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COPYRIGHT AND CONTROL OVER NEW TECHNOLOGIES OF DISSEMINATION

Jane C. Ginsburg*

The relationship of copyright to new technologies that exploit copyrighted works is often perceived to pit copyright against progress. Historically, when copyright owners seek to eliminate a new kind of dissemination, and when courts do not deem that dissemination harmful to copyright owners, courts decline to find infringement. However, when owners seek instead to participate in and be paid for the new modes of exploitation, the courts, and Congress, appear more favorable to copyright control over that new market. Today, the courts and Congress regard the unlicensed distribution of works over the Internet as impairing copyright owners' ability to avail themselves of new markets for digital communication of works; they accord control over those markets to copyright owners in order to promote wide dissemination. Copyright control by authors, particularly those excluded by traditional intermediary-controlled distribution systems, may offer the public an increased quantity and variety of works of authorship.

I. INTRODUCTION

The Constitution designed copyright to “promote the progress of science” by assuring authors “the exclusive right” to their writings.1 Authors’ ability to control and be compensated for their works makes it worth their while to be creative. But the constitutional formulation does not tell us how much control authors should be able to exercise over their works. That turns on the scope of copyright protection, particularly with respect to new markets fostered by new technologies. In articulating the reach of the author’s exclusive rights over reproduction, distribution, and public performance and display,2 the copyright statute and the judges who interpret it attempt a balance: Creators should maintain sufficient control over new markets to keep the copyright incentive meaningful, but not so much as to stifle the spread of the new technologies of dissemination.3

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3. See, e.g., 144 Cong. Rec. S11,887, S11,888 (daily ed. Oct. 8, 1998) (statement of Sen. Ashcroft) (explaining his belief that Digital Millennium Copyright Act would protect copyright holders without limiting development of legitimate new technologies). For more general discussions of copyright law as a balancing of interests, see, for example,
The setting of the copyright balance is not immutable; rather, each significant technological progress may alter the balance of control between authors and users, in turn eventually prompting a new legal calibration. For example, until the advent of the photocopier, copyright owners substantially controlled the production and dissemination of copies of works of authorship, as the public could not obtain the work without purchasing a copy, or borrowing one from a library or a friend. Before mass market audio and video recording equipment, copyright owners also controlled access to works made publicly available through performances and transmissions, because the public could not see or hear the work without attending a licensed live performance, or viewing or listening to it through licensed media. With the arrival of these technologies, the de facto, and often the de jure, balance substantially shifted to users. With the Internet and Congress's recent response to it, the balance may be shifting yet again. This potential shift has occasioned much outcry from those who fear the pendulum has swung too far to the copyright-owning side.4


The confluence of new technologies of access control and copy control, and new legislation in the 1998 Digital Millennium Copyright Act (DMCA) preventing their circumvention, may in fact have enhanced the ability of copyright owners to wield electronic protective measures to control new kinds of exploitation of their works. In reaction, critics assert that the goal of copyright law has never been, and should not now become, to grant "control" over works of authorship, but rather to accord certain limited rights over some kinds of exploitations. Economic incentives to create may be needed to achieve the constitutional goal of public instruction, but those incentives should be as modest as possible. Copyright, much recent scholarship has urged, has not and should not cover every way of making money from, or of enjoying, a work of authorship.

Thus, according to this view, when new technologies spawn new markets for copyrighted works, we should not simply assume that copyright own-
ers ought to control those new markets by restricting the use of those technologies.

There is doctrinal support for the contention that copyright never assured authors even a limited monopoly over all forms of exploitation. For example, the "first sale doctrine" removes the resale and rental markets from copyright owners' control. The fair use exception permits a variety of unauthorized reproductions or derivative works, sometimes even for commercial purposes. And new technology cases of the past, from piano rolls to cable television to videotape recorders, have variously limited the scope of copyright, either by finding that the exploitation did not come within the copyright holder's statutory rights, or, despite prima facie infringement, by finding fair use. Indeed, a review of past confrontations between copyright and new technological means of dissemination suggests that courts often are reluctant to restrain the public availability of new technologies, even when those technologies appear principally designed to exploit copyrighted works.

That said, when courts have curtailed the scope of copyright protection, Congress often has stepped in to assure copyright owners some form of compensation from the new means of exploitation—if not always control over it. Because these compromise measures generally have taken the form of compulsory licenses that trade control for compensation, one might therefore conclude that when copyright and new technology conflict the copyright owner's right to control the disposition of the work must yield to a greater public interest in promoting its unfettered (if not always unpaid) dissemination.

In fact, the judicial and legislative resolution of tensions between the exercise of control under copyright on the one hand and the availability of new technology on the other is far more nuanced, and notwithstanding current critiques, supports a continued role for control in a new tech-

11. See infra Part II.A.
12. See, e.g., 17 U.S.C. § 111 (1994 & Supp. V 1999) (cable); id. § 115 (mechanical license); see also 17 U.S.C. § 1201(k) (Supp. V 1999) (mandating copy control devices for analog videotape recorders and prohibiting their circumvention). An additional rationale for compulsory license schemes is reduction of the transaction costs that negotiated licenses would impose. Robert Cassler, Copyright Compulsory Licenses—Are They Coming or Going?, 37 J. Copyright Soc'y USA 231, 249 (1990) (explaining that compulsory licenses are useful in reducing transaction costs in situations where such costs are "recognized as substantial and logistically difficult").
nological environment. Although the DMCA's regulation of technological measures may endeavor to ensure greater control for copyright owners over new markets created by new technology than in the past, the logic underlying this legislation is consistent with earlier approaches to copyright/technology conflicts.

In Part II, this Article suggests that pre-DMCA judicial and legislative responses to controversies involving copyright and new technologies reveal a pattern that will help us understand when and why a court or Congress will (or will not) privilege dissemination over control. The Article argues that when copyright owners seek to eliminate a new kind of dissemination, and when courts do not deem that dissemination harmful to copyright owners, courts decline to find infringement, even though the legal and economic analyses that support those determinations often seem strained, not to say disingenuous. This does not always mean, however, that courts refuse protection, or that Congress imposes a compulsory license, each time copyright encounters new technology. Rather, when copyright owners seek to participate in and be paid for the new modes of exploitation, the courts, and Congress, appear more favorable, not only to the proposition that copyright owners should get something for the new exploitation, but more importantly, to the proposition that when the new market not merely supplements but also rivals prior markets, copyright owners should control that new market. The control permits copyright owners to refuse to license, and therefore to charge market prices.

Part III then considers whether, given the special characteristics of the Internet environment that serves as the backdrop to the DMCA, the pattern discerned in the earlier copyright/technology confrontations still holds. I observe that the Ninth Circuit's recent Napster decision and other developing case law addressing alleged infringements on the Internet and construing the Copyright Act without the DMCA amendments hold that online exploitations create a new market whose control the copyright law awards to authors and their successors in title. Significantly, these decisions focus more on the role of control in developing potential new markets than on the harm a lack of control would bring to old ones. I posit that these decisions' supportive approach toward copyright owners' control derives from courts' perception that the unlicensed (and often unpaid) distribution of works over the Internet competes unfairly not only with traditional forms of hardcopy distribution, but more importantly, with the copyright owner's ability to avail itself of new mar-

14. See, e.g., 17 U.S.C. § 106(6) (Supp. V 1999) (granting digital sound performance right in sound recordings); id. § 114(d)(2) (providing for compulsory license for webcasting and exclusive rights for interactive media); see also infra Part II.B.
kets for downloading and audiostreaming. The case law thus adheres to the pattern, but with a shift in emphasis toward control over technologically induced new markets regardless of the new markets' potential to displace the old.

On the legislative side, I contend that Congress’s recent provision for protection of technological measures controlling access to and copying from copyrighted works, particularly those made available through digital media and networks, implements lessons drawn from prior resolutions of tensions between copyright and new technologies, and is consistent with the earlier pattern. A goal of the DMCA was to encourage copyright owners to make their works available through digital networks. Copyright owners’ fears that Internet dissemination would render their works instantly vulnerable to massive copying and redistribution underlay their professed trepidation about exploiting this medium. While copyright owners could distribute their works encased in some form of technological protection, they still perceived a probability that others would remove those protections, making the work as vulnerable to unlicensed copying as it would have been without resort to technological measures. This concern persuaded Congress that it could foster participation in digital communication only by reinforcing copyright owners’ control over the distribution of their works. Congress thus concluded that the benefit of participation outweighed the potential loss to the public of circumvention devices that enable more widespread communication of copyrighted works.

