whenever such a contract is up for renewal, a copyright owner might raise the price to the library to a level that the library cannot afford. If the library therefore chooses not to renew, access to the works could

¹⁴⁵ See, e.g., Jon Healey, *Another Boost for E-Books*, L.A. TIMES, Nov. 20, 2002, at C1 (reporting that "a leading distributor of electronic books unveiled a service . . . allowing libraries to offer more than 35,000 titles that can be borrowed through the Internet and read on personal devices"). The terms of such access could vary greatly. The arrangement might closely track the existing library model, in which only one patron at a time could access the work using the library's account, just as only one patron at a time can check out a library's single copy of a work. Or the arrangement might allow much wider access—all patrons, or some designated subset, might have simultaneous access to the work. The price charged would presumably depend in part on the amount of access allowed. See *id.* (reporting that library and publisher representatives agree that business models for electronic-book lending are still in flux).

¹⁴⁶ Indeed, online access might allow a library to expand the number of works it offers to patrons. If a library must purchase a copy of a work to make it available, then the library will presumably be less likely to buy works for which the demand is low. A copy that costs fifty dollars and will be used by five people a year for five years costs only two dollars per patron use; if the same copy will only be used by one person over five years, then the copy costs fifty dollars per patron use. If, however, a library could purchase online access on a per-use basis, then the library might, depending on the per-use price, be able to afford to offer access to many little-used works, since the library would only be charged when a patron actually obtained access to the work. A library that decided it could not afford to pay fifty dollars for a book that would only get one use over five years might be able to offer online access to that work if the library would only pay, for example, five dollars for the one use that takes place during the five-year period.

become entirely unavailable to the library's patrons.¹⁴⁷ Had the library bought copies of the works instead of paying a recurring fee for mere access, it would, of course, be able to circulate those copies regardless of price hikes by the owner for more copies or for new works.

Finally, the shift to digital dissemination may give copyright owners more control over whether libraries can offer patrons free access to copyrighted works at all. Traditionally, to have the option to make a work available, a library relied on a copyright owner to make only one choice: whether to issue the work in copies. Once the copyright owner did so, the library was free to buy a copy and circulate it. And because selling copies has been a very significant means for copyright owners to exploit their rights in several important fields, including most print publishing, sound recordings, and, increasingly, motion pictures, libraries have generally been able to make most works in those fields available, if they choose. If in the future a copyright owner makes a work available only by means of digital transmission, a library's ability to give patrons access to such a work will depend entirely upon the copyright owner's decisions about whether to contract with libraries for such access.¹⁴⁸ A copyright owner will have to act affirmatively to permit library access. If the owner declines to license libraries to provide online access, the library will simply be unable to offer the work to its patrons. The lower-cost access that libraries offer as an alternative to buying or renting a copy will not be available. In such an environment, the scope of library collections will increasingly be at the mercy of copyright owners' business decisions.

Overall, then, a shift to digital dissemination may increase the availability of limited access to copyrighted works at "rental" prices lower than the price of acquiring a copy of a work, but may be more likely to raise the cost of buying a used copy, of providing library access to works, and perhaps of buying a new copy.

¹⁴⁷ This would, of course, depend on the terms of the library's contract, which might provide that in the case of nonrenewal the library would continue to have access to works previously covered by the contract, but not to any additional works. This might be more likely, for example, with respect to access contracts for periodical or serial issues than for collections of books. In addition, at least one technological system (LOCKSS) has been designed to allow libraries to locally store and preserve online subscription content so that the libraries' users can continue to have access to the content after the subscription expires or the content is removed from its online location. See *LOCKSS*, *supra* note 101.

¹⁴⁸ See, e.g., Mark Stefik, *Shifting the Possible: How Trusted Systems and Digital Property Rights Challenge Us to Rethink Digital Publishing*, 12 *BERKELEY TECH. L.J.* 137, 148 (1997) ("The trusted system approach addresses that issue [of library dissemination of digital copies] head-on. If some publishers do not desire works to be loaned out, they can simply not grant loan rights.").

3. Price Discrimination

One final issue is worth noting, though a full examination of it is beyond the scope of this Article. A shift to digital dissemination may increase copyright owners' ability to engage in price discrimination—to charge a higher price for access to a work to buyers willing and able to pay the higher price, while charging a lower price to other buyers who are only willing and/or able to pay less.¹⁴⁹

As a general matter, in a monopolized market perfect price discrimination may be desirable because the monopolist will expand output beyond the otherwise profit-maximizing level. In the absence of price discrimination, the monopolist will not sell any units to consumers who value the product more than its marginal cost of production but less than the single profit-maximizing price. Price discrimination offers the monopolist the chance to increase her monopoly profits by supplying some of the otherwise unserved consumers. Customers who place a high value on the product (and are able to pay that value) pay more than the single profit-maximizing price, whereas low-valuing consumers pay less. Output is increased so that more people obtain the product, although the high-valuing buyers pay a higher price, resulting in a shift of consumer surplus from them to the monopolist.¹⁵⁰ Indeed, with perfect price discrimination, the monopolist can theoretically absorb all consumer surplus.

For copyrighted works, the first sale doctrine has traditionally complicated price discrimination by allowing buyers to resell, rent, or loan the copies they buy, and therefore engage in arbitrage. If a copyright owner tried to price discriminate in the sale of her works, the buyer of a copy could resell access to the work to a second consumer at a price lower than the price the copyright owner would charge the

¹⁴⁹ Whether copyright owners would exercise any increased ability to engage in price discrimination is a separate issue.

[T]he notion that, under a regime of digital lock-up, copyright holders would engage in near-perfect price discrimination such that all would have access is little more than a pipe dream. For one, copyright industries have repeatedly exhibited a path dependent resistance to licensing or engaging in new technological methods of exploitation that might endanger their traditional profit centers.

Neil Weinstock Netanel, *Impose a Noncommercial Use Levy to Allow Free P2P File-Swapping and Remixing* 18 (Nov. 2002) (footnote omitted) (second draft, on file with author).

¹⁵⁰ See generally Harold Demsetz, *The Private Production of Public Goods*, 13 J.L. & ECON. 293 (1970).

second consumer directly (but higher than the price the copyright owner charged to the first consumer). Dissemination by transmission can reduce or eliminate such arbitrage, facilitating price discrimination.¹⁵¹ A consumer who merely views a transmission of a work and retains no copy of it will not be able to sell access to the work in competition with the copyright owner. Similarly, if a buyer obtains a digital copy that is tethered or time-limited, her opportunities for arbitrage will be quite limited. Digital dissemination might also facilitate differential pricing by making it easier for copyright owners to identify and group customers by willingness to pay and by making it easier to provide different versions of the work at different prices.¹⁵² For example, if a work is available only by transmission from the owner on a pay-per-view basis, then those who wish to view the work repeatedly will have to pay each time, while someone who only wants to experience the work once will only pay once.¹⁵³

Recent years have seen a growing debate over the desirability of increased price discrimination by copyright owners that digital dissemination may facilitate, and I do not propose to enter that debate here.¹⁵⁴ Most important for the purposes of evaluating how a shift to digital dissemination would affect affordability is a point Wendy Gordon has made. She points out that the theoretical desirability of

¹⁵¹ See, e.g., William W. Fisher III, *Property and Contract on the Internet*, 73 CHI.-KENT L. REV. 1203, 1237 (1998).

¹⁵² Professor Neil Netanel offers a useful caution, however, against overoptimistic predictions about how much easier price discrimination will become due to technological changes.

[A]dvocates of digital lock-up hold a Panglossian view of digital technology's capacity to support access-enhancing price discrimination . . . predicated on the assumption that digital technology can accurately predict consumer valuations by compiling and analyzing user profiles based on individuals' past uses and purchases. . . . [And] price discrimination faces material cost and institutional obstacles. Determining user valuations, setting differential pricing, designing product and distribution systems to enable differential pricing, and creating and enforcing prohibitions against consumer arbitrage require considerable information, labor, and financial and organizational resources.

- Netanel, *supra* note 149, at 18–20.

¹⁵³ See, e.g., Liu, *supra* note 26, at 1318.

