

THE CHALLENGE OF COPYRIGHT IN THE DIGITAL AGE

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ADVANCES IN DIGITAL TECHNOLOGIES

Since its inception, copyright law has responded to technological change. Today, the changes that are grabbing all the headlines relate to digital technology and digital communications networks, such as the Internet and personal computers. These technologies, like many innovations, are both promising and potentially harmful to various parties interested in the use and exploitation of works of authorship—from books and music to films and web pages. There is no doubt that the issues related to achieving the right balance between these interests in light of recent developments are daunting and justifiably can be described as “new” or “unique.” But, at the same time, they are merely one step in a journey of continual and successful adaptation that characterizes the history of copyright law.

CHARACTERISTICS OF DIGITAL TECHNOLOGIES WITH COPYRIGHT IMPLICATIONS

The technologies that presently are raising issues for copyright law are those related to digital storage and transmission of works. There are a number of aspects to these technologies that have implications for copyright law, including the following.

– *Ease of Reproduction*: Once a work is rendered in digital form, it can be reproduced rapidly, at little cost, and without any loss of quality. Each copy, in turn, can be further reproduced, again without any loss of quality. In this way, a single copy of a work in digital form can supply the needs of millions of users. We have seen how the compact discs (CDs) containing the original digital versions of recorded music and sold to consumers in the ‘80s and ‘90s have become

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the “masters” from which billions of copies have been made and distributed on computers and on the Internet in this decade.

– *Ease of Dissemination:* The emergence of global digital networks allows the rapid, worldwide dissemination of works in digital form. Like broadcasting, digital networks allow dissemination to many individuals from a single point (although, unlike broadcasting, digitized materials need not reach each individual simultaneously). However, digital networks allow each recipient on the network to engage in further dissemination of the work, which can cause the work to spread at a geometric (sometimes called “viral”) rate of increase. This, combined with the ease of reproducing works, means that a single digital copy of a work can be multiplied many thousands of times around the world within a few hours. When transmitted through high-speed transmission lines, like coaxial cable networks or even fiber optic lines, the process is even faster, and the capacity for the transmission of works grows as well.

– *Ease of Storage:* Digital storage is dense, and it gets denser with each passing year. Ever increasing quantities of material can be stored in a smaller and smaller amount of space. In the early 1990s CDs, which can store over 600 megabytes of data, were perhaps the predominant form of digital storage used by commercial pirates for storing entire libraries of computer programs or sound recordings with aggregate retail values in the millions of dollars. Today’s popular iPod portable music player can store nearly 70 times that amount (around 10,000 songs) in a device the size of a cigarette pack.

NEW FORMS OF EXPLOITATION ... AND ILLICIT COMPETITION

The revolution in the way new technology can reproduce, disseminate, and store digital information, including copyrighted works, is truly a double-edged sword for authors and right-holders. The challenge of copyright in the digital age is to preserve the author’s and right-holder’s incentive to create new works and use new technologies to distribute them to users and consumers in the face of a huge competitive threat from the illicit use of technology by infringers. It also involves making sure that beneficial uses of works are not being needlessly stifled by a copyright system rendered inefficient by the advance of new technology.

COMMON THEMES

Embracing New Forms of Expression: Time and again over the last two centuries, the subject matter of copyright has embraced new forms of authorship. Photography, cinematography, electronic databases, and computer programs are some examples. In each case, policy-makers ultimately were able to look beyond the particular technology or medium of expression in order to recognize the common thread of creative authorship that runs through all of copyright.

Maintaining the Framework of Exclusive Rights: A fundamental tenet of both national and international systems of copyright is that authors are entitled to exclusive rights over certain activities (e.g. reproduction, distribution, or public performance) involving their creative works. These rights allow the author to preserve both his economic and noneconomic interests in his creative works, which, in turn, promotes literary and artistic creativity and benefits the public welfare. This same principle is recognized in a provision of the U.S. Constitution authorizing Congress to grant exclusive copyrights “To promote the Progress of Science and useful Arts.” As new technologies have expanded the means by which works may be exploited, policy-makers periodically have had to reexamine the exclusive rights granted to authors under copyright, to ensure that authors and owners of copyright continue to exercise exclusive control over their works.