Finally, the Article considers whether and why it matters that, under the view of the copyright law espoused here, copyright owners properly retain control over new means of dissemination. The “whether” addresses the problem of futility; the “why” concerns authors. With respect

17. For discussion of these decisions, see Jane C. Ginsburg, Copyright Use and Excuse on the Internet, 24 Colum.-VLA J.L. & Arts 1, 22–42 (2000); infra Part III.B.
18. S. Rep. No. 105-190, at 8 (1998) (“Due to the ease with which digital works can be copied . . . copyright owners will hesitate to make their works readily available on the Internet without reasonable assurance that they will be protected against massive piracy.”); see also David Nimmer, A Riff on Fair Use in the Digital Millennium Copyright Act, 148 U. Pa. L. Rev. 673, 680 (2000) (“The millennial hope underlying the Digital Millennium Copyright Act is to bring U.S. copyright law ‘squarely into the digital age.’” (footnote omitted)).
19. For an earlier example of this cat and mouse problem, see, for example, Vault Corp. v. Quaid Software Ltd., 847 F.2d 255, 256–58 (5th Cir. 1988) (assessing program to remove anticopy protection from consumer software).
to the former, however convincing the demonstration that copyright should vest control over new markets spawned by new technologies, will copyright owners in fact be able to enforce that control? I consider several ways in which right holders might impose copyright compliance despite the availability of copyright-liberated copies. With respect to the latter, assuming that copyright owners can exercise effective control, is this power misplaced if it primarily benefits industrial strength copyright owners, as opposed to authors themselves? The current debate over copyright control focuses on perceived or potential overreaching by powerful intermediaries; the prospects for authors most often are overlooked. In fact, I suggest that digital media, by making the means of production and dissemination available to any computer-equipped author, give authors a realistic opportunity to bring their works to the public without having to put themselves in thrall to traditional intermediaries. The technological measures that reinforce legal control may enable and encourage authorial entrepreneurship, because authors may be able to rely on these measures to secure the distribution of and payment for their works. Greater author control not only enhances the moral appeal of the exercise of copyright, but also may offer the public an increased quantity and variety of works of authorship, as authors whom the traditional intermediary-controlled distribution system may have excluded now may directly propose to the public (and be compensated for) their creations.

II. Copyright Confronts New Technologies of Copying and Dissemination

A. In the Courts

The new technology cases, from piano rolls to Rio portable MP3 players, might at first blush appear to support the proposition that every time a copyright owner tries to control a new technology, technology wins. In fact, the cases fall into two distinct categories. The first covers new technological modes of dissemination of works, when copyright owners seek not to obliterate the technology, but to be paid for the new means of exploitation, for example, radio broadcast of musical compositions. In these cases, the new means of exploitation often is also perceived as competing with the old. Here, copyright owners have generally prevailed.\(^{21}\) The second category comprehends new technological modes of dissemination of works, when copyright owners are perceived to be trying to prevent these new means from becoming available to the public. This is the class of cases in which copyright owners have consistently fared ill.\(^{22}\) Even with respect to the second category, however, copy-

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22. See, e.g., Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 456 (1984) (refusing to enjoin sale of video tape recorders as violation of Copyright Act); Teleprompter Corp. v. CBS, 415 U.S. 394, 411-14 (1974) (determining that CATV transmissions are not performances within meaning of Copyright Act); Fortnightly Corp. v.
right owners have not always remained without remedy. Congress has often imposed a compromise, allowing continued exploitation of the technology, but with remuneration to the copyright owners—in other words, substituting compensation for control. This Section of the Article will consider the cases; the next Section will address the legislative response.

1. When Copyright Owners Seek to Exploit the New Technology. — One of the first new modes of dissemination that copyright owners sought to participate in, rather than to prevent, was radio broadcasting. The relatively newly formed collective licensing society, ASCAP, offered performance rights licenses to radio stations; the latter declined them, on the statutory ground that their broadcasts either were not public performances "for profit," as they did not charge to hear the music; or that the performances were not "public," as they were received in private homes. The broadcasters also advanced the economic ground that songwriters were not harmed, as the broadcasts promoted sales of sheet music and sound recordings of the songs. All of these defenses failed. Courts had already evolved an expansive doctrine of "public performance for profit" for live performances in establishments open to the public, even when no admission was charged. The transmission to individual homes required a greater doctrinal leap, as the 1909 copyright statute did not elaborate on the meaning of public performance. Courts adopted the common sense view that these transmissions communicated the performance to the public, even though the members of the public might be separated in space. Economic concerns may have underlay this reasoning: If the public can hear the band's or orchestra's performance at home for free, why incur the expense and inconvenience of going to the performance in the concert hall (or of purchasing the sheet music in order to perform it

United Artists Television, Inc., 392 U.S. 390, 399-402 (1968) (same); White-Smith Music Pub'g Co. v. Apollo Co., 209 U.S. 1, 17-18 (1908) (refusing to restrain production of pianola rolls designed to play copyrighted songs); Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys., Inc., 180 F.3d 1072, 1076-81 (9th Cir. 1999) (denying request to enjoin production of Rio portable music player and holding that it does not fall under Audio Home Recording Act of 1992).


oneself)? Radio was competing with licensed live performances, as well as opening up a new market for at-home enjoyment of those performances.\textsuperscript{28} Courts may also have been concerned that if broadcast music displaced the previously dominant exploitations of musical works—live performances and sale of sheet music—but only the broadcasters realized the value of the new exploitation, the incentive for continued production of musical compositions would diminish.

Retransmissions of radio broadcasts of music over closed-circuit systems in hotels proved another source of licensing disputes, with hotel operators contending that the transmissions were not to the public if they were received in private guest rooms. Again, the issue was not whether the hotel operators could avail themselves of the technology; rather, it was whether they were obliged to pay the authors for the exploitation by means of the new technology. In this case, the initial transmission from the radio station to the hotel was not at issue. The radio station’s transmission would have been covered by its own performance right license. Rather, the copyright owners claimed that the hotels themselves made another transmission, in routing the broadcasts through the hotel’s wiring to individual guest rooms.

The hotel's “secondary” transmission could have been seen as the equivalent of putting a radio in every guest room; when individual guests turn on the radio, there is no “public” performance by the hotel. Therefore, arguably, there should not be a performance by the hotel when the hotel in effect turns on the radio for the guest by piping the music in. But one might also look at the hotel’s secondary transmission as substituting for a licensed primary transmission by the hotel, for example of live or prerecorded music whose transmission originates from the hotel to the guest rooms. Were the secondary transmission not also a public performance, hotels could avoid taking licenses by switching from live or prerecorded music to radio transmissions. In upholding the copyright owners’ claims, Justice Brandeis remarked, “While this [form of exploitation] may not have been possible before the development of radio broadcasting, the novelty of the means used does not lessen the duty of the courts to give full protection to the monopoly of public performance for profit which Congress has secured to the composer.”\textsuperscript{29}

\textsuperscript{28} The first radio cases concerned broadcasts of music performed in studios, rather than prerecorded music. E.g., Jerome H. Remick & Co., 5 F.2d at 412 (stating that artist performing for radio “is consciously addressing a great, though unseen and widely scattered, audience”); M. Witmark & Sons, 291 F. at 776-77 (“[Defendant] has also established and conducts a licensed radio broadcasting station... from which vocal and instrumental concerts... are broadcasted.”).

\textsuperscript{29} Buck v. Jewell LaSalle Realty Co., 283 U.S. 191, 198 (1931) (holding that playing copyrighted musical compositions broadcast from radio station via hotel loudspeakers is infringing performance). For a more recent version of the problem, with a similar outcome, see On Command Video Corp. v. Columbia Pictures Indus., 777 F. Supp. 787, 790 (N.D. Cal. 1991) (holding that closed circuit video transmissions to hotel guest rooms are public performances).
2. When Copyright Owners Seek to Block the New Technology. — The Supreme Court has been more reluctant to "give full protection to the [copyright] monopoly" when it has perceived that groups of copyright owners in particular sectors were seeking to prohibit a new form of reproduction and distribution, or to leverage their exclusive reproduction rights into monopoly power over the devices employed to effect the new kinds of reproductions. An early case in this vein, White-Smith Music Publishing Co. v. Apollo Co., decided in 1908, concerned pianola rolls. The musical composition was reproduced onto the pianola roll through perforations that, when run through a player piano, would perform the musical composition. The Supreme Court nonetheless held that the unauthorized pianola rolls were not infringing "copies" because, unlike sheet music, the musical composition was not directly perceptible from the perforations. The majority so held despite Justice Holmes's objection that "on principle anything that mechanically reproduces that collocation of sounds ought to be held a copy."

The Court's requirement of visual perceptibility may not be fully persuasive doctrinally. It is true that the Court, in an earlier new technology case concerning the protectability of photographs, had held that copyright comprehends all the ways "by which the ideas in the mind of the author are given visible expression." But the Court employed that formula in a case involving visual media. Moreover, from the context of the Court's earlier discussion, it is clear that the formula was intended to be expansive, not restrictive. It is more likely that the White-Smith Court anticipated that copyright owner claims regarding unauthorized pianola rolls were an initial sally in the larger battle over music copyright owners' exclusive reproduction rights—a battle whose outcome would determine control over the emerging new technology of phonograms. The Court may have suspected that the music publishers were endeavoring either to prevent the distribution of a new format that competed with sheet music, or, equally perniciously, to control the market for phonogram recording equipment and phonograph players. Indeed, it appears that music publishers initiated the case as part of a plan between music publishers and a manufacturer of phonogram recording equipment to establish that the copyright extended to mechanical reproduction, and then to transfer

30. 209 U.S. 1 (1908).
31. Id. at 18.
32. Id. at 20 (Holmes, J., concurring).
34. Moreover, at the time of the decision, player pianos enjoyed considerable popularity. White-Smith, 209 U.S. at 9 ("The record discloses that in the year 1902 from seventy to seventy-five thousand [player pianos] were in use in the United States, and that from one million to one million and a half [piano rolls] were made in this country in that year."). For an in-depth treatment of the development of phonograph technology during this period, see generally Walter L. Welch & Leah Brodbeck Stenzel Burt, From Tinfoil to Stereo: The Acoustic Years of the Recording Industry 1877-1929 (1994).
mechanical recording rights to a single establishment. In return, the single authorized manufacturer would pay the music copyright owners a commission on every phonograph machine sold. Because the logic of Justice Holmes's concurrence clearly applied to other forms of mechanical recording as well as to piano rolls, a victory in the piano roll case would bode ill for the nascent recording industry, as the copyright owners' plan would have ensured that only one entrant would be permitted.