¹⁵⁴ See, e.g., Yochai Benkler, *An Unhurried View of Private Ordering in Information Transactions*, 53 VAND. L. REV. 2063 (2000); James Boyle, *Cruel, Mean, or Lavish? Economic Analysis, Price Discrimination and Digital Intellectual Property*, 53 VAND. L. REV. 2007 (2000); Julie E. Cohen, *Copyright and the Perfect Curve*, 53 VAND. L. REV. 1799 (2000); Fisher, *supra* note 151, at 1237; Wendy J. Gordon, *Intellectual Property as Price Discrimination: Implications for Contract*, 73 CHI.-KENT L. REV. 1367 (1998); Michael J. Meurer, *Price Discrimination, Personal Use and Piracy: Copyright Protection of Digital Works*, 45 BUFF. L. REV. 845 (1997).

perfect price discrimination by a monopolist is in comparison to a monopoly without price discrimination, but that the traditional copyright system has largely *not* been one in which copyright owners are pure monopolists.¹⁵⁵ Instead, it has been a system in which a copyright owner faces some competition in setting her price: competition from “second-hand, library, and rental copies” of the work that the first sale doctrine allows.¹⁵⁶ Professor Gordon, therefore, suggests that we should compare the potential for perfect (or at least much improved) price discrimination through digital dissemination not to a single-seller, single-price market but rather to a partially competitive market. As she points out, the presence of such partial competition by means of the first sale doctrine may result in lower price and greater quantity—that is, increased affordability of copyrighted works.

Thus, although a shift to digital dissemination may enhance a copyright owner’s ability to price discriminate, it will do so in part by eliminating competitive suppliers of the owner’s works. Just as a video store charges less for a rental than for a sale of a video, the copyright owner will presumably charge a lower price for the right to view a work for a one-day period than for a lifetime right to view it. But the copyright owner’s price for one day’s access may not be set in competition with other parties offering similar “rental” access to the same work, because digital dissemination may reduce or eliminate the existence of copies in the hands of potential competitors.¹⁵⁷ It is thus far from clear that increased price discrimination facilitated by digital dissemination would make copyrighted works more affordable overall.¹⁵⁸

B. Availability

This Section considers how a copyright system in which the first sale doctrine does not operate as it traditionally has, because consumers do not acquire freely re-circulable copies, might affect the avail-

¹⁵⁵ Gordon, *supra* note 154, at 1387–89.

¹⁵⁶ *Id.* at 1388.

¹⁵⁷ Of course, the copyright owner may face competition from owners of copyrighted works that buyers regard as acceptable substitutes. In that situation, though, the owner would not be in a monopoly position to start with, thus making price discrimination unlikely (as well as unneeded as a palliative to the undesirable effects of a monopoly position). See Boyle, *supra* note 154, at 2021–35.

¹⁵⁸ We might be reluctant to facilitate price discrimination even if it results in some increase in affordability. As Professor Gordon points out, perfect price discrimination eliminates consumer surplus, raising doubts about its desirability. Gordon, *supra* note 63, at 2.

ability of copyrightable works. The possible impact on availability of a shift to digital transmissions seems somewhat easier to anticipate than the impact on affordability, in part because that impact depends less on the pricing and marketing decisions of copyright owners.¹⁵⁹ With respect to one situation—the out-of-print work—digital dissemination might help keep works available, as the first sale doctrine has. In most other respects, a shift to digital dissemination seems likely to eliminate much of the beneficial availability effect of the first sale doctrine without necessarily producing any compensating mechanism for ensuring availability.

1. Potential for Increasing Availability: Out-of-Print Works

As discussed above, distribution of copies and the first sale doctrine combine to help make copyrighted works available to the public even when the copyright owner has decided that the returns from producing and selling copies of the work do not justify the expense of doing so.¹⁶⁰ When works are out of print and no longer available from the copyright owner, used, rental, and loan copies may still be available. Digital technology, however, has the potential to reduce or eliminate the problem of a work going out of print in the first place. With respect to books, technologies exist that can store copyrighted works digitally and produce copies of those works—printed books “indistinguishable from conventionally manufactured paperbacks”—on demand, for a few dollars each.¹⁶¹ A book publisher might find it too costly to print and store copies of a backlist title that will sell only 100 copies per year and would therefore allow the book to go out of print. But if the publisher need only store a digital file containing the image of the book, and then transmit that file to an on-demand book printer whenever a buyer orders a copy, the money to be made from the sale of 100 copies per year—or perhaps even 10 copies or 1 copy—might well justify the cost of the digital storage and transmis-

¹⁵⁹ The *actual* impact of such a shift is still difficult to predict, because much will depend on the actual technologies developed and adopted, as well as the business models that copyright owners pursue.

¹⁶⁰ See *supra* notes 49–59 and accompanying text.

¹⁶¹ EPSTEIN, *supra* note 51, at 28–29. “Machines capable of printing and binding small quantities of digitized texts on demand are already deployed by Ingram, the leading American wholesaler, by Barnes & Noble and other retailers, and in publishers’ warehouses” *Id.* at 29.

sion.¹⁶² As a leading publisher has said, “[n]o book need ever go out of print.”¹⁶³ Thus, this technology would give 100 people per year access to a work that they otherwise would not have (or would have to get by buying used copies or borrowing copies), while giving the copyright owner revenues from 100 sales that would not otherwise occur. Similar technologies are beginning to be deployed for sound recordings, and presumably the concept could be extended to motion pictures.¹⁶⁴ In a world in which I can order a custom-burned DVD of the 1930s Fred Astaire and Ginger Rogers movie *Top Hat* for delivery the next day, the ability to buy a used copy of the movie, or to rent one from my local video store, becomes much less important in keeping the work accessible.¹⁶⁵

Even if technology for creating copies on demand does not become widespread, digital dissemination could still reduce or eliminate the out-of-print problem. If the cost of digitally storing and transmitting a work—whether a literary work, a sound recording, a motion picture, or some other work—is sufficiently low, then copyright owners may choose to store their works digitally and sell transmissions of the works on demand, rather than copies. Copyright owners might sell consumers the right to own their own digital copy of a work by downloading it, or they might sell only limited online access to the work by viewing or listening. Because the costs of storage and transmission seem likely to be much lower than producing, storing, transporting, and marketing physical copies in a sufficient quantity to make a profit, it could well be economical for copyright owners to make available by digital transmission even works for which the de-

¹⁶² See Mundy, *supra* note 109, at 29 (“Most [publishers] long to reduce the sums they spend on warehousing by digitising as much of their inventory as possible. The idea of printing on demand . . . is also attractive as a means of keeping expensive stock holdings to a minimum.”). If the technology for storing works changes with some frequency so that data must repeatedly be migrated to new formats, however, copyright owners might decide that the expected returns on works with a relatively low demand do not justify the costs of such migration. See *infra* notes 199–201 and accompanying text.

¹⁶³ EPSTEIN, *supra* note 51, at 29.

¹⁶⁴ See, e.g., Eileen Fitzpatrick, *Kiosk Commerce*, BILLBOARD, July 29, 2000, at 76; Eileen Fitzpatrick, *Kiosk Firms Welcome Competition*, BILLBOARD, May 13, 2000, at 125; *Universal Music unveils download plan*, NEWS.COM, Nov. 19, 2002, at <http://news.com.com/2102-1023-966500.html> (reporting that world’s largest music company announces plan to make over 43,000 songs available for download, burnable to CD, at retail outlets and Web sites).

¹⁶⁵ Depending on the cost of the custom-burned DVD, those alternatives might be important to keep access to the movie *affordable*, as discussed above, *supra* notes 131–144 and accompanying text.

mand is relatively low.¹⁶⁶ Indeed, copyright owners might make available every work in their catalog in so-called “celestial jukeboxes.”¹⁶⁷ If they materialize, such celestial jukeboxes would help ensure the availability of works that in today’s media environment would be out of print. And in that case, if I can listen to a now-obscure 1970s pop song on demand, either as part of my monthly subscription to a comprehensive online music service or by paying for access to the individual song, then being able to buy a used copy of the song, or borrow one from the library, is no longer essential to maintain the work’s availability (as opposed to affordability).

Although digital networks make *possible* this increased availability of works that might otherwise go out of print, *actual* availability of such works will depend on the copyright owners’ continuing willingness to make the works available. Users who access works from the celestial jukebox may purchase nothing more than access, so that if a copyright owner chooses to remove a works from the jukebox, independently owned copies will not exist to circulate. As the next section discusses, digital dissemination may in fact increase a copyright owner’s power to withdraw a work, should she choose to do so.

2. Potential for Decreasing Availability

a. *Withdrawal by Copyright Owner*

The first sale doctrine has, as discussed above, traditionally contributed to keeping copyrighted works available not only when they are out of print, but also when copyright owners otherwise withdraw them from circulation, either temporarily or for the term of the copyright.¹⁶⁸ In these situations, the availability effect of the first sale doctrine seems likely to be lost in a shift from distribution of copies to digital dissemination.