On occasion, a more expansive interpretation of existing rights is the answer. In the United States, for example, an existing right of public performance was interpreted to include radio and television broadcasts. On other occasions, new rights have been added to the copyright bundle, as when rights of communication to the public were added to the primary international copyright treaty, the Berne Convention, in response to the advent of broadcasting.

At the same time, legislators have had to examine the nature and scope of exemptions from exclusive rights. For example, the limited exemptions for reproduction of computer programs contained in section 117 of the U.S. Copyright Act were considered an appropriate means of tailoring exclusive rights to the need of that technology, namely, the need to make copies in the course of authorized use and the need to make backup copies to guard against mechanical failure or accidental erasure. Similarly, in 2002, the United States revised and adapted exemptions for educational use of works to accommodate new “distance learning” technologies that allow teachers to reach students via communications networks like the Internet.

In short, new technologies often prompt debate about whether the set of exclusive rights granted to authors and right-holders should be modified, either with new or broadened rights or new or broadened exemptions, to continue to serve the purpose of copyright.

Market-Driven Solutions: One reason that a system of exclusive rights like copyright has been so successful throughout history at providing the means to support creative activity is that it allows copyright owners to rely on the marketplace to find financial support for their creative endeavors. In particular, where technological change is very rapid, the flexibility of the marketplace is often the most efficient way to make sure that works continue to be created and disseminated to the public.

Any marketplace will have its inefficiencies, however, and it is a challenge for countries to try to address them. For example, an exclusive right does not necessarily benefit a right-holder if inefficiencies in the marketplace make the exercise of

the right impracticable. The exploitation of public performance rights in musical works is a classic example. Typically, the value of any single public performance of a musical work is small. The class of users, which includes broadcasters, bars, restaurants, supermarkets, and the like, is extremely large. In aggregate, the value of this form of exploitation is substantial, but so is the cost of administering rights over such a large base of users.

This inefficiency of the marketplace has largely been overcome in the United States and in other countries through a familiar market-driven solution: collective administration of the right of public performance. In this system, collecting societies collect license fees from each user and then distribute these payments to the writers and publishers. For example, in the United States, performing rights societies such as The American Society of Composers, Authors, and Publishers (ASCAP) and Broadcast Music, Inc. (BMI), grant blanket public performance licenses to many venues and distribute the income from these licenses to their members. A similar approach is being attempted for administering reproduction rights -- photocopying, electronic copying -- with some success. For example, in this area the Copyright Clearance Center has filled a void in the market place and acts as mediator to license a wide range of uses. Compulsory licensing, where the government creates and administers a license for the use of copyrighted works, is another approach to purported inefficiencies of the marketplace. For example, in the United States, sections 111 and 119 of the Copyright Act grant compulsory licenses for the retransmission of broadcast television signals because of the high transaction costs associated with obtaining necessary permission for such retransmissions.

The U.S. experience in this area has shown, however, that the best forms of collective management of copyright are those that retain as many characteristics of a marketplace of exclusive rights as possible. This requires that any system of collective administration be voluntary, non-exclusive, and responsive to market forces (including market forces brought on by technological change). All three of these factors point toward private entities operating within a competitive environment for collective administration of rights. In addition, the third factor suggests that collective administration of rights should be decentralized in order to account for different market conditions in different countries.

Moreover, the imposition of a compulsory license administered by the government can be costly to society. First, a compulsory license is a significant derogation from the norm of exclusive rights. Second, a compulsory license can cause significant distortions in the marketplace, since it serves to control prices, both directly through the mechanisms for setting royalty rates and indirectly through the control of supply. Third, once a compulsory license has become established, a web of reliance interests builds up around it, making it extraordinarily difficult to eliminate even after the conditions that justified its adoption cease to exist.

For all of these reasons, compulsory licenses are permitted sparingly under international copyright treaties and should be approached with great caution at

the national level. Market failure, such as in the cable and satellite retransmission market where transaction costs are prohibitively high, may be one justification for use of a compulsory license.

EARLY CHALLENGES

The advent of digital technology posed a number of challenges to the international copyright community.

Maintaining the Framework of Exclusive Rights

Because of the degree to which advances in digital technology have facilitated rapid, widespread reproduction and dissemination of works, the international community has paid significant attention in recent years to the need to adjust the existing framework of exclusive rights to address issues of new technology. The conclusion internationally has been that the existing framework is generally adequate to accommodate the new technologies and needs minor revisions rather than a major overhaul. This is reflected in the modest, though important, scope of the WIPO Copyright Treaty (WCT), concluded shortly after digital technology started to become prevalent.