Solicitude for a nascent dissemination industry also underlay the Court's determinations in two controversies that cable retransmissions of broadcast television did not involve a "performance" of the works and thus fell outside the copyright monopoly. In one case, the cable retransmission enhanced local signals; in the other, it imported distant signals. The Court determined that the retransmissions did not "perform" the works contained in the signals because performance implied active conduct, while the retransmission was more passive. In *Fortnightly Corp. v. United Artists Television, Inc.*, the Court distinguished cable retransmission from a performance on the ground that cable was more akin to mere "viewing" than "performing." The analogy held even when, in a second case, *Teleprompter Corp. v. CBS*, the "viewer" reached out to bring in programming not otherwise available in that area. The Court's analysis is rather strained and can best be understood in the context of its perception that the broadcast industry was endeavoring to kill off a new rival, cable. In addition, the *Teleprompter* majority contended that television broadcasters and copyright owners would not be harmed by distant signal retransmissions, because they could adjust their advertising rates to account for the broader audience. Thus, copyright owners appeared to be behaving like unseemly monopolists, while, in the Court's perception,

These contracts [between music publishers and a mechanical reproduction company] were made in anticipation of a decision by the courts that the existing law was broad enough to cover the mechanical reproduction, and one consideration on the part of the reproducing company was an agreement that that company would cause suit to be brought which would secure a decision of the Supreme Court of the United States.

Id. at 8. On the tactics of the music industry, see generally Paul Goldstein, Copyright's Highway: From Gutenberg to the Celestial Jukebox 64–77 (1994).


37. 392 U.S. at 399–401.

38. 415 U.S. at 408.

39. Or "simplistic." Id. at 415 (Blackmun, J., dissenting).

40. See *Fortnightly*, 392 U.S. at 403 (Fortas, J., dissenting).

[1] It is darkly predicted that the imposition of full liability upon all CATV operations could result in the demise of this new, important instrument of mass communications; or in its becoming a tool of the powerful networks which hold a substantial number of copyrights on materials used in the television industry.

Id.

the new technology would not harm, but might in fact expand, their traditional markets.

Given those considerations (and in hindsight), the Court's decision in the "Betamax" controversy might seem like "déjà vu all over again." There, motion picture producers sued the manufacturers and distributors of mass market videotape recorders, on the ground that the recorders facilitated massive uncompensated and infringing private copying. On a traditional copyright analysis, the dissent is considerably more carefully reasoned than the majority opinion, which treats the statutory fair use factors rather cavalierly and strains the doctrine of contributory infringement to exculpate devices that are "merely ... capable of substantial noninfringing uses," perhaps even regardless of the actual infringing use to which they are put. The majority's extraordinarily forgiving approach is best understood in light of the features the controversy shared with the cable cases. First, the motion picture industry was attempting to prevent the distribution of videotape recorders, in favor of a different technology, nonrecordable videodisc players. Second, the majority found no economic harm to existing markets from "time-shifting" of free broadcast television programming (having excluded other kinds of copying or programming from its analysis). The dissent charged the majority with focusing on the wrong market; the court should have inquired into the impact of the videotape recorder on new markets for television programming, not merely on extant television markets. This objection recalls the cable cases as well, where the dissenters observed, particularly in Teleprompter, that the technology had opened up a new market that normally would come within copyright owners' control, and the majority responded that copyright owners could nonetheless extract revenues from the new markets. While the Betamax majority did not project what benefits the new technology would bring copyright owners, the ensuing boon to studios from development of the video rental market is well

44. This may well be because Justice Blackmun's dissent was to have been the majority opinion, until Justice Stevens rallied sufficient colleagues to his dissent to shift the outcome. See Goldstein, supra note 35, at 149-57.
45. Sony, 464 U.S. at 442. The "merely capable" standard may be dictum, as the decision indicated that the predominant use for the videotape recorder at the time was for "timeshifting" free broadcast television. Id. at 421. This is the noninfringing use the Betamax majority found. Id. at 456.
46. For a full and fascinating account of the business as well as the legal aspects of the Betamax case, see generally James Lardner, Fast Forward: Hollywood, the Japanese, and the Onslaught of the VCR (1987).
47. Sony, 464 U.S. at 456.
48. Id. at 484 n.36, 497.
50. See id. at 412-13.
known (and frequently asserted against subsequent copyright owner objections to new technologies of copying).  

Finally, the Ninth Circuit’s decision in a controversy between the recording industry and the manufacturers of the Rio portable MP3 player also demonstrates that courts will interpret the statutory grant of rights narrowly if they perceive that copyright owners are trying to stop technology. In that case, the Recording Industry Association of America (RIAA) sought to enjoin distribution of the Rio on the ground that the Rio violated the terms of the 1992 Audio Home Recording Act, because the Rio was a “digital audio recording device” that did not incorporate the Serial Copy Management System (SCMS) mandated by the statute. In considering a temporary injunction, the district court held that the Rio was likely to be a device covered by the statute and noted the possibility that the producers therefore might be obliged to pay a statutory royalty for each machine sold, but that the SCMS requirement was irrelevant, as the Rio was not capable of making serial recordings in any event. Both sides appealed. The Ninth Circuit held that the Rio was not a “digital audio recording device,” and, therefore, was exempt both from the


In addition, the vast popularity of the videotape recorder may have made it difficult for the Court to rule that millions of Americans were daily committing copyright infringement in their homes. Cf. White-Smith Music Publ’g Co. v. Apollo Co., 209 U.S. 1, 9 (1908) (observing that many thousands of player pianos and millions of piano rolls had been sold to American public).

52. Recording Indus. Ass’n of Am. v. Diamond Multimedia Sys., Inc., 180 F.3d 1072, 1076–81 (9th Cir. 1999).


54. 180 F.3d at 1075. Serial copying is “the duplication in a digital format of a copyrighted musical work or sound recording from a digital reproduction of a digital musical recording.” 17 U.S.C. § 1001(11). SCMS allows the recorder to make “first generation” copies from the original source but not to make further copies from the first generation copy. SCMS “sends, receives, and acts upon information about the generation and copyright status of the files that it plays.” 180 F.3d at 1075.


56. Diamond Multimedia Sys., 180 F.3d at 1081.
SCMS requirement and from any obligation to pay royalties, as the statute regulated only digital audio recording devices.

The question whether the Rio was a device covered by the statute was a difficult one. The device did not itself record MP3 files directly from the Internet; a general purpose computer performed that task, then transferred those files either to the Rio's internal memory or to a memory card that could be played in the Rio. Even though the Rio did not initiate the recording of MP3 files, one might nonetheless determine, as did the district court, that the transfer from a computer hard drive to the Rio's memory required the Rio to make its own reproduction of those files. As a result, the Rio could be deemed a "digital audio recording device." If the Ninth Circuit rejected that reasoning, it may at least in part have been influenced by the RIAA's apparent desire to block distribution of the Rio altogether, rather than simply to receive a royalty from its sale.

B. In Congress: Muting Control for Compensation

In many of the new technology cases, courts faced with what appeared to be all-or-nothing attempts at copyright enforcement preferred to interpret the statute in a way that would leave the copyright owners with nothing. Congress, however, has often readjusted the balance by imposing a compulsory license scheme that permitted continued distribution of the new technology, while assuring payment to copyright owners. While the early forms of statutory intervention generally removed copyright owners from control over the licensed exploitation, more recent versions combine compensation with control, or even restore a degree of control, for example by specifying how copyright owners may employ technology to protect their works from copying.

1. Compensation In Lieu of Control. — The 1909 Act established the first compulsory license regime. After White-Smith, record producers sought to preserve the free rein the Supreme Court had left them, while copyright holders endeavored to repair the loss of exclusive rights wrought by their ill-fated litigation strategy. The Senate, less moved than the Court by the claims of new technology, was initially disposed to re-

57. This reaction to perceived copyright owner overreaching is not limited to new technology cases. It underlies the articulation of the "idea/expression merger" doctrine, which precludes protection for expression that cannot be separated from the idea, system, or process it expounds. Thus, for example, a copyright owner who endeavored to exercise a monopoly in his system of bookkeeping on the ground that defendant copied from his copyrighted book the charts necessary to implement the system found himself with no copyright at all. Baker v. Selden, 101 U.S. 99, 107 (1879).