If a work is disseminated solely by digital transmission, a copyright owner’s decision to discontinue any further transmissions of the work could well be effective to deny all access to the work.¹⁶⁹ Many

¹⁶⁶ Again, costs of migration to new formats might make this more expensive. *See infra* notes 199–201 and accompanying text.

¹⁶⁷ PAUL GOLDSTEIN, *COPYRIGHT’S HIGHWAY* 199 (1994).

¹⁶⁸ *See supra* notes 49–113 and accompanying text.

¹⁶⁹ *See* Niva Elkin-Koren, *Cyberlaw and Social Change: A Democratic Approach to Copyright Law in Cyberspace*, 14 *CARDOZO ARTS & ENT. L.J.* 215, 274–75 (1996) (noting that distribution of copies guarantees public access, whereas a work disseminated by transmission “does not become available to the general public for subsequent use”).

people may have seen—and even paid for—access to the work by receiving the owner’s transmissions, but because the users will have received only transmissions, they will generally not have retained any copy that they can access once the copyright owner withdraws the work.¹⁷⁰ These users will similarly be unable to sell, rent, or lend a copy to anyone else who may want access to the work. Indeed, when the copyright in the work expires, there may be no copy available for use by someone who wishes to publish the now-public-domain work. Although some isolated and partial copies of the work may be in the hands of users who printed out or electronically stored the work when they had authorized access to it, those copies may not be “lawfully made” copies that could circulate to others under the first sale doctrine.¹⁷¹ Even if the copies are considered lawful, it is not clear that they will exist in sufficient quantity or quality to meet any significant demand.

Essentially, a shift to dissemination purely by digital transmission would put copyright owners in the position of CBS with respect to *Amos 'n Andy* television episodes. Because CBS never distributed the episodes in copies, its decision to stop transmitting the episodes effectively denied the public access to them. Many people are no doubt familiar with this effect on the World Wide Web. Most Web sites, of course, are available only by digital transmission; a user can view the site by receiving transmissions from the site, but generally acquires no copy of the site. If the copyright owner decides to remove a site from the Web, the public cannot get access to the site’s content by Web transmission and usually has no other source of access.

Examples of the effective removal of digitally transmitted works abound. For approximately four years, a Web site called “Dysfunctional Family Circus” posted panels of Bil Keane’s daily comic *The Family Circus* and published user-submitted captions for those panels. In 1999, the site operator, after discussions with Bil Keane, decided to remove the Web site, with its 500 panels and caption lists.¹⁷² As a result, little to none of the Web site’s content is now available on the Web, and because copies of the content had not been distributed,

¹⁷⁰ On home copying by users, see *supra* note 119; see also Gordon, *supra* note 154, at 1387 n.75 (“Should the Internet come to dominate our society as the delivery source for musical and literary works, paper copies of classics could become hard or cumbersome to find.”).

¹⁷¹ 17 U.S.C. § 109(a) (2000).

¹⁷² James Glave, *Family Circus Parody Folds Tent*, WIREDNEWS, Sept. 21, 1999, available at <http://www.wired.com/news/print/0,1294,21853,00.html>.

copies are not generally available as a substitute for online access. Similarly, *The Washington Post* last year closed its NewsBytes.com Web site, which had begun in the early 1980s as an online bulletin board of technology news before being acquired by *The Washington Post*, and which claimed over five million readers. Nearly two decades worth of news reports on technology were apparently no longer available on the Web once the Web site was closed.¹⁷³

The loss of access to copyrighted works can be seen most easily in comparison with works distributed in copies. If King Features Syndicate, the distributor of *The Family Circus*, refused to make any additional copies of the comic available or license anyone else to do so, the strips that had previously been published would be widely available in newspaper copies (the strip is syndicated in 1,500 newspapers) and in used copies of the more than sixty published collections.¹⁷⁴ Similarly, if *The New York Times* were, like Newsbytes.com, to cease to exist, no doubt libraries around the country would nonetheless be able to offer patrons access to virtually the entire run of the newspaper.¹⁷⁵ The distribution of copies, which can freely circulate under the first sale doctrine, created “back-up” sources from which the public could obtain copies of a work that the copyright owner has withdrawn. Dissemination by digital transmission does not create such back-up sources.

Electronic publishers have already begun withdrawing articles from their databases. Elsevier Science removed from its ScienceDirect database a controversial article from the journal *Human Immunology* about Palestinian genetics that the company and the journal’s publisher decided offered political and historical opinions inappropriate

¹⁷³ See Declan McCullagh, *More on Newsbytes R.I.P.*, DECLAN McCULLAGH’S POLITECH, June 2, 2002, at <http://www.politechbot.com/p-03606.html>. Apparently at least some of the Newsbytes reports will remain available on LEXIS/NEXIS, which lists Newsbytes content from July 1989 in its NEWS/ASAPIN file. See *id.* In addition, because Newsbytes reports were syndicated, some reports may have been printed or posted online in other locations and so may be available there. See also Thor Olavsrud, *Washington Post Co. to Shutter Newsbytes* (May 16, 2002), at <http://dc.internet.com/news/article.php/1136291>.

¹⁷⁴ See About the Comic, at <http://www.kingfeatures.com/features/comics/familyc/aboutMaina.php> (last visited Jan. 15, 2003).

¹⁷⁵ In many cases, of course, access to much of the run of *The New York Times* or other periodicals would be by means of microfilm or microfiche copies, rather than the paper copies in which the newspaper originally circulated to the public, because many libraries have chosen to buy such film copies to replace their paper runs of serials. This phenomenon may present its own preservation problems. See generally NICHOLSON BAKER, *DOUBLE FOLD: LIBRARIES AND THE ASSAULT ON PAPER* (2001).

for a scientific journal.¹⁷⁶ LexisNexis and Westlaw deleted an article published in the *Denver Journal of International Law and Politics* from their databases when the journal's publisher, the University of Denver, pressed for its withdrawal. The article had criticized Boise Cascade, among other multinational corporations, and the company had "reacted harshly," although "there was no proof of plagiarism or publishing malfeasance."¹⁷⁷ Elsevier Science has also withdrawn articles from ScienceDirect due to plagiarism or scientific misconduct. Although the number of articles withdrawn amounts to a fraction of the millions of articles in the database, many other electronic publishers maintain problematic articles in their databases and add corrections or warning notices to them. Librarians have criticized expunging works from electronic databases as potentially corrupting the historical record and posing practical problems for current researchers and future historians.¹⁷⁸ In the cases of withdrawal so far noted, the articles in question seem to have appeared in print prior to being included in, and then expunged from, electronic databases, so that researchers willing and able to search for the articles in hardcopy can still find them. As more works are published only electronically, however, such alternative sources will not be available when a controversial work is withdrawn.¹⁷⁹

Dissemination of a work exclusively by online transmission also creates the possibility of what might be called "withdrawal by revision." A copyright owner might decide not to withdraw an earlier work entirely but rather to revise the work and transmit only the revised version. When a revised work has been previously distributed in copies, the first sale doctrine helps assure the public access to the earlier, unrevised versions. If, however, the work has been disseminated only by transmission, few if any lawfully made copies of the unrevised versions may exist and those that do will most likely not be systematically accessible. For works of art and entertainment, this may hamper

¹⁷⁶ Andrea L. Foster, *Elsevier's Vanishing Act*, CHRON. OF HIGHER EDUC., Jan. 10, 2003, at A27, A28.

¹⁷⁷ *Id.* at A27.

¹⁷⁸ *Id.* at A28. Librarians reacted favorably to a recent policy change by Elsevier that will result in some cases in "retracted" articles remaining available electronically with a watermark indicating the retraction. Andrea L. Foster, *Elsevier Announces New Procedures for Retracting Online Articles*, CHRON. OF HIGHER EDUC., Feb. 10, 2003, at <http://chronicle.com/free/2003/02/2003021002t.htm>.