The WCT requires member countries to recognize certain exclusive rights designed for activity that takes place over new digital communications networks like the Internet. Among other things, it requires that authors enjoy a right of communication to the public, including the right of “making available” their works, such as providing downloads from an Internet web site. While many existing copyright laws provide such a right through the more traditional rights of reproduction or performance, the WCT made clear that such a right, in whatever form, must be granted to authors.

Technological Adjuncts to Copyright Protection

While the WCT leaves the existing framework of exclusive rights largely intact, it does contain provisions, relatively new to international copyright agreements, on technological adjuncts to copyright protection. These adjuncts are intended to further the development of digital networks by ensuring that copyright can be meaningfully enforced and licensed online.

Under the WCT, countries must put effective legal remedies in place against the circumvention of technological measures that owners use to safeguard their rights. Countries must also provide legal remedies against persons who delete or alter rights management information attached by the copyright owner to the work. In the United States, the principal change to U.S. law in the legislation implementing the WCT was the addition of provisions on technological adjuncts to copyright protection. Title I of the Digital Millennium Copyright Act (DMCA) created a new

form of liability for circumventing technological measures that restrict access to protected works, or that control reproduction, distribution, public performance or public display of protected works.

The WCT, therefore, recognizes that owners cannot rely on technological measures alone to protect their works, because every technical device can be defeated by someone who is determined to access a work. In other words, while the framework of existing property rights continues to be appropriate, the meaningful exercise of these rights in the context of new uses, such as those on the Internet, requires supplementing them with legal rules that prohibit the compromise of their technology.

Markets and Management of Rights

Collective management of rights is a market response to the inefficiencies of individually licensing rights to large numbers of works to large numbers of users, where the value of any individual use is relatively small. Traditionally, individually licensing such works would result in transaction costs that exceed the value of the license.

At first blush, collective management of rights appears to be an attractive approach to managing rights to at least some works on digital networks. It's unclear, however, to what extent the same conditions apply. The information infrastructure that permits rapid, inexpensive dissemination of works may also enhance the ability of right holders to manage rights individually. The private sector currently is working to create technologies that facilitate individual transactions between right-holders and users. The intensive use of automation could reduce the cost of such a transaction to levels that would make individual rights management economically feasible. Alternatively, or additionally, such technologies could be used within a framework of collective management as a supplement to traditional blanket licenses.

For these technologies to meet their full potential in the marketplace, however, they must be allowed to develop with minimal interference. Market forces and not governments must determine whether collective management of rights, individual management of rights, or some combination prevails.

FUTURE CHALLENGES

Determining the Proper Scope of Secondary Liability in the Digital Age

Another interesting facet of the rapid evolution of digital technologies in the past decade is the personal nature of the new technology. A single individual, with very little investment, now can copy and distribute millions of copies of works over the Internet; especially works that can be digitized easily, like music or motion pictures or photographs. In the United States, we have seen companies deploy peer-to-peer

networking technology to take advantage of this fact, essentially enlisting millions of consumers into a network of copyright infringement on a scale never seen before. The fact that the activities of many individuals can cause massive, large-scale infringement raises serious questions about enforcement. It is quite difficult for copyright owners to identify, locate, and bring enforcement actions against the vast number of individuals who might be infringing their works. And even if the owners could bring such actions, it is unlikely that such individuals would be able to pay for the damage their actions have caused.

In an effort to address efficiently the infringement in these circumstances, U.S. copyright owners have turned to doctrines of secondary liability to hold the facilitators of these networks liable for the infringement. These companies, such as the old Napster, Aimster, Grokster, Morpheus, and Kazaa, provided software and services to users, and earn advertising dollars based on the size of the audience the infringing activity attracts. Secondary liability doctrines have long been part of the U.S. common law of copyright. They provide an effective means of enforcement by placing liability on those who are benefiting from the infringement and are in a position to control or restrain it. These doctrines may play a much more important role in copyright in the future, as more and more technological developments permit companies to take advantage of individuals' infringing activity.

The various cases brought against such companies suggest the courts may be having trouble finding the appropriate standard for secondary liability in the digital age. In the United States, the prospect of secondary liability for copyright infringement traditionally was an important safeguard that discouraged businesses from using copyrighted works as a "draw" for customers without permission. This prospect of liability, however, had to be balanced by the courts with freedom to engage in largely unrelated areas of commerce.