In Universal City Studios, Inc. v. Sony Corp. of America, by contrast, the Ninth Circuit held that the videotape recorder violated the motion picture producers' reproduction rights, but attempted to craft a judge-made compulsory license that would permit continued distribution of the devices, subject to a royalty paid to the copyright owners. 659 F.2d 963, 976 & n.18 (9th Cir. 1981).
store full exclusive rights.\textsuperscript{58} The House, however, sought to reconcile the right of the composer to prohibit mechanical reproduction with a public policy to prevent "the establishment of a mechanical-music trust."\textsuperscript{59} The House feared that music copyright owners "by controlling these copyrights [would] monopolize the business of manufacturing [and] selling music-producing machines, otherwise free to the world."\textsuperscript{60} Copyright on the music should not result in an additional patent on the machinery.\textsuperscript{61} Congress ultimately diverged from the \textit{White-Smith} holding by extending the reproduction right to mechanical reproductions but then substantially limited the exclusivity of the right. The legislative compromise gave the composer the exclusive right to determine if any recording would be made at all, but once the first recording was authorized, any other record producer was entitled, upon obtaining the statutory license and paying the statutory fee, to make its own recording of the musical composition.\textsuperscript{62} This measure thus compensated copyright holders but permitted the development of a recording industry by ensuring competition among record producers and the manufacturers of the phonograph equipment.

The cable retransmission compulsory license introduced in the 1976 Copyright Act followed a similar pattern. After the Supreme Court had held that the retransmissions were not "performances,"\textsuperscript{63} Congress defined "perform" in extremely broad terms,\textsuperscript{64} clearly sufficient to cover the conduct at issue in \textit{Fortnightly} and \textit{Teleprompter}. Congress then instituted a complicated compulsory license scheme designed to permit retransmission of local and distant signals, but subject to payment of the statutory license fee, as well as to a requirement that the cable operator not change the content of the retransmitted signal in any way.\textsuperscript{65}

\begin{itemize}
\item Some protest has been heard from the manufacturers of mechanical musical instruments against any legislation which would control their unrestricted right to use the property of others for their private gain, but this protest has been so manifestly selfish that it has only served to impress upon the committee more strongly the injustice of the existing state of the law.
\item Id. See also \textit{White-Smith Music Publ'g Co. v. Apollo Co.}, 209 U.S. 1, 12–14 (1908) (discussing earlier cases). Although the Senate Report preceded the Supreme Court's decision, the Senate committee was reacting to lower court decisions in the same case, which had also held for the defendant. See S. Rep. No. 59-6187, at 3.
\item \textsuperscript{59} H.R. Rep. No. 60-2222, at 7 (1909), reprinted in 6 Legislative History of the 1909 Copyright Act, supra note 58, at S-1.
\item \textsuperscript{60} Id.
\item \textsuperscript{61} Edison had applied for a patent for his phonograph recorder in 1908. U.S. Patent No. 1,020,485 (issued Mar. 19, 1912).
\item \textsuperscript{62} 17 U.S.C. § 1(e) (1925) (repealed 1978).
\item \textsuperscript{63} \textit{Fortnightly Corp. v. United Artists Television}, Inc., 392 U.S. 390, 399–401 (1968); see supra text accompanying note 37.
\item \textsuperscript{64} See 17 U.S.C. § 101 (1994).
\item \textsuperscript{65} Id. § 111; see also \textit{WGN Cont'l Broad. Co. v. United Video, Inc.}, 693 F.2d 622, 625 (7th Cir. 1982) (holding that "deletion of the teletext from United Video's retransmission
2. Some Compensation, Some Control. — More recently, Congress has introduced more complicated ways of splitting the difference between the control that exclusive rights implies and the fostering of new technologies of dissemination. The 1992 Audio Home Recording Act (AHRA) was a post-Betamax measure designed to respond to the perceived threat to the music industry (record producers and musical composition right holders) from digital audio recording media. Copyright owners sought to distinguish Betamax and thereby avert the decision’s generalization into a principle that would insulate all kinds of home recording. They therefore contended that, unlike the Betamax’s impact on the market for broadcast audiovisual works, digital audio recorders would harm sales of authorized phonorecords, because digital recorders, unlike analog devices, could make perfect multigenerational copies of the recorded music.\footnote{Having learned a lesson from Betamax, copyright owners cooperated with hardware manufacturers in proposing to Congress that the distribution of digital audio recording devices be permitted, subject to a statutory royalty on the equipment and blank recording media, so long as the devices allowed the recording only of a first generation copy. In other words, copyright owners conceded a de facto license to make private digital copies from the original recorded source, in return for a royalty that would help compensate for the copying.\footnote{On the other hand, copyright owners secured control over second generation copying, because the statute curtailed copyright owners’ exclusive rights only for the first generation, and more importantly, because the statute mandated the inclusion of the Serial Copy Management System in every covered digital audio recording device. SCMS recognizes when a copy has been made and prevents further copying from that copy. In addition, the AHRA made it unlawful to offer services or to distribute devices primarily designed to circumvent SCMS. For the first time, Congress reinforced exclusive legal rights by providing for technological measures to protect those rights, and then by granting additional legal protection to those technological measures. “The answer to the machine [may be] in the machine,” in that an anticopying device may forestall rampant digital reproductions; technology might thus fix what technology breaks. But given that a third machine will likely come along to de-}}
feat the second, leaving copyright entirely up to technological fixes may simply produce a neverending "arms race."\textsuperscript{71} Congress recognized that preservation of exclusive rights in a digital environment may require not only technological adjuncts, but also a legal ceasefire in the form of a prohibition on circumvention.\textsuperscript{72}

Congress adopted a different approach with regard to performance rights in sound recordings. Until 1995, owners of copyrights in sound recordings held exclusive rights only with respect to reproduction and distribution.\textsuperscript{73} In 1995, Congress extended the performance right to digital performances of sound recordings but did not accord exclusive rights in all digital performances. Rather, the Digital Performance Right in Sound Recordings Act distinguished interactive transmissions from transmissions more closely resembling radio broadcasts and granted exclusive rights only in the former. The 1995 amendments to the Copyright Act established a three-tier system. Nonsubscription digital audio transmissions were treated as analog radio transmissions had been; that is, recording artists and producers enjoyed neither control nor compensation for public performance. Subscription digital transmissions, however, were subject to a statutory license, provided, inter alia, that the transmitting entity did not exceed the "sound recording performance complement,"

\textsuperscript{71} Trotter Hardy, Property (and Copyright) in Cyberspace, 1996 U. Chi. Legal F. 217, 251.

\textsuperscript{72} Congress applied a similar approach of mandating a technological response to private copying in a provision of the DMCA addressed to analog videotape recording. In Betamax, the Supreme Court had held that time shifting of free broadcast television programming was fair use; the Court explicitly side-stepped the questions whether retaining copies and whether taping cable or other forms of paying television were fair uses. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 454–55, 459 n.2 (1984). In the DMCA, Congress closed the open questions by mandating the inclusion of copy protection technology in all new or newly repaired analog video recorders. 17 U.S.C. § 1201(k) (Supp. V 1999). Videotape recorders will still be available, but when a user attempts to record from encoded prerecorded tapes or transmissions, any copy the compliant recorder makes will be substantially unviewable. Congress also made it unlawful to circumvent the copy protection system. Id. As part of the scheme, Congress prohibited copyright owners from encoding free broadcast television transmissions. Id. § 1201 (k)(2). Thus, private analog videotaping of free broadcast television transmissions will remain unrestricted—and uncompensated—but copyright owners will be able to control copying of pay television programming and of commercially produced videocassettes that are sold or rented.

\textsuperscript{73} The derivative works right covered only adaptations of the actual sounds, not their imitation. Id. § 114(b) (1994). Sound recordings were long treated differently from other copyrighted works; they were not incorporated in federal copyright subject matter until 1971. Act of October 15, 1971, Pub. L. No. 92-140, 85 Stat. 391 (superseded by Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541). In part this may reflect the White-Smith view that a sound recording fell outside copyright because it was not a "copy." White-Smith Music Publ’g Co. v. Apollo Co., 209 U.S. 1, 18 (1908). In part, it reflects a view, prevalent in most civil law countries, that a sound recording qualifies only for a "neighboring right" because it is a work of interpretation, rather than of original creation. See, e.g., A. Lucas & H.-J. Lucas, Traité de la propriété littéraire et artistique §§ 30, 812 (2d ed. 2001) (discussing sound recordings and neighboring rights).
which limited the number of songs from a particular sound recording or by a particular artist that may be played during a three-hour period. Finally, the 1995 amendments conferred on sound recording copyright owners full control over interactive digital transmissions as well as over subscription digital transmissions that exceeded the complement.\footnote{Digital Performance Right in Sound Recordings Act, 17 U.S.C. §§ 106(6), 114(d)-(j), 115(c)(3), (d) (Supp. V 1999). In 1998, Congress amended § 114 to narrow the exemptions and to bring most noninteractive transmissions, notably webcasting, within the scope of the compulsory license. DMCA, Pub. L. No. 105-304, § 405, 112 Stat. 2860, 2890 (1998).}

Why would Congress impose this split regime? Although the 1995 amendments were titled “Digital Performance Right in Sound Recordings Act,” the text suggests that Congress was at least as concerned with protecting sound recording copyright owners’ reproduction rights as with instituting a public performance right.\footnote{Pub. L. 104-39, 109 Stat. 336.} The structure of the amendments addressed a spectrum of digital performances, from those resembling traditional radio broadcasts, to the “celestial jukebox” model of music on demand. While the former remained outside the sound recording copyright, the more the content of a digital transmission depended on a particular recording or artist, or could be known by the user in advance, the more subject it became to the sound recording copyright. This is because the more advance information the user has about the digital transmission, the more the transmission facilitates a user’s private copying (in perfect digital copies) of the recorded performance, or, at least, enables the user to substitute listening to the targeted performance for purchasing a copy of it. Hence, Congress provided for the sound recording copyright owner’s right to prohibit interactive digital transmissions or subscription transmissions that exceeded the “performance complement.” When the transmission was by subscription but remained within the complement, then the sound recording copyright owner was entitled only to a statutory license fee.