¹⁷⁹ Elsevier Science apparently intends to deposit an archive of all of its electronically published articles with the Royal Dutch Library, but it is unclear how widely that archive will be accessible. Foster, *supra* note 176, at A28.

the work of critics and social and cultural historians; for works of reporting or opinion, it may endanger the accuracy of the historical record.¹⁸⁰

Even where copyright owners disseminate works digitally in ways that allow users to acquire copies, the first sale doctrine may be of much less help in assuring wide access to withdrawn works than it is today. In some cases, at least those who previously accessed the work may be able to continue to do so. For example, users may have purchased the right to download online works to files on their computer hard disks, and they will be able to access the work using those files even after the copyright owner takes the work offline, assuming that the files are not time-limited. Similarly, if the copyright owner has sold “tethered” copies, the owner of the tethered copy will be able to use that copy so long as she maintains the original tethered equipment. But even in those situations, the existence of such copies will be of little help in providing access to the work to people other than the original copy owner. Copy owners will face practical difficulties in transferring the files downloaded onto their hard drives and legal difficulties if they try to copy the file onto a more transferable medium or disseminate it by transmission. Furthermore, selling, renting, or lending a tethered copy will be useless unless the original tethered equipment is also sold, rented, or lent, which is likely to be cumbersome. Thus, even if many people own digital copies of a transmitted work, technological protection measures and the current language and interpretation of the first sale doctrine mean that those copies are unlikely to provide an effective means of access to a work that a copyright owner has withdrawn.

On the whole, then, with respect to access to withdrawn works, a shift away from copy distribution toward dissemination by digital transmission seems likely to reduce or eliminate the first sale doctrine’s ability to give the public access to such works.

¹⁸⁰ “This is the scariest feature of the Internet, the part George Orwell would have understood best: The sense in which Net has no real history. A page can be changed without anybody noticing. It gets updated but no marks are left. ... Remember the editors in 1984 constantly rewriting the past? Those editors are the Internet.” Lawrence Lessig, *Innovating Copyright*, 20 CARDOZO ARTS & ENT. L.J. 611, 615 (2002) (citation omitted). For example, Epstein notes that “[f]or Walt Whitman and his ever-changing editions of *Leaves of Grass* the Web would have been ideal.” EPSTEIN, *supra* note 51, at 173. For critics and historians, losing all previous versions to an updated Web page would perhaps be less than ideal.

b. *Preservation*

A shift to digital dissemination also seems likely to threaten the first sale doctrine's contributions to preservation. If a work is distributed only by transmission, then the only copies of the work will generally be copies stored on the copyright owner's computer server, which transmits the work to the public over the network (as well as any other copies, such as printouts, kept by the copyright owner). Even if the work is seen or heard by millions of consumers, those consumers generally will not have a copy, just as radio listeners and TV viewers today do not generally have copies of the works they hear and see.¹⁸¹ This lack of widely distributed copies means that the copies maintained by the copyright owner must bear all of the risk of damage, loss, disappearance, or destruction. If a fire or flood strikes a print publisher's warehouse today and consumes all of the inventory of a particular book, copies of the book located elsewhere—in homes, offices, bookstores, and libraries—will survive. If a fire or flood strikes an electronic publisher's server farm and destroys all of the computer hard disks containing a work distributed by electronic transmission, chances are greater that the disaster will destroy all or most of the copies of a work.

Many copyright owners who engage in digital dissemination will, of course, be aware of the various dangers to their digitally stored content. Many will take precautions.¹⁸² They will make regular backup copies of their works and store multiple backup copies in different locations. They will have redundant servers, each with copies of the work, in different locations. The ability to earn money from digital transmissions of the work will no doubt create incentives in many situations for copyright owners to use care to ensure that their works are protected and preserved. Nevertheless, such precautions have a cost, and some copyright owners may decide for some less profitable works that the money to be made from exploiting the work does not

¹⁸¹ Although some consumers will record a work, as noted above, see *supra* note 119, such recordings may not be subject to the first sale doctrine. In addition, although a home recording of a work that has otherwise disappeared will be better than no copy at all, relying on such copies for preservation purposes seems unwise. Will most works be copied? Will those copies be of high quality? Will they be retained?

¹⁸² *But see* Katie Hafner, *Saving The Nation's Digital Legacy*, N.Y. TIMES, July 27, 2000, at D1: "Many Web pages created before 1996 have been lost because no one thought to take periodic snapshots for archival purposes until then." Whether those pages are truly "lost," of course, depends on whether their creators retained copies of them.

justify those costs.¹⁸³ Indeed, as noted above, the history of the movie industry offers an example of such a situation. For many years, film studios did not see the economic value of preserving much of their output. They saw little chance of making revenue from re-releasing most films, the costs of properly and safely storing volatile nitrate prints were high, and immediate money could be made by reclaiming the silver from the film. Because these studios often owned all or most of the copies of their motion pictures—the prints circulated to cinemas for exhibition and were then returned to the studio if they had not completely deteriorated from multiple screenings—a studio's economically rational decision not to maintain and preserve copies of its films often meant that those motion pictures were entirely lost.

Many works of authorship may, at some point during their long term of copyright protection, cease to be commercially valuable enough to their copyright owners to justify the costs of preservation—a point strongly suggested by the historical experience with renewal. For works copyrighted before 1978, U.S. copyright law divided copyright protection into two terms and required an affirmative act of renewal to secure the second term. Throughout the twentieth century, only a small proportion of copyrighted works were in fact renewed at the end of their initial twenty-eight-year term of protection, even though the fee for renewal was generally relatively low.¹⁸⁴ This suggests that for many works, copyright owners will be unlikely to expend much money on preservation over the now much-longer term of copyright protection.¹⁸⁵

Thus, the potential impact of digital distribution on the preservation effects of the first sale doctrine is very significant. In the world of copy distribution, a copyright owner's economic decision not to expend resources to preserve a work might have had a relatively limited effect on the work's survival, because many other people owned copies that they might choose to preserve (particularly if those other

¹⁸³ “[M]any films are lost every year because many small copyright holders, like educational publishers, must eliminate their stock for the next year's supply; worse yet, these firms commonly go out of business or file for bankruptcy, often resulting in loss of all copies of past works.” Mulligan & Schultz, *supra* note 51, at 463 n.35.

¹⁸⁴ As of 1959, renewals accounted for just under fifteen percent of the registered works eligible for renewal that year. Barbara A. Ringer, *Renewal of Copyright*, in 1 *STUDIES ON COPYRIGHT* 503, 617–18 & tbl.2 (1963). By 1991, the rate had risen to only twenty-two percent. WILLIAM M. LANDES & RICHARD A. POSNER, *INDEFINITELY RENEWABLE COPYRIGHT* (Univ. of Chi. Law Sch., Olin Working Paper No. 154, 2002), at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=319321.

¹⁸⁵ See also Mulligan & Schultz, *supra* note 51, at 463 n.35.

owners were libraries or archives). But if the digital-transmission copyright owner forgoes expenditures that help preserve the work, it is not clear that anyone else will be in a position to engage in such preservation. In addition, preservation of digital works may well be particularly costly, decreasing the chances that copyright owners will be willing or able to engage in broad efforts to preserve their own works. Digitally storing copyrighted works creates at least two practical problems that complicate and may raise the cost of preserving those works: the perishability of digital storage media, and the technological obsolescence of playback equipment.¹⁸⁶

First, digital works must often be copied regularly because the integrity of the data storage on the medium is perishable. Although print on acid-free paper may last for hundreds of years, “the latest generation of digital storage tape is considered to be safe for about ten years, after which it should be copied to avoid loss of data.”¹⁸⁷ Optical media such as CDs and DVDs may last longer, perhaps up to 100 years, though life expectancy of any particular copy may depend largely on its handling and storage environment.¹⁸⁸

Even if the physical medium is preserved and data integrity is maintained, storing works digitally presents a second problem. With printed books and sheet music, as well as photographic prints and paintings, the preservation challenges are largely those of maintaining the physical copy (e.g., keeping the book’s paper from disintegrat-

¹⁸⁶ See, e.g., COMPUTER SCI. & TELECOMM. BD., NAT’L RESEARCH COUNCIL, THE DIGITAL DILEMMA 209–10 (2000); Hafner, *supra* note 182, at D8 (“Counterintuitively, perhaps, digital archives are more vulnerable than their acid-free paper counterparts. That is because computer hardware and software quickly become obsolete, and the durability of magnetic storage media like tapes and disks is limited.”); Jeff Rothenberg, *Ensuring the Longevity of Digital Documents*, SCI. AM., Jan. 1995, at 42, 44 (“Most files contain information that is meaningful solely to the software that created them.”); Tristram, *supra* note 100, at 38 (“‘The layman’s view is that digital information is more secure, when in fact it’s far more ephemeral,’ . . . says [Abby Smith, director of programs at the Council on Library and Information Resources]. ‘We know how to keep paper intact for hundreds of years. But digital information is all in code. Without access to that code, it’s lost.’”).