The U.S. Supreme Court addressed these issues more than 20 years ago in the case of *Sony Corp. of America v. Universal Studios, Inc.* Ever since then, this case has guided the courts in the proper application of the doctrine of contributory infringement. *Sony* involved the sale of the Betamax video cassette recorder, which purchasers used to "time-shift"—that is, to record broadcast television programming for viewing at a later time. The Court found no contributory liability, saying that there would be no such liability as long as a product was capable of "commercially significant" or "substantial non-infringing uses." Since the Court found that the predominant use of the Betamax was non-infringing, it did not need to further clarify what it meant by "substantial non-infringing uses." However, the Court did acknowledge that copyright owners are entitled to effective, not "merely symbolic," copyright protection.

More recently in *MGM Studios v. Grokster*, the U.S. Court of Appeals for the Ninth Circuit adopted a very literal interpretation of *Sony* in holding the developer of a decentralized "peer-to-peer" network not liable for contributory infringement, saying that no liability obtains as long as the product is merely capable of a non-

infringing use. This standard means very little, since most copying technologies will always be capable of at least one identifiable non-infringing use. In other words, if this view of *Sony* were permanently adopted, the resulting effect would be “merely symbolic” copyright protection. While the non-infringing uses discussed by the Ninth Circuit were certainly actual and not merely possible or hypothetical uses, the court’s inquiry failed to consider the relative proportions of the infringing and non-infringing uses (all parties acknowledged that 90 percent of the uses were infringing), and the extent to which the peer-to-peer developer profited from the infringing uses. This was in direct contrast to *Sony*, where the Court found that the predominant use of the product at issue was non-infringing, and other precedent such as *In re Aimster* where the court made detailed comparisons between the infringing and non-infringing uses of the technology.

Troubled by what it saw developing in the District Court and subsequently in the Court of Appeals in the *Grokster* case, the U.S. Congress in 2004 sought to address the issue legislatively in the form of a new liability for businesses that profit from inducing others to infringe copyrights. The interested parties could not reach an agreement and the legislative talks in Congress failed. But shortly thereafter the Supreme Court agreed to review the Ninth Circuit’s conclusions in the *MGM* case. The ultimate outcome before the Supreme Court probably will set the stage for further legislative discussions. And in all likelihood, the case will set an important precedent for secondary liability in the coming years.

As an international matter, there is very little uniformity among national laws as to secondary liability, whether it be liability for a company that uses peer-to-peer technology to encourage infringement, or, as the United States addressed in Title II of the DMCA, an Internet service provider that provides facilities used by others to infringe. This may be an area that warrants examination concerning international standards for such liability, especially given the global nature of the Internet, where a company can set up an infringement-facilitating operation that serves customers throughout the world from one country. Maintaining effective protection for copyright in the digital age might require such international standards.

Reducing Inefficiencies for Subsequent Users

As we have seen over the past decade, the Internet provides the individual with access to a vast reservoir of information of all types, from text to photographs to music to audiovisual works. Moreover, digital technology also provides that individual with the ability to become an author by creating and disseminating her own works. Often that author would like to use some of the material she might find, but is unsure of the copyright status of a work or whom to ask for permission. Collective licensing of works can help such an author by providing efficient mechanisms so she can obtain permission to use works.

There may be, however, some or even many works for which the author cannot find an owner or an administering collective agency, and she cannot resolve the

question of whether the copyright law permits or prohibits her from using such works. One challenge for the future is how the law should treat these so-called “orphan works.” If it is truly the case that the copyright owner of such a work no longer cares about its subsequent use, then such use should not be restrained merely because of uncertainty about a work’s status. This result would deprive the public of access to a new and productive use of the work, which is ultimately the goal of any efficient copyright system.

In the United States, the Copyright Office has begun an inquiry into the orphan works question to determine the nature and scope of the problem and what legal or regulatory solutions might be needed to address it. (*See www.copyright.gov/orphan*). Other countries, including Canada, have already developed mechanisms for issues related to orphan works. Part of the challenge in addressing such a problem is ensuring that it is fully consistent with and does not derogate from the legitimate interests of authors and right-holders, and that it complies with international copyright rules that prohibit the imposition of formalities that are a condition to the enjoyment and exercise of copyright.