The 1995 statute supports the inferences drawn from other compulsory license schemes: When new technology develops a new mode of exploitation that does not supplant known markets for the work, and especially when copyright owners appear to be endeavoring to prevent the dissemination of that technology, Congress will split the difference between copyright owners and other entrepreneurs or users, by providing for compensation, but not for exclusive control over the new exploitation. On the other hand, where the new mode of exploitation threatens to replace or substantially compete with traditional markets, and when the new markets are ones the copyright owners seek to exploit,\footnote{But see 17 U.S.C. § 109(b) (1994) (limiting the first sale doctrine to accord a rental right to copyright owners of sound recordings and computer programs). Copyright owners expected to invoke the right not to authorize, but to prohibit, rentals, because there is a high correspondence between rental and uncompensated private copying. See} Congress will provide for exclusive rights.
III. COPYRIGHT AND CONTROL IN CURRENT LEGISLATION AND CASE LAW: 
The Digital Millennium Copyright Act and Napster

A. Congress Puts Control to the Fore

Seen in this light, Congress's addition in the DMCA of a new level of copyright owners' control, through the legal protection of technological measures, is consistent with a pattern of ensuring that exclusive rights remain exclusive when entrepreneurs or users of new technologies propose not merely to "share" in a new market that the technologies have opened, but to undermine the rewards drawn from the old. Moreover, Congress did not perceive that copyright owners were trying to turn back the clock; rather, given adequate assurance of its amenability to copyright enforcement, copyright owners were expected to exploit the new market.

The Internet does present some differences from prior new technology cases, to the extent that the prior cases involved discrete innovations, while the Internet is a whole system of communication, rather than a specific device. Where past copyright owners might have sought control over individual devices or forms of communication in order to ban them altogether, "control" in this context does not mean shutting down the system as a whole. But "control" can mean disabling certain features of the system with respect to particular works, for example, by encoding the work so as to prevent its reproduction and dissemination over the Internet. The exercise of control thus may be more precisely targeted to permit some forms of exploitation while prohibiting others.

The nature of Internet exploitations stimulated another departure as well: Unlike its previous forays into regulation of copyright-exploiting technologies, Congress's focus in the DMCA was not to console copyright owners whose claims to control new devices had already been spurned, but to promote a new exercise of copyright, by ex ante adjusting the rules governing the technology in aid of that objective. Congress appears to have focused both on the new technology's impact on old markets and on its propagation of new markets. The dual regime Congress devised for the protection of technological measures illustrates the DMCA's double concern.

The DMCA's dual regime protects, first, measures protecting access to a copyrighted work, both with respect to the act of circumvention, and with respect to the dissemination of devices designed to circumvent access controls.\(^77\) Second, the DMCA prohibits the dissemination of devices designed to circumvent measures protecting "a right of the copyright owner,"\(^78\) that is, measures protecting against unauthorized copying, adaptation, distribution, and public performance or public dis-

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\(^{77}\) S. Rep. No. 98-162, at 2 (1983) ("The Committee has no doubt that the purpose and result of record rentals is to enable and encourage customers to tape their rented albums at home.").


\(^{78}\) Id. § 1201(b).
play. The latter provisions have not provoked the same ire as the provisions on circumvention of access controls,\(^7\) in part because fair use and other copyright defenses remain available to circumvention of "rights" controls but most likely not to circumvention of access controls.\(^8\)

"Rights" control protections may also have proved less controversial because they seem primarily to protect the status quo in the digital environment rather than to open up new realms of copyright owning opportunities. Traditional rights under copyright did not entitle the copyright owner to dictate the user's enjoyment of her copy; copyright owners' control over an individual copy was "exhausted" with its sale.\(^9\) What I shall call "exhaustion copies" enabled user autonomy: Purchasers could privately read, view, or listen to them as often as they liked; they could lend them to friends or give them away; they could even engage in certain acts of reproduction, such as the making of analog private copies of musical recordings,\(^2\) or of public performance or display, if these acts were deemed fair use or otherwise permitted by the Copyright Act. By contrast, a digital work distributed with access controls may yield no exhaustion copies: The user may have purchased the physical medium through which the work is apprehended but, because each apprehension of the work is an act of "access," the user may not be able to acquire a stand-alone copy that will permit her to engage in a variety of private or excused uses without copyright owner authorization. Legal protection of access controls thus enables copyright owners to reach individual uses. This in turn makes it possible for copyright owners to offer, and more importantly to enforce, different levels of enjoyment of works—for example, pay per view or per listen, keep the work for a week, view on only one computer—at different price points. Some perceive exciting new business models that will foster the creation and distribution of a greater diversity of works to a greater range of users, particularly those unable or

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79. See, e.g., Yochai Benkler, Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain, 74 N.Y.U. L. Rev. 354, 415 (1999) (noting overinclusive nature of DMCA's anticircumvention provisions); see also supra note 4 and accompanying text.


81. The "first sale" or "exhaustion" doctrine, 17 U.S.C. § 109(a) (1994), gives control over the physical copy to its purchaser. The public performance and display rights, id. §§ 106(4)-(5), do not extend to performances or displays originating and received at home or another place not open to the public.

82. Id. § 1008 (also permitting noncommercial private copies using a "digital audio recording device" or medium).
unwilling to pay the full exhaustion copy price, while others cringe at the specter of a "pay per use" world.

Do access controls simply preserve exclusive rights by updating their exercise for the digital environment, or do they instead expand them to an extent antithetical to the flourishing of new technologies and therefore to the "progress of science"? If, in the past, Congress tempered copyright owners' ability to control the exploitation of new dissemination technologies (or only partly restored control after courts ruled no control could be asserted) in order to ensure wider public availability of works of authorship, has Congress now, in prohibiting circumvention of access controls, favored copyright-enhancing technology at the expense of desirable copyright-eluding technologies?

83. Report of the House Committee on Commerce on the Digital Millennium Copyright Act of 1998, H.R. Rep. No. 105-551, pt. 2, at 23 (1998) ("In another example, an increasing number of intellectual property works are being distributed using a 'client-server' model, where the work is effectively 'borrowed' by the user (e.g., infrequent users of expensive software purchase a certain number of uses, or viewers watch a movie on a pay-per-view basis."); Exemption to Prohibition on Circumvention of Copyright Protection System for Access Control Technologies, 65 Fed. Reg. 64,556, 64,564 (Oct. 27, 2000) (to be codified at 37 C.F.R. pt. 201) (noting that pay per use system would allow users to buy access to the particular works that they intend to use, instead of obliging them to invest in a larger set of works that they do not need).

A "pay-per-use" business model may be, in the words of the House Manager's Report, "use-facilitating." The Manager's Report refers to access control technologies that are "designed to allow access during a limited time period, such as during a period of library borrowing" or that allow "a consumer to purchase a copy of a single article from an electronic database, rather than having to pay more for a subscription to a journal containing many articles the consumer does not want." For example, if consumers are given a choice between paying $100 for permanent access to a work or $2 for each individual occasion on which they access the work, many will probably find it advantageous to elect the "pay-per-use" option, which may make access to the work much more widely available than it would be in the absence of such an option.


84. See Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. at 64,573; Nimmer, supra note 18, at 710–15 (arguing that a pay per use regime is antithetical to the fair use and first sale doctrines as well as to the idea/expression dichotomy, all traditional limitations on an author's exclusive rights). Proponents of the exemption from liability for circumventing access controls fear that pay-per-use business models . . . will be used to constrain the ability of users, subsequent to initial access, to make uses that would otherwise be permissible, including fair uses. Without this exemption, they assert, the traditional balance of copyright would be upset, tipping it drastically in favor of the copyright owners and making it more difficult and/or expensive for users to engage in uses that are permitted today.

Id.
The answer largely depends on one's projections for the Internet and electronic commerce in copyrighted works. If one believes that the market for hard copies is likely to recede as works become ubiquitously available through audio and video streaming and downloading, then digital networks will supply the principal markets for copyrighted works. This means that control over access to digitally distributed works will become the principal way in which exclusive rights are exercised. Congress in the DMCA thus varied its pattern of response to new technology challenges by anticipating that online access would supplant old forms of distribution, rather than waiting to readjust the balance ex post. But the motivation remains the same: to preserve incentives to create and disseminate when new ways of exploiting works can either enhance or dampen those incentives, depending on who controls the new form of dissemination. One might rejoin that when Congress anticipates rather than reacts to a new technology problem, the copyright-using public bears the risk of Congress's wrong guess. But the riposte is equally foreseeable: If Congress does not meet the challenge before the harm is done, then not only copyright owners, but also the public will suffer because there will be fewer resources to support the creation of new works. Moreover, it is not so clear that by acting early Congress substantially or improperly changed the balance.