¹⁸⁷ STILLE, *supra* note 98, at 302.

¹⁸⁸ Richard Koprowski, acting head of the Archive of Recorded Sound at Stanford University, offered an example of the possible fragility of music CDs, by comparison to 78 rpm recordings, which he characterized as “remarkably stable.” “I can hold up a 78 made by Caruso in 1917 and a CD issued by RCA Victor in 1993, which has that same 78 on it, and the CD can’t be played anymore because it has suffered from ‘bronzing.’ The silver layer has disintegrated inside the plastic wrap, and it’s become unreadable.” Diane Rogers, *Now Hear This*, STANFORD MAG., Jan./Feb. 2003, at 54, 59; see also Michael W. Gilbert, *Digital Media Life Expectancy and Care*, @OIT, Fall 1998, available at http://www.oit.umass.edu/publications/at_oit/Archive/fall98/media.html (last revised Feb. 21, 2002).

ing) and maintaining the visibility of the work on that copy (e.g., keeping the photographic image from fading away even if the paper remains intact). If those challenges are met, anyone with access to the copy can obtain access to the work—the book can be read, the photograph can be viewed. Accessing a digitally stored work, however, not only requires having an intact copy of the work, but also requires having computer hardware and software that can read the data stored on the copy and translate that data into images or sounds that the user can see or hear.¹⁸⁹

Stored digital data is useless unless the proper equipment is available to translate that data from a bit stream of zeroes and ones into a form that humans can perceive. Standard media formats for storing digital data have changed much more frequently over the past thirty years than have directly perceptible media such as paper over a much longer period. Standard computer diskettes, for example, have gone from 8" floppy diskettes introduced in 1971, to 5-1/4" floppy diskettes introduced in 1976, to 3-1/2" floppy diskettes introduced in 1984.¹⁹⁰ Although the last may seem standard today, they may be on their way to soon becoming as obsolete as earlier formats.¹⁹¹ In addition, even if hardware is available to read a particular obsolete storage medium, the technology for rendering stored data perceptible changes fairly rapidly, so ways must be found to make surviving stored data visible or audible in a world of new, usually incompatible, hardware and software (including both the particular application with which the work was created and the operating system on which that application runs).¹⁹² As one author put it, "without some sort of digi-

¹⁸⁹ See, e.g., Rothenberg, *supra* note 186, at 44 ("A file is not a document in its own right—it merely describes a document that comes into existence when the file is interpreted by the program that produced it."). This is true not only for digitally stored works, but is generally true for works stored in a format that requires mechanical operation to access the work. A vinyl long-playing record, for example, involves analog storage of sound, but without an operable record player, even possession of a perfectly preserved LP in mint condition will not give the possessor access to the work stored on the LP. See generally STILLE, *supra* note 98, at 300–09.

¹⁹⁰ *Computer Hardware: Information about computer floppy drives*, at <http://www.computerhope.com/help/floppy.htm> (last visited Feb. 7, 2003).

¹⁹¹ Dell, one of the world's largest computer makers, recently announced that 3-1/2" floppy disk drives will become optional on its desktop computers, having already become optional on notebook computers. See Associated Press, *Dell Computer Removing Floppy Drives on Desktops*, Feb. 6, 2003.

¹⁹² See STILLE, *supra* note 98, at 301–02.

[A]s the pace of technological change increases, so does the speed at which each new generation of equipment supplants the last. "Right now, the half-life

tal resuscitation, every application [program] . . . eventually stops working, and every data file eventually becomes unreadable. *Every application and every file.*"¹⁹³

Early users of personal computers may be familiar with this problem if they have ever needed access to word-processing documents stored on 5-1/4" floppy disks in an early word-processing format that is no longer supported. The problem exists on a much larger scale, though. One example is the BBC's Domesday Project from the 1980s. In honor of the 900th anniversary of the original Domesday Book compiled for William the Conqueror, the BBC created two interactive videodiscs containing extensive multimedia documentation of life in Britain in the 1980s, including thousands of maps, pictures, and data sets, compiled in part by contributions from large numbers of schools and community groups.¹⁹⁴ The discs were accessible only on a special computer system, and by 2002 few if any of the systems remained in operation, and a major project jointly conducted by Leeds University and the University of Michigan was necessary to develop a way to access the material.¹⁹⁵ Other examples of digitally stored information becoming inaccessible in a relatively short time include New York state land-use and natural-resource inventories from the 1960s, NASA satellite data from the 1970s, and important East German records.¹⁹⁶

of most computer technology is between three and five years," said Steve Puglia, a preservation and imaging specialist [at the National Archives]. In the 1980s, the Archives stored 250,000 documents and images onto optical discs—the cutting edge of new technology at the time. "I'm not sure we can play them," said Puglia, explaining that they depend on computer software and hardware that is no longer on the market.

Id.; see also Tristram, *supra* note 100, at 39.

JPEG, for example, the standard many digital-camera users rely on to store family photos, is already in the process of being outmoded by JPEG 2000, a higher-quality compression standard. "Unless we do something drastic," says Margaret Hedstrom, professor of information at the University of Michigan's School of Information, "in one or two or five years it's going to be very difficult for people to look back and see the photos they took."

Tristram, *supra* note 100, at 39.

¹⁹³ Tristram, *supra* note 100, at 39.

¹⁹⁴ Robin McKie & Vanessa Thorpe, *Digital Domesday Book Lasts 15 Years not 1000*, THE OBSERVER (London), Mar. 3, 2002, available at <http://books.guardian.co.uk/news/articles/0,6109,661585,00.html>.

¹⁹⁵ *Digital Domesday Book Unlocked*, BBC NEWS, Dec. 2, 2002, available at <http://news.bbc.co.uk/1/hi/technology/2534391.stm>.

¹⁹⁶ Gerd Meissner, *Unlocking the Secrets of the Digital Archive Left by East Germany*, N.Y. TIMES, Mar. 2, 1998, at D5; Tristram, *supra* note 100, at 38–39. For examples of digitally

Libraries and others have already recognized these preservation problems with digital material and therefore tend to avoid digital storage when their goals are long-term availability of information or copyrighted works. For example, the Tarlton Law Library at the University of Texas School of Law acquires non-digital copies when possible because of the uncertainty that digital copies will remain accessible in the future.¹⁹⁷ A project designed to preserve information about dying languages into the far future has chosen not to use any digital format, but rather to micro-etch analog text onto long-lived high-density storage disks, so that a microscope will be the only technology needed to access the data.¹⁹⁸

As copyright owners shift to digital dissemination, however, the preservation difficulties will become increasingly unavoidable. Several approaches exist to the problem of stored digital data outlasting the equipment necessary to access it. They include

migration, which consists of updating or sometimes entirely rewriting old files to run on new hardware; emulation, a way of mimicking older hardware so that old software and files don't have to be rewritten in order to run on new machines; and more recently, encapsulation, a way of wrapping an electronic document in a digital envelope that explains, in simple terms, how to re-create the software, hardware or operating systems needed to decode what's inside.¹⁹⁹

All of these approaches have drawbacks and imperfections,²⁰⁰ but for present purposes the most significant point is that they seem likely to

stored data and works that nearly became inaccessible, see Rothenberg, *supra* note 186, at 42.

¹⁹⁷ See Collection Development Policy of the Tarlton Law Library, University of Texas at Austin School of Law, Fall 2002, at 8 (“[The] increased emphasis on electronic access has not, however, lessened our commitment to building and maintaining our traditional print collections. Because of the importance of insuring access to our collections for future generations of researchers, the library is very cautious about replacing print format in favor of electronic formats.”) (on file with author).

¹⁹⁸ Mayfield, *supra* note 100 (“For the long term, there hasn't been anything digital that has had a ghost of a chance of being taken as seriously archival,” [Doug] Whalen [founder of the Endangered Language Fund] said. . . . “[The analog disk] could make a big difference, hopefully sometime in the very far future.”).

¹⁹⁹ Tristram, *supra* note 100, at 39. Another approach, “rebuilding old hardware or keeping it around forever to interpret nearly extinct software or formats is economically prohibitive.” *Id.*; see also Rothenberg, *supra* note 186, at 47 (“The cost of repairing or replacing worn out components (and retaining the expertise to do so) must inevitably outweigh the demand for any outmoded computer.”).