In an earlier era, copyright owners maintained control over access by exercising the public performance right and by withholding copies from the public. Today, technology has overtaken those techniques, so copyright owners respond with more technology. Arguably, the post-DMCA allocation is out of balance, because copyright owners may, with some exceptions, protect the technological measures they employ to prevent access and copying, while users are not similarly free to defeat those measures. But users were not similarly free to access and copy works before: Copyright law is supposed to disable unauthorized copying, at least

85. See Jane C. Ginsburg, From Having Copies, supra note 20.

86. Before mass market recording devices, it was impossible to make copies of live or transmitted performances, save by extraordinary feats of memory and subsequent transmission. See, e.g., Tompkins v. Halleck, 133 Mass. 32 (1882) (stage play); Nutt v. Nat'l Inst. for the Improvement of Memory, 31 F.2d 236 (2d Cir. 1929) (public lecture).


88. So long as the protective device chosen qualifies as a "technological measure [that] effectively controls access to a work," 17 U.S.C. § 1201(a)(3)(B) (Supp. V 1999), or that "effectively protects a right of a copyright owner under this title." Id. § 1201(b)(2)(B). Section 1201 does not mandate manufacture of hardware compatible with a copyright owner's choice of technological measure. Id. § 1201(c).
so long as that copying does not qualify as a fair use. As for access, the copyright law has neither compelled copyright owners to make a general disclosure of their works, nor traditionally obliged right holders to make their works, once disclosed, available in a way that would facilitate either access or copying, even for fair use purposes.

That said, the DMCA, by enabling copyright owners to control access to "a work," rather than simply to a "copy" of a work, arguably limits use of a work (including fair and other noninfringing uses), even if the user has lawfully acquired a copy of it. If the access control is "persistent," for example, if the technological measure requires the user to enter a password each time the user seeks to view a work that is made available only in access protected digital format, then every act of reading that work implicates the copyright owner's control of access. Moreover, access controls might enable the copyright owner to leverage a "thin" copyright in informational works to protect public domain information.

89. On the contrary, copyright protects the right of first publication. See 17 U.S.C. § 106(3) (stating exclusive rights of owners of copyrights to distribute copies of their works to public); Harper & Row Publishers v. Nation Enters., 471 U.S. 539, 555 (1985) ("Under ordinary circumstances, the author's right to control the first public appearance of his undisseminated expression will outweigh a claim of fair use."). Before the 1976 Act, common law copyright protected authors who had made only a "limited publication" (limited disclosure). See, e.g., Estate of Martin Luther King, Jr. v. CBS, 194 F.3d 1211, 1217 (11th Cir. 1999) (holding that "release to the news media for contemporary coverage of a [televised speech] is only a limited publication").

90. For example, it is not always easy to obtain a copy of a book that has gone out of print, but publishers, often to authors' dismay, have no duty to the public to keep a poorly selling book in circulation, even if few libraries carry copies. Professor Sam Ricketson has referred to this type of situation as "analog lock-up." Sam Ricketson, The Access Right 1, Abstract to Remarks at ALAI Congress, Columbia Law School (June 14, 2001), available at http://www.law.columbia.edu/conferences/2001/Iprogram-en.htm. (on file with the Columbia Law Review).

91. See Jane C. Ginsburg, Copyright Legislation, at 140–43 (1999); see also Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. at 64,558 (noting that, in making this rule, the task is to determine whether availability and use of access control measures have diminished or will diminish ability of public to engage in lawful uses of copyrighted works that had been available prior to enactment of DMCA).

92. See, e.g., Jessica Litman, The Exclusive Right to Read, 13 Cardozo Arts & Ent. L.J. 29, 31–32 (1994) (noting federal government's Information Infrastructure Task Force's recommendations would "give the copyright owner the exclusive right to control reading, viewing or listening to any work in digitized form").

93. See Feist Publ'ns v. Rural Tel. Serv. Co., 499 U.S. 340, 349–51 (1991) (holding that copyright in compilations of information is "thin," extending only to original contributions, including selection or arrangement, but not to the information itself). Regarding the concern that access controls will permit information providers to "bootstrap" protection of public domain material, see Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. at 64,566 (quoting comments of Association of American Universities and others to Copyright Office).
These outcomes would indeed deleteriously shift the balance between owners and users.

Distasteful and dire as these projections appear, they may be conflating “access” with copying. That is, the DMCA has vested copyright owners with control over apprehending a work in digital format, because the user cannot “open” it for viewing or listening without complying with an access measure that she is not permitted to circumvent. Once the work is opened, however, further acts of copying or distribution come within the purview of technological measures protecting a right of the copyright owner; these are subject to circumvention for fair use purposes.94 In addition, according to a recent study mandated by Congress and published by the Copyright Office, control over access appears, for now, to increase, rather than decrease, the public availability of works of authorship, because protection of technological measures removes a disincentive for copyright owners to disclose otherwise vulnerable works.95

More significantly, the Copyright Office study was the first in an ongoing inquiry into the impact of access controls on noninfringing uses of copyrighted works. The Copyright Office study repeatedly emphasized that, on the record of the first rulemaking, no significant showing of “digital lockup” had been made.96 This invites fuller showings for subsequent rulemakings. Congress has given the Librarian of Congress authority to declare classes of works for which access controls have compromised noninfringing uses, and to exempt those classes from application of the ban on circumvention. Should copyright owners prove overreaching in their implementation of access controls, and should nonprotected formats become less publicly available, the Copyright Office may well perceive a need to list more exempted classes.97 The Copyright Office’s continuing obligation under the DMCA to inquire into the impact of access controls, and, where appropriate, to publish exempted classes every three years, should serve as a check on copyright owner exercise of control. In other words, the prospect of Copyright Office intervention in the implementation of technological controls may ensure that the copyright “balance” in the digital environment between incentive to create and disclose works on the one hand, and promotion of public instruction on the other, does not lean too far to copyright owners at the expense of developers and users of new technology.

B. Napster and Other Internet Related Infringement Cases

As we have seen, Congress’s response to Internet exploitations has been to anticipate potential market-displacing harm, and to encourage

94. On the distinction between “access” and fair use copying, see Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 65 Fed. Reg. at 64,571–72.
95. Id. at 64,567.
96. Id. at 64,562–63.
97. Id. at 64,563.
Copyright owners to develop new modes of exploitation by vesting copyright owners with greater control over access to works. How have the courts greeted copyright owner challenges to unauthorized reproduction and distribution or performance of works over the Internet? Rather than rejecting the challenges as attempts to suppress new modes of communication that did not deleteriously affect copyright owner markets, courts have so far instead shown solicitude for copyright control over new markets generated by new technology. While most of the recent Internet related cases do not involve technological protection measures, they do confront technology-generated challenges to copyright owners’ abilities to control the channels of reproduction and distribution of their works. For example, in *Los Angeles Times v. Free Republic,* the District Court for the Central District of California awarded a preliminary injunction against the unauthorized systematic copying and posting of articles from the *Los Angeles Times* and other newspapers to the free-access website of the *Free Republic.* Plaintiffs had their own advertising-supported and fee-access websites for distribution of current and archived news articles. Addressing the fair use factor of harm to potential markets for the copyrighted works, the court emphasized that plaintiffs’ copyrights gave them “the ‘right to control’ access to the articles, and defendants’ activities affect a market plaintiffs currently seek to exploit.” Moreover, were defendants’ practice of full text copying to become widespread, the market impact on plaintiffs’ websites would be substantial. The court recognized that markets created by new forms of copying remain within the copyright owners’ “right to control,” even when the copyright owners’ own exploitation of those markets may not be fully developed, and even when the defendants’ encroachment, taken in isolation, may seem modest.

Similarly, on the opposite coast, in *UMG Recordings, Inc. v. MP3.com, Inc.* the District Court for the Southern District of New York rejected the fair use defense of MP3.com to its creation of a database of 80,000 CDs as

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102. See Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 451 (1984) (“A challenge to a noncommercial use of a copyrighted work requires proof either that the particular use is harmful, or that if it should become widespread, it would adversely affect the potential market for the copyrighted work.”).
part of a service in which MP3.com streamed back to subscribers the music that subscribers had identified to MP3.com as corresponding to CDs that the subscribers had purchased or lawfully possessed. With respect to the market harm fair use factor, the MP3.com court, like the Free Republic court, emphasized that "a further market that directly derives from reproduction of the plaintiff's copyrighted works" remains within the copyright owner's control. Indeed, where Free Republic underlined defendants' incursion on new markets that the copyright owner was already exploiting, MP3.com stressed the sound recordings copyright owners' right to control even if the copyright holder had not yet entered the new market in issue, for a copyright holder's "exclusive" rights, derived from the Constitution and the Copyright Act, include the right, within broad limits, to curb development of such a derivative market by refusing to license a copyrighted work or by doing so only on terms the copyright owner finds acceptable.

Although Free Republic and MP3.com concerned control over new markets spawned by new media, neither involved a challenge to the medium itself. The Los Angeles Times did not decry website distribution in general; the record producers did not attack audio streaming. The cases therefore did not cast copyright owners as enemies of new technology, but rather as current or potential exploiters of those technologies seeking to shoo off unpaying intruders. In that respect, these controversies resemble the radio paradigm. The most conspicuous of the Internet cases so far, the Napster litigation, while sometimes portrayed as an assault on a new form of communication, in fact also is best understood as an attempt to tame a new technology into copyright friendliness, rather than as an endeavor to suppress it altogether.