²⁰⁰ See Rothenberg, *supra* note 186, at 44–47; Tristram, *supra* note 100, at 39–42.

make preservation of digitally stored works more complicated, time consuming, and costly—to the extent it will be effective at all.²⁰¹

Thus, preserving digitally stored copyrighted works may be more expensive than preserving non-digital works. A print publisher that wants to preserve an out-of-print novel for possible future reprinting generally need only pay for the physical storage of several printed copies, perhaps in secure and climate-controlled conditions. A digital publisher must, in addition, routinely migrate the stored data to current formats and equipment, or, perhaps, create emulation software and hardware capable of making the stored data perceptible. If that proves more expensive, as it likely will, these higher costs may reduce publishers' incentives to engage in careful preservation of their works.²⁰² Furthermore, if they have disseminated the works only by digital transmission, other parties will not own copies that could be the subject of such preservation efforts.²⁰³

The challenges of digital preservation suggest that electronic commerce may undermine the preservation effects of the first sale doctrine even for works that are distributed in digital copies (rather than by digital transmission). Distribution in digital copies may be better for preservation than pure digital transmission, but will still present preservation problems. If a motion picture is distributed by sales of DVD copies, rather than just by on-demand transmission over the Internet, then multiple copies in a variety of environments will exist, making it more likely that copies of the work will survive, even if the copyright owner fails to take steps to maintain and secure the server copies used for transmissions. But widespread ownership of digital copies may mean only that copies survive, not that they are accessible. Fifty years from now, a “tethered” copy may not be usable because the equipment to which it is tethered has long since been re-

²⁰¹ See Tristram, *supra* note 100, at 42 (noting lack of demand and insufficient funding for digital preservation efforts).

²⁰² Film history offers an example. Many film copyright owners, though aware of the degradation of nitrate film stock, did not “migrate” their existing works from that vulnerable medium to more stable film media once available, no doubt because they did not expect to generate much revenue from those works. See *supra* note 113 and accompanying text.

²⁰³ See GladysAnn Wells, *Libraries and the 21st Century*, J. INTERNET L., Jan. 2003, at 12, 16 (“Currently, we lose many digitally born documents when their creators decide that they lack sufficient further market value. At this time, libraries often cannot obtain the legal or the technical means to make even one preservation copy. . . . Without a preservation copy, the information will not exist.”). In addition, even conscientious copyright owners might not anticipate the specific preservation problems of particular media until after they have arisen, when it may be too late to preserve many works stored in those media.

placed and abandoned. Similarly, a time-limited copy may be unusable because the system for buying additional time may not exist.²⁰⁴ Although a DVD itself may survive for one hundred years, the data stored on it may no longer be readable after that time. Few consumers will repeatedly migrate their collections, even if copyright law allows them to do so.

In the past, preserving copyrighted material has generally involved mostly properly storing and conserving copies owned by the preserver—acts that, thanks to the first sale doctrine, did not generally run afoul of copyright owners' rights.²⁰⁵ Preserving digital works will often require migrating those works to a more contemporary format, which will involve acts of reproduction (and perhaps adaptation) generally reserved to copyright owners. In some cases, libraries and archives may be allowed to make such reproductions if the copyright owner has not done so. Section 108 of the 1976 Copyright Act allows certain libraries to make up to three copies of a work if "the existing format in which the work is stored has become obsolete" and if an unused replacement cannot be obtained.²⁰⁶ But parties other than libraries are not covered by this exemption and so will face possible copyright liability for preservation activities. In addition, the provision allows a library to migrate works from obsolete formats only for "replacement" purposes, which suggests that the library must already own a copy of the work. The provision will thus provide no assistance in preserving works not held by libraries, and this could be an especially acute problem if libraries shift from owning copies of works to contracting with owners for access to works.²⁰⁷

²⁰⁴ An example of this is the Divx system, which distributed motion pictures on DVD. Once a user began playback of a Divx disc, the disc could be played back only for a limited time (e.g., 24 hours). To view the disc again, the user's player would have to contact the issuer of the disc and pay for additional access. After a short time, however, the system was discontinued, and after June 2001 Divx discs became unplayable. See, e.g., R. J. Dunill, *The Origins of the Original Divx* (Jan. 17, 2002), at <http://www.techtv.com/screensavers/archive/0,24396,2100114-1009872000,00.html>. If a film existed only in the Divx format, it would now not be accessible, at least not without technology for circumventing the Divx protections that disable access except for the initial limited period and on a licensed player with a connection to the central Divx computer.

²⁰⁵ Of course, in some cases, preservation would require acts of reproduction. To take a simple example, if a library's copy of a book were missing several pages, restoring the book would require reproducing the missing pages from another copy, an act within the copyright owner's reproduction right under 17 U.S.C. § 106(1) (2000). Such reproduction might, however, be allowable as fair use, see *id.* § 107, or under provisions exempting certain archival activities of certain libraries, see *id.* § 108(c).

²⁰⁶ *Id.* § 108(c).

²⁰⁷ See *supra* notes 145–146 and accompanying text.

Even libraries will not necessarily be able to exercise their reproduction privilege for preservation purposes effectively. Technological protection measures used by copyright owners will often prevent effective library copying for preservation purposes.²⁰⁸ For example, motion pictures currently released on DVD are generally encrypted according to the Content Scramble System (CSS), which in its ordinary operation prevents the making of a copy of the digitally stored film.²⁰⁹ Fifty years from now, copying a film released on DVD in 2003 (perhaps so the film can be played on whatever equipment will be used in 2053 for watching movies) will require circumventing the CSS copy controls. Access controls, as opposed to copy controls, can also interfere with preservation copying. Some copyright owners distribute their works with “original only” access controls that allow a computer to make the stored content perceptible only when the original copy supplied by the copyright owner is present in the computer. Although a preservationist might be able to copy the stored content from an older storage medium that is in danger of becoming obsolete, the “original only” access control would prevent access to the migrated preservation copy because it is not the original. The preservationist could not verify that the copying process was successful, and anyone who wanted to consult the archival copy would be unable to do so.²¹⁰ Libraries could perhaps circumvent copy and access controls that interfere with preservation activities, but technology for circumventing such controls is now banned under provisions enacted in the DMCA.²¹¹ Although section 108 exempts libraries that copy for preservation purposes from liability for copyright infringement, it does not exempt them, or their suppliers, from the separate bans on circumvention technology and on engaging in acts of circumventing access controls.²¹² As a result, libraries may have difficulty exercising their rights under section 108 to copy or migrate copyrighted works

²⁰⁸ See, e.g., GINSBURG, *supra* note 117, at 16 n.55 (“The potential unavailability of hard copies also threatens future archives: if a work is available only in an access-protected format, and that format becomes obsolete, a record of the work may be lost unless librarians or archivists may circumvent that access control to extract the work for preservation in a more stable and accessible format.”).

²⁰⁹ See *Universal City Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294, 308 (S.D.N.Y. 2000).

²¹⁰ See Brewster Kahle et al., Re: RM 2002-4—17 U.S.C. § 1201 Exemptions Notice of Inquiry 3–6 (Dec. 18, 2002), available at <ftp://ftp.loc.gov/pub/copyright/1201/2003/comments/025.pdf>.

²¹¹ 17 U.S.C. § 1201 (a) (2), (b) (1).

²¹² *Id.* § 108.

for preservation purposes without incurring liability for violation of the anticircumvention law.²¹³

In sum, then, replacing copy distribution with digital dissemination may well threaten the preservation benefits that the first sale doctrine has traditionally produced.

CONCLUSION

The Copyright Office may well have been right in deciding that it is still early days and that we must wait and see how electronic commerce and technological protection measures will affect the operation of the first sale doctrine. This Article has suggested that as we observe the development of e-commerce and technological protections we should carefully watch two key areas: the affordability and availability of copyrighted works long fostered by the first sale doctrine. We need to ensure that these benefits of the doctrine are not lost in the shift to the digital copyright environment.

Due to the uncertainty of what the details of that digital environment will look like, and the specifics of what impact it will have on the first sale doctrine's affordability and availability effects, proposing concrete amendments to copyright law would be premature. Nevertheless, some general suggestions might be ventured.

Affordability

It seems fairly difficult to deal with any general declines that materialize in affordability. Adopting a proposal along the lines of the "forward and delete" proposals discussed in Part I above and rejected by the Copyright Office in its *DMCA Section 104 Report* might enhance affordability in some cases.²¹⁴ If a copyright owner has made a work available to the public for downloading, then allowing consumers who legally downloaded the work to forward the work and then delete their copy might foster the creation of secondary sale markets in which those consumers could "resell" the downloaded work to other consumers, thus providing some price competition for the copyright owner.

If the use of particular types of technological protection measures on digital copies physically distributed by copyright owners, such

²¹³ See Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354, 418 (1999).