Detailed exposition of Napster is beyond the scope of this Article; for present purposes I intend only to examine why the Ninth Circuit determined that Napster was not the most recent in a succession of a lawfully copyright-defying devices stretching from piano rolls through portable MP3 players, but was instead subject to the supervision and control of copyright owners. Napster facilitated the copying of MP3 files from one user's hard drive to another's, by distributing peer-to-peer "Music Share"

104. Id. at 352.
105. Id. Unlike the "Rio" controversy, see supra text accompanying notes 52-55, copyright owner hostility to the MP3 format itself did not underlie this case; by the time the MP3.com controversy arose, copyright owners had been licensing the audiostreaming of works in MP3 format. See RealNetworks, Inc. v. Streambox, Inc., No. C99-2070P, 2000 U.S. Dist. LEXIS 1889, at *7-*9 (W.D. Wash. Jan. 18, 2000).
107. See Amended Brief Amicus Curiae of Copyright Law Professors in Support of Reversal at 3, Napster, 239 F.3d 1004 (Nos. 00-16401, 00-16403); Amicus Curiae Brief of the Consumer Elecs. Ass'n in Support of Reversal at 1, Napster, 239 F.3d 1004 (Nos. 00-16401, 00-16403).
software and by hosting a centralized directory that responds to searches for particular songs by identifying the matching holdings of Napster users currently online.\(^{108}\) A suit initiated by the five major record producers charged Napster with contributory infringement; the District Court for the Northern District of California agreed and gave Napster forty-eight hours to purge itself of infringements or to shut down.\(^{109}\) The Ninth Circuit stayed the preliminary injunction;\(^{110}\) seven months later it affirmed the district court's ruling on the merits, but remanded for modification of the scope of the injunction.\(^{111}\)

The remand tacitly acknowledges the concern expressed in many amicus briefs that copyright not stifle the advance of technology. While not all these briefs asserted the lawfulness of Napster's particular operation of peer-to-peer file sharing technology, all concurred that peer-to-peer file sharing technology offers a valuable means of communication whose dissemination should not be jeopardized by copyright enforcement.\(^{112}\) Thus, the Ninth Circuit cautioned, "We are compelled to make a clear distinction between the architecture of the Napster system and Napster's conduct in relation to the operational capacity of the system."\(^{113}\)

In making the distinction, the Ninth Circuit was stressing that Napster was not the Betamax case\(^{114}\) all over again. While the Supreme Court had held the videotape recorder "capable of substantial noninfringing use"
because customers employed the VTR for the fair use of "time-shifting" "free broadcast" television programs, the Ninth Circuit, like the district court, credited the copyright owners' contention that Napster depressed the emerging market that the owners were seeking to develop for licensed online delivery of music, and rejected all of Napster's alleged non-infringing uses. For the district court, Napster's failure to demonstrate that it was capable of commercially significant noninfringing uses and Napster's awareness that its users were copying protected works justified entry of the injunction. The Ninth Circuit adopted an apparently more technology-friendly approach: It stated that the district court had "improperly confined [its analysis of noninfringing uses] to current uses, ignoring the system's capabilities . . . . Consequently, the district court placed undue weight on the proportion of current infringing use as compared to current and future noninfringing use." The Ninth Circuit similarly warned that it would "not impute the requisite level of knowledge to Napster merely because peer-to-peer file sharing technology may be used to infringe plaintiffs' copyrights."

These statements appear designed to alleviate concerns about conflicts between copyright and new technology: The court has clarified that deployment of a technology that the exploiter knows can be used to infringe does not of itself satisfy the knowledge element for liability for contributory infringement. Contributory liability will not lie "merely because the structure of the system allows for the exchange of copyrighted material."

So far so good for new copyright-implicating technologies in principle. In practice, Napster's specific implementation of the new technology compelled condemnation, the Ninth Circuit ruled. Napster would be held contributorily liable for its users' infringements not merely because Napster made those infringements possible but because, unlike the manufacturer and distributors of the Betamax, "Napster [had] actual knowl-

115. Sony, 464 U.S. at 442-43. The Court abstracted from time-shifting of pay television and retention copies of any kind.
116. Napster had alleged three noninfringing uses: the New Artists program, through which performers consented to the peer-to-peer distribution of their works; "space shifting"; and "sampling" as a prelude to purchase. The district and appellate courts rejected the first on the grounds that Napster initiated the program only after the suit was brought and that, in any event, the New Artist program could be separated from Napster's principal operation of facilitating unauthorized distribution of sound recordings. The second failed because fair use "space shifting," as understood in the Ninth Circuit, occurs only with respect to a particular user's own holdings; it does not extend to making those holdings available to millions of other Napster users. The last failed because the "samples" were complete and permanent copies of the songs, rather than partial or temporary exposures to the recordings, and because plaintiffs were already licensing online samples. See 239 F.3d at 1018-19; 114 F. Supp. 2d at 913-17.
118. Napster, 239 F.3d at 1021.
119. Id. at 1020-21.
120. Id. at 1021.
edge that specific infringing material is available using its system."121 Copyright owners bear the burden of notifying Napster of infringing files listed in its directory, but under the "notice and take down" regime endorsed by the Ninth Circuit,122 Napster, once alerted, incurs the responsibility to exclude those files. In effect, the technology provider's knowledge of specific user infringements overrides the impunity that the actual or potential existence of noninfringing uses might otherwise give it.

Napster's knowledge of its users' infringing activities supplies the crucial difference between the Napster technology and the Sony videotape recorder. Videotape recorders are a free-standing technology; as the district court in Napster recognized, once a machine was sold, its producer could no longer follow up how consumers employed it.123 As a result, the determination of contributory infringement entailed an all or nothing outcome: If the manufacturers were held liable, then no machine could be distributed, despite its capacity for noninfringing uses; if they were not held liable, then the machine could be distributed, despite its capacity for infringing uses. Splitting the difference by limiting the function of the machine to noninfringing uses was not a possibility because the same act—copying—might be fair use under some circumstances, but not under others, yet the machine could not itself determine which circumstances prevailed at any given time. As the study of the prior case law reveals, when the choice is all or nothing, those who end up with nothing are not likely to be the producers and consumers of a vastly popular new device that is susceptible of legitimate applications.

With Napster, by contrast, the difference could be split; the online technology makes it possible for copyright owners to identify the infringing content and to notify the service of its location. Once notified, the service can remove or block access to the infringing directory listings, thereby confining the material it helps make publicly available to noninfringing content. Once "all or nothing" is no longer the only response the technology allows, the legal rule should show similar flexibility.124 Hence, under the Ninth Circuit's approach, the new mode of communication, peer-to-peer file sharing, may continue to be employed, but because its particular implementation can be policed,125 infringing uses

121. Id. at 1022.


124. Thanks to Professor Maureen O'Rourke for stimulating these observations.

125. The Ninth Circuit also upheld the district court's finding that Napster was vicariously liable for copyright infringement because it had the right to control its users' acts, and derived a direct financial benefit from those acts. As a vicarious infringer, Napster may not simply await notification by copyright owners; it has an obligation affirmatively to "polic[e] its system within the limits of the system." Napster, 239 F.3d at 1027.
need not be bootstrapped to lawful uses in order to maintain the availability of the desirable technological advance.

IV. OF ENFORCEMENT AND AUTHORS

A. Copyright Control, An Exercise in Futility?

But even if some new technologies, including Napster, can be policed into copyright compliance, will not other, more copyright resistant modes of communication arise to retrieve and redistribute the excluded content? Similarly, even if Congress's determination to afford copyright owners technologically buttressed exclusive rights is consistent with past practice and with the constitutional scheme, does it matter in fact? New technology in users' hands can, and for some commentators should, strip copyright owners of any meaningful ability to enforce copyright, whatever the Copyright Act provides.

Self-styled "cyber anarchists" invite us to "copyright's funeral," proclaiming that no protective measures that copyright owners devise will withstand the efforts of hackers who will, moreover, avail themselves of pervasive yet untraceable means of file sharing to distribute the decrypted works and/or the decryption codes.

If control cannot in fact be exercised, something like a compulsory license may seem increasingly attractive. Several foreign jurisdictions, including Canada and Germany, are considering imposing a monthly surcharge on Internet access provider service contracts and/or a levy on digital media—including recordable CD ROMs and hard drives—that would permit digital private copying, but would compensate music copyright owners.

Pricing the surcharge may be problematic, however. For

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126. See, e.g., Eben Moglen, Liberation Musicology, Nation, Mar. 2001, at 5-6 (arguing that other, harder to trace forms of file sharing will replace Napster).
128. See E-mail from June M. Besek, Director of Studies, Kernochan Center for Law, Media and the Arts, Columbia Law School, to Jane C. Ginsburg (Sept. 27, 2000, 12:38 PM) (on file with the Columbia Law Review) (quoting newsgroup conversation).
129. For Canada, see Statement of Proposed Royalties to Be Collected by SOCAN for the Public Performance or the Communication to the Public by Telecommunication, in

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See also M.J. Rose, How to Crack Open an E-Book, Wired News, Apr. 27, 2001 (hacker claiming to have cracked code and removed encryption on e-books in RocketBook format, allowing extraction of content as plain text, and to have disclosed the hack to various Internet forums), at http://www.wired.com/news/business/0,1367,43401,00.html (on file with the Columbia Law Review).