²¹⁴ See U.S. COPYRIGHT OFFICE, *supra* note 19, at 78–101; see also *supra* notes 19–21 and accompanying text.

as CDs or DVDs, turns out to have a negative impact on affordability by impeding the circulation of those copies in lending, rental, and secondary sale markets, we might consider legal restrictions on those measures. For example, if copyright owners widely deploy technologies that tether copies to particular devices, thus preventing subsequent transferees from obtaining access to those tethered copies, we may want to restrict such tethering technologies. Such restriction might take the form of an outright ban, or might take the less dramatic step of allowing the public to develop and use technologies that circumvent tethering measures in order to play tethered copies on multiple devices—essentially exempting tethering technologies from the protection of the DMCA’s anticircumvention provisions. Whether legal limitations on tethering measures would be advisable would, of course, depend on how widely such measures are used and how significant an impact they have on the affordability of access to copyrighted works. The advisability of legal limitations would further depend on the degree to which tethering is in fact effective in protecting copyright owners against significant levels of piracy that might diminish their incentives to produce and disseminate copyrighted works in the first place.

If affordability decreases because copyright owners impose legal, rather than technological, restrictions on the transfer of digital copies, either by purporting to license copies rather than sell them or by imposing transfer restrictions in the terms and conditions of the first transfer of the copy, refusing to enforce such restrictions would be a possible way to ameliorate the decrease in affordability. Courts might be especially cautious in characterizing a copyright owner’s transaction with a consumer as a license rather than a sale, giving careful scrutiny to the actual reality of the transaction rather than to any labels used by the copyright owner.²¹⁵ If the consumer essentially ob-

²¹⁵ See, e.g., *Softman Prods. Co. v. Adobe Systems, Inc.*, 171 F. Supp. 2d 1075, 1082–88 (2001) (“[I]n determining whether a transaction is a sale, a lease, or a license, courts look to the economic realities of the exchange” and party’s labeling of the transaction as a license does not control the analysis.); MELVILLE B. NIMMER & DAVID NIMMER, 2 NIMMER ON COPYRIGHT § 8.12[B][1][d], at 8–160 to 8–166 (1978 & Supp. 2002) (While some courts treated transactions between computer software copyright owners and consumers as “license” transactions that left buyers outside the scope of the first sale doctrine, in fact those transactions generally involved a license of copyright rights and a sale of physical copies (diskettes, CD-ROMs, etc.), entitling buyers to further dispose of those copies under § 109(a). “There was no pretense incident to sale that the acquirers were under an obligation to return the physical media to Microsoft or Adobe.”); RAYMOND NIMMER, THE LAW OF COMPUTER TECHNOLOGY § 1.18[1], at 1-103 (1992) (“Ownership of a copy should be

tains permanent dominion over the physical object that is the copy, the transaction should probably, absent compelling reasons to the contrary, be characterized as a sale, thus conferring on the consumer the rights of a copy “owner” under section 109(a)—the rights to lend, resell, or rent her copy.²¹⁶ With respect to direct legal restrictions imposed by a copyright owner on subsequent transfers of copies, federal copyright law might preempt state contract law to the extent that state law would enforce such restrictions, thus preserving the transferability of copies allowed by the first sale doctrine.

A decline in affordability of access via libraries might be the most important problem to address, as libraries generally offer patrons access to copyrighted works at a price so affordable that copyright owners seem unlikely to match it. Thus, the possibility that many works might not be available to libraries, or might be available only at a price much greater than the price of obtaining a lendable physical copy would have been, might well call for a legislative response. Just as the copyright owner’s sale of a copy today allows any library to buy a copy and give patrons access, mechanisms may be required to allow libraries to give patrons access to a work that a copyright owner publicly disseminates by transmission. The nature of the response would need to be determined by the particular situation that develops, but one possible course would be to require copyright owners who have licensed access to digital transmissions of their works to license library access on equally favorable terms. Such a step is not unprecedented, as Congress has already imposed “most favored customer” licensing requirements on sound recording copyright owners’ transmissions in certain circumstances.²¹⁷

Furthermore, where a copyright owner disseminates a work only by transmission and not by the distribution of freely circulable physical copies, we might consider allowing libraries to make such copies—by printing transmitted works onto paper or by storing such works on a medium that can easily be physically transferred—and to lend those copies to their patrons. Such a limitation on copyright owners’ exclusive reproduction right in favor of libraries could fit within the tradi-

determined based on the actual character, rather than the label, of the transaction by which the user obtained possession.”).

²¹⁶ 17 U.S.C. § 109(a); *see, e.g., Softman Prods.*, 171 F. Supp. 2d at 1085–86 (“[A] single payment for a perpetual transfer of possession is, in reality, a sale of personal property and therefore transfers ownership of that property, the copy of the [copyrighted work].”).

²¹⁷ *See* 17 U.S.C. § 114(h). Congress has also limited sound recording copyright owners’ ability to grant exclusive digital transmission licenses in some cases. *Id.* § 114(d)(3).

tional limitation that allows libraries to reproduce works for interlibrary loan.²¹⁸

Availability

Changes in copyright law might also be needed to address negative impacts on availability of works that might materialize due to a shift to digital dissemination. The increased ability of withdrawal that digital dissemination may give copyright owners seems difficult to address, short of requiring a copyright owner to make her works available or granting compulsory licenses to others to make works available where the copyright owner has not done so; neither of those possibilities seems likely at this stage to rally sufficient support to be enactable. Again, though, if a work has been distributed by download transmission, then allowing those who own downloaded copies to transmit the work to a single recipient and delete their own copy after that forwarding transmission would be one avenue for maintaining some availability of such works after the copyright owner chooses to withdraw the work from further circulation.

In addition, availability concerns counsel against adopting a statutory change in the copyright law recommended by the Copyright Office in its *DMCA Section 104 Report* involving the application of the first sale doctrine to copies produced not by the copyright owner but by someone engaged in copying expressly permitted by one of the Copyright Act's limitations on copyright owner's rights, such as fair use. If a copy of a work is made by someone other than the copyright owner, and if that person's copying qualifies as fair use, then the copy would be lawfully made, and the copier would appear to be entitled to dispose of possession of the copy under section 109.²¹⁹ The Copyright Office expressed concern over this issue in the context of a computer user making routine, periodic backup copies of the data stored on her hard drive. The Copyright Office concluded that making such copies would likely constitute fair use, but then worried that because the software owner's backup copy would be lawfully made under section 107, the software owner might legally be able to sell the backup copy

²¹⁸ See *id.* § 108(d),(e),(g).

²¹⁹ See, e.g., 2 PAUL GOLDSTEIN, COPYRIGHT 5:106 n.1 (2d ed. Supp. 2003) ("Although, to come within the scope of the exemption, the particular copy or phonorecord in issue must have been 'lawfully made under this title,' it need not have been made with the copyright owner's permission. For example, copies made under the section 107's fair use privilege . . . , although not authorized, are lawful and so come within the exemption.").

to another person under the first sale doctrine.²²⁰ Concluding that allowing such transfers would be “fundamentally unfair” to copyright owners, the report recommended that Congress amend the statute to prohibit them, either by creating a specific exemption that permits the making of archival copies but bars their further distribution, or by amending section 109 to provide that a copy owner’s right to redistribute her copy only applies to “copies that have been lawfully made *and lawfully distributed*.”²²¹

Although the Copyright Office expressed no preference between the two courses of action, the availability concerns raised by the potential shift to digital dissemination counsel against addressing the potential backup copy problem with a broad cutback of the first sale doctrine. As noted above, if a work that has been disseminated by digital transmission is withdrawn by the copyright owner, copies printed or stored by authorized transmission recipients might provide the only alternative source of access to the work. If the making of those copies was lawful as fair use, allowing them to circulate offers the public some, albeit perhaps quite limited, continued availability of the withdrawn work. Therefore, to the extent that the possible transfer of routine backups of computer storage media is a concern, an amendment that focuses on that particular problem, and that does not interfere with the transfer of fair-use copies made in other circumstances, would be preferable.²²²

The potential preservation difficulties outlined above may be the easiest problems to address. Congress could broaden the current library and archive exemptions to expand those institutions’ ability to preserve digital works. Congress might expand section 108’s authority for limited preservation-related migration of works from obsolete formats where the copyright owner herself does not migrate the works.

More significantly, Congress may need to consider revising the DMCA’s anticircumvention provisions to allow libraries and archives, and perhaps others, to have access to circumvention technology, and

²²⁰ U.S. COPYRIGHT OFFICE, *supra* note 19, at 153–56.

²²¹ *Id.* at 157–58.

²²² The transfer of routine backups may not, in fact, be allowed. In determining whether making a backup copy is fair use, a court could take into account whether the copy would be transferable. For example, the *Sony* Court, in deciding that recording television broadcasts for later viewing constituted fair use, limited its finding to copies made and then erased, not transferred. *See supra* note 119. Similarly, routinely backing up a hard disk might be fair use *only* if the backups were made to preserve data for later use by the owner herself and not for transfer.

engage in acts of circumventing access controls, necessary for migrating copyrighted works to new formats for preservation purposes. One specific exemption to the ban on circumventing access controls has already been proposed to allow libraries and archives to circumvent “original only” access-control measures so they can migrate digitally stored works for preservation purposes.²²³ The Copyright Office previously adopted a limited exemption from certain anticircumvention provisions where technological protection measures have become obsolete,²²⁴ and has recommended that Congress consider a more general exemption that would allow the making and distribution of technology that circumvents obsolete technological protection measures.²²⁵ Although not motivated by archival concerns in particular, this exemption does suggest that such concerns can be addressed in part through the Copyright Office’s rulemaking authority to create certain exemptions to the DMCA’s anticircumvention provisions, though this authority does not address the problem of obtaining the technology necessary to engage in circumvention.

Another possible adjustment would be to consider a “sunset” provision in the anticircumvention restrictions. If a particular technological protection measure is no longer used by copyright owners to protect newly distributed copies or newly made transmissions, then at some point anticircumvention law might cease to apply to that measure. This would allow libraries and others interested in preservation to circumvent the measure and migrate the work to a more contemporary format. The benefit of such a sunset provision would, of course, need to be weighed against the potential that such permissible circumvention could allow infringers to circumvent protections on older-format copies of still-popular works and engage in infringing dissemination of such works.

Other adjustments in copyright law might be needed to address preservation issues. Deposit copies might fulfill a greater preservation role. Copies of every published work must currently be deposited with

²²³ See Kahle et al., *supra* note 210, at 4.

²²⁴ Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. 64556, 64564–65 (effective Oct. 28, 2000) (to be codified at 37 C.F.R. pt. 201). The exemption applies only to literary works and not to other categories of copyrighted works.

²²⁵ Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. at 64565 (“[T]he Register recommends that Congress consider amending section 1201 to provide a statutory exception for all works . . . that are protected by access control mechanisms that fail to permit access because of . . . obsolescence.”).

the Copyright Office for the use of the Library of Congress.²²⁶ Copyright deposit has in the past served an important preservation function.²²⁷ Perhaps the best example involves early motion pictures. Because of the unclear copyright status of motion pictures in the late nineteenth and early twentieth century, film copyright owners sought protection for their works as a series of photographs, which were clearly copyrightable. To comply with the formalities of the time, these copyright owners printed their movies onto paper strips and deposited the paper strips with the Copyright Office. These strips have survived in much better condition than most of the early films themselves, and many have been transferred back onto film, providing access to early movies that have otherwise disappeared.²²⁸

A strengthened deposit requirement might be part of a solution to digital preservation problems. The requirement might need to be extended beyond its current scope of works that are “published” under the Copyright Act’s technical definition of that concept, which may not include works disseminated only by transmission, and it might require more active enforcement.²²⁹ The deposit requirement might need to be supplemented with provisions making clear that deposit of new versions or formats is required, as well as with provisions allowing the Library of Congress to copy for preservation purposes (perhaps expanding the scope of the current archival exemption, if needed), and where necessary, to develop devices for circumventing copy-control technologies to carry out such copying. In addition, given the history of dangers faced by concentrations of copies of

²²⁶ 17 U.S.C. § 407 (2000). Although deposit is mandatory, failure to deposit does not affect a work’s copyright in any way, though failure to deposit in response to a written demand from the Register of Copyrights can result in fines. *Id.* § 407(d).

²²⁷ Current copyright regulations take preservation concerns into account to some degree in determining what constitutes the “best edition” that must be deposited. Thus, for example, the first criterion for determining the best edition of printed textual matter and other graphic matter is a preference for “[a]rchival-quality rather than less permanent paper.” 37 C.F.R. pt. 202, app. B, at 521 (2002). Preservation concerns are also reflected, though not of primary importance, in determining the “best edition” for other types of material. *Id.* at 522 (archival quality of paper as criterion in determining best edition of photographs, musical compositions).

²²⁸ SLIDE, *supra* note 102, at 17, 36–39, 62–68.

²²⁹ *See* Getaped.com Inc. v. Cangemi, 188 F. Supp. 2d 398 (S.D.N.Y. 2002) (holding that public display of Web site by network transmission constituted “publication”); *see also* U.S. Copyright Office, Library of Congress, *Circular 66: Copyright Registration for Online Works 3* (1999) (“The definition of ‘publication’ in the U.S. copyright law does not specifically address online transmission. . . . [T]he Copyright Office asks the applicant . . . to determine whether the work is published or not.”). *But see* Reese, *supra* note 119, at 131–32 (arguing that mere transmission over computer networks may not constitute publication).

copyrighted works, it might be advisable for the Copyright Office to have the authority (and the resources) to duplicate deposit copies and to deposit those duplicates in archives not located in Washington, D.C.

Congress or the Copyright Office might further require that deposit copies be in unencrypted format to ensure that access to deposited works remains available in the future, even if the appropriate software and hardware for decrypting the publicly distributed and encrypted copies becomes unavailable.²³⁰ Alternatively (or additionally), Congress might establish deposit requirements relating to technological protection measures. Congress could provide that the DMCA's anticircumvention provisions would apply to any particular technological protection measure only if the hardware and software necessary to obtain access to works protected by that measure had been deposited with the Copyright Office. This would create a central repository of the technology needed in the future to obtain access to works that might exist only in copies protected by technological protection systems that have become obsolete.²³¹

A different but possibly complementary approach would be to enable private parties to engage in archival copying and preservation activities, and this too might require amendments to the Copyright Act. Projects such as the Internet Archive (www.archive.org) have already begun the process of archiving and preserving much of the content of the World Wide Web.²³² The Internet Archive, however, allows copyright owners to exclude their Web sites from its collection

²³⁰ Where deposit copies are in copy-protected format, current Copyright Office regulations require in some circumstances that two copies, rather than one, be deposited, and that the deposit include partial "identifying information" in a format visually perceptible without the aid of a machine or device. See 37 C.F.R. §§ 202.19(d)(2)(vii), 202.20(c)(2)(vii), (viii), (xix) (2002). In addition, in determining what constitutes the "best edition" of a machine-readable work that must be deposited with the Library of Congress, Copyright Office regulations expressly prefer copies that are "[n]ot copy-protected rather than copy-protected." 37 C.F.R. pt. 202, app. B, at 523 (2002).

²³¹ Although libraries might be allowed to circumvent obsolete access controls for certain types of works during certain times if allowed by a triennial rulemaking conducted by the Librarian of Congress, see *supra* note 224 and accompanying text, such circumvention is likely to be "difficult and time-consuming" in many cases, Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. 64556, 64565 (effective Oct. 28, 2000), so that having a repository of technology that allows access would probably result in more access to, and migration of, works protected by obsolete formats.

²³² John Schwartz, *Page by Page History of the Web*, N.Y. TIMES, Oct. 29, 2001, at C3.

process, resulting in some works never being stored.²³³ In addition, the copyright issues raised under current law by the Archive's copying of online material for preservation are unsettled.²³⁴ To the extent organizations such as the Internet Archive may be part of the solution to some of the preservation problems that arise when freely transferable, usable copies of a work are not distributed to the public, copyright law may need to be amended to clarify the legality of those organizations' activities.

Because it is too early to say with certainty whether the shift to digital dissemination will produce problems of affordability or availability, or to know precisely what those problems will be, these suggestions for how copyright law might respond to those problems are obviously tentative. For the moment, the important point is that the first sale doctrine has traditionally fostered the affordability and availability of copyrighted works in significant ways, and that although digital dissemination of copyrighted works offers great promise, it may also undermine existing benefits of the copyright system. As digital dissemination grows, we should watch carefully for such undermining and, when we see it, consider revising copyright law so that the law will continue to provide those benefits.

²³³ See Internet Archive, Copyright Policy (Mar. 10, 2001), at <http://www.archive.org/about/terms.php>.

²³⁴ See Schwartz, *supra* note 232, at C3.