129. For Canada, see Statement of Proposed Royalties to Be Collected by SOCAN for the Public Performance or the Communication to the Public by Telecommunication, in
example, a proposed component of the Napster-Bertelsmann settlement would give Napster subscribers a license to copy anything from the Bertelsmann catalogue for $4.95 a month. But will it still be only $4.95 if other record producers join in? And what about other kinds of works potentially subject to file sharing, such as text, photographic images, and audiovisual works? What sum will seem reasonable to the consumer, yet generate enough return to make a blanket license fee appeal to an increasingly broad class of copyright owners?

Distribution of the collected sums to authors and copyright owners may pose additional problems. Depending on how the copying occurs, it may not always be possible to identify the copied works for which pay-
ment should be distributed. While direct downloads from copyright owners enable record-keeping, what if the copying occurs by means of file sharing? Tracking these copies might be technologically possible but socially undesirable, given privacy concerns. Statistical sampling may afford another approach but presents difficulties of its own. A system that relies on statistical sampling for distributing monies to authors may undercompensate niche authors by undercounting low volume copying. But a system that more closely tracks actual copying may undercompensate all authors because so much of the revenue may go to cover the cost of tracking.

Surcharges and levies may prove too gross a measure for users as well. From the user's point of view, "all you can eat" is not necessarily the best formula, at least not for those whose diet of copyrighted works is modest.\(^{132}\) It also may seem antiquated to rely on such imprecise methods when digital media permit copyright owners to offer more kinds of distributions, from pay per view to unlimited copying, and to bill and track more cheaply and effectively than in the analog world—at least when the customer is willing to pay, rather than to "share" copies for free.

Why would the customer be willing to pay? Assuming copyright owners dare not assume that users act by the copyright owners' sense of morality,\(^{133}\) copyright owners will have to be able to compete with "free." How? Depending on the kind of work, copyright owners might offer auxiliary services, such as updates of informational works, or helplines for software.\(^{134}\) For more free-standing kinds of works, particularly entertainment products, copyright owners might propose auxiliary goods, such as fan club merchandise or attractive packaging. In general, if the digital copy can be bundled with a hard copy whose disposition the copyright owner can regulate, control may yet survive. But this depends on the hard copy's retention of independent value as an object, such as a beautifully bound book, or as an artifact, such as an autographed CD cover. Alternatively, copyright owners may persuade consumers to switch to a

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132. Similar objections have been raised about surcharges on blank videotape: The surcharge may compensate for private copying of motion pictures, but it disadvantages the purchaser who acquires the tape to make home movies. Home Recording of Copyrighted Works: Hearing on H.R. 4783, H.R. 4794, H.R. 4808, H.R. 5250, H.R. 5488, and H.R. 5705 Before Subcomm. on Courts, Civil Liberties, and the Admin. of Justice of the House Comm. on the Judiciary, 97th Cong. 170-72 (1982) (statement of Charles D. Ferris, Counsel, Home Recording Rights Coalition) (arguing that surcharge on VCR tapes disadvantages consumer who purchases tapes solely for purpose of making family home movies or for other noninfringing uses).


new format; this has happened before, when consumers, convinced of the new format’s superior convenience and durability, switched from vinyl LPs to CDs. One may anticipate that, unlike current CDs, the next consumer-desirable format (perhaps a DVD audio that holds 100 songs) will be access and copy-protected.\footnote{135}

Perhaps most likely, copyright owners might offer the consumer convenience: They can make it easier to access or copy with a license than without one.\footnote{136} A licensed download or audio or video stream would need to be easier to find, faster to acquire, and give a better quality copy than a “shared” file or a hacked download. The price, if low enough, or varied enough, would be worth the savings in transaction costs of finding the file\footnote{137} or downloading the hack and using it, particularly if the downloading takes a long time.\footnote{138} Technological protections remain relevant to this system, as the transaction costs of unauthorized access and copying are increased if the user has to circumvent the protections, and if at least some of the circumvention activity and device market can be discouraged through section 1201.

B. The Better Beneficiaries of Copyright Control: Authors

Finally, what has all this to do with Authors? The Framers provided that the “exclusive Right” was to be “secur[ed] . . . to Authors,”\footnote{139} not directly to publishers, producers, or other intermediate exploiters. The control that nonauthor right holders enjoy derives from the rights the Constitution ensures to creators. If authors do not benefit from the control they cede, then concerns about the potential incursion on public prerogative achieved through technologically enhanced means of control assume greater force. If authors drop out of the copyright balance, we should more carefully watch the weight of the right holders.

But do authors have to drop out? Employee authors and others subject to the “works made for hire” rule\footnote{140} are cast out of copyright, as the statute deems their employers and hiring parties the “author.” Moreover,
in many sectors, creators who retain authorship status nonetheless assign all rights for a small royalty, or even a flat one-time payment.141 Perhaps, then, just as eighteenth-century publishers advanced their claims through appeals to the moral justice of remunerating authors whom they promptly despoiled,142 today's copyright rhetoric of control is merely a pretext for corporate greed.143

Indeed, one might suppose that authors would be better off with a compulsory license regime than an "exclusive right," at least if a statute guaranteed creators a fixed and generous percentage of the sums collected under the license.144 But the conclusion that a compulsory license regime is better for authors than exclusive rights presumes that authors are obliged in practice to give up their rights to a publisher; it disregards the potential of digital media to free authors from the corporate distributors on whom they depended to bring their work to the public. Traditionally, publishers have performed or overseen the following functions: selection; editing; reproducing the work in copies for distribution; distributing; marketing, including advertising and promotion; and accounting to the author for royalties. Today, some of these functions are no longer required, and others can be disaggregated; we can foresee that authors may undertake many of these tasks themselves, or subcontract them without giving up their copyrights. Similarly, freelance authors who can self-distribute may more effectively resist hiring parties' attempts to contract into work for hire status. The more self-publication offers realis-


142. See, for example, the 1777 petition of the advocate Cochu on behalf of the Paris publishers, reprinted in La propriété littéraire au XVIIIe siècle (1859), at 159–98 (pleading the fundamental nature of intellectual property rights). For a brief history of early copyright development, see generally John Feather, Authors, Publishers and Politicians: The History of Copyright and the Book Trade, 10 Eur. Intell. Prop. Rev. 377 (1988).


144. Supra note 131; see also Calandrillo, supra note 7, at 338–39 (advocating a "publicly funded reward system" as an alternative means of compensating authors for the creation of socially beneficial informational works).
tic prospects of remuneration for authors, the more likely we are to see an increase in the volume and diversity of works of authorship, as authors will be able to bypass the gatekeeping functions of publishers and other intermediaries. This may not always bode well for quality, but it is not evident that today’s intermediaries invariably select on the basis of literary or artistic achievement, or even know it when they see it. Justice Holmes once declared, “the taste of any public is not to be treated with contempt,” but he said it at a time when intermediaries still dictated the taste of the public by determining the works to which the public would be offered access. Now, the prospects for authors to reach “any” public, including highly discrete or specialized segments of the public, seem well within reach. As a result, it would be premature to surrender the control the copyright law vests in authors, at least if that surrender despairs of authors’ abilities effectively to manage their own copyrights in a digital environment.

145. We are not there yet, as Stephen King’s attempts to market his work directly over the Internet have demonstrated. The endeavors yielded substantial readership, much of it non-paying, however. See, e.g., USA Today, King Returns to Roots as He Branches Out (November 7, 2000), available at http://www.usatoday.com/life/enter/books/book874.htm (on file with the Columbia Law Review) (discussing declining rate of payment for downloads of self-published serial novel The Plant); Web Spinner: Stephen King’s New Tale Hits the Internet, July 24, 2000, at http://www.abcnews.go.com/sections/tech/DailyNews/king000724.html (on file with the Columbia Law Review) (discussing serial publication of “the Plant” without intermediaries and how Stephen King forecasts vibrant future for self-publishing authors on the Internet, despite disappointing experience of publisher-issued electronic distribution of earlier e-book, “Ride the Bullet”).

146. Despite perceptions of a recent rise in publisher philistinism, see, e.g., Doreen Carvajal, Middling (and Unloved) in Publishing Land, N.Y. Times, Aug. 18, 1997, at D1 (discussing publishers terminating midlist authors in favor of talk show best sellers), the problem is hardly new, or for that matter, confined to the U.S. For example, Proust was unable to obtain a publishing contract for the first volumes of A la recherche du temps perdu, and ended up paying a publisher a substantial sum to print and distribute it. See generally, André Françon, Proust et la publication à compte d’auteur, in Jean Claude Soyer: L’honnête homme et le droit 227 (2001) (recounting Proust’s publishing travails). Had it not been for Proust’s considerable family wealth, his novel might never have reached the public. Id. at 234.


148. Arguably, the restoration of control to authors, rather than, or on occasion in addition to, industrial strength copyright owners, should also counter the fear that exclusive rights under copyright will end up monopolizing not only the rights of distribution of works of authorship, but the means as well. Cf. H.R. Rep. No. 60-2222, at 6–8 (debating exclusive rights and fear of monopoly in mechanical recording equipment). If authors band together to license their rights collectively, however, monopoly concerns return, as the antitrust history of ASCAP and BMI illustrates.