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The Digital Learning Challenge:

Obstacles to Educational Uses of Copyrighted Material in the Digital Age

A Foundational White Paper

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ABSTRACT

This foundational white paper reports on a year-long study by the Berkman Center for Internet and Society, funded by a grant from the Andrew W. Mellon Foundation, examining the relationship between copyright law and education. In particular, we wanted to explore whether innovative educational uses of digital technology were hampered by the restrictions of copyright. We found that provisions of copyright law concerning the educational use of copyrighted material, as well as the business and institutional structures shaped by that law, are among the most important obstacles to realizing the potential of digital technology in education.

Drawing on research, interviews, two participatory workshops with experts in the field, and the lessons drawn from four detailed case studies, the white paper identifies four obstacles as particularly serious ones:

- *Unclear or inadequate copyright law relating to crucial provisions such as fair use and educational use;*
- *Extensive adoption of "digital rights management" technology to lock up content;*
- *Practical difficulties obtaining rights to use content when licenses are necessary;*
- *Undue caution by gatekeepers such as publishers or educational administrators.*

The white paper concludes with some discussion of paths toward reform that might improve the situation, including certain types of legal reform, technological improvements in the rights clearance process, educator agreement on best practices, and increased use of open access distribution.

Keywords: copyright, digital technology, education, teaching, DRM

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EXECUTIVE SUMMARY

This foundational white paper reports on a year-long study by the Berkman Center for Internet and Society, funded by a grant from the Andrew W. Mellon Foundation, examining the relationship between copyright law and education. In particular, we wanted to explore whether innovative educational uses of digital technology were hampered by the restrictions of copyright. We found that provisions of copyright law concerning the educational use of copyrighted material, as well as the business and institutional structures shaped by that law, are among the most important obstacles to realizing the potential of digital technology in education.

The paper builds on four detailed case studies of initiatives that have encountered such obstacles. Each of these initiatives is moving forward, but only by fighting against a copyright-related system that instead should be helping educators accomplish their goals. The four case studies are:

- A plan to use social networking software to help new social studies teachers interact and share classroom resources, which confronts copyright problems when teachers incorporate third-party content into their materials;
- The need of film studies professors to bypass encryption on DVDs – likely in violation of federal law – in order to show selected film clips to their students;
- An effort to make a digital database of hard-to-find but important American music available on college campuses, which encountered massive obstacles in the rights clearance process;
- The shortcomings of special statutory provisions intended to benefit public broadcasters, but limited to over-the-air broadcast so that they have become nearly irrelevant as the need to distribute content on multiple digital platforms increases.

Drawing on these case studies, other research, and comments made by a cross-section of scholars, lawyers, librarians, and educators who participated in two day-long workshops organized as part of the project, the following emerged as the most significant copyright-related obstacles to educational uses of copyrighted material:

- Unclear or inadequate copyright law relating to crucial provisions such as fair use and educational use;
- Extensive adoption of “digital rights management” technology to lock up content;
- Practical difficulties obtaining rights to use content when licenses are necessary;
- Undue caution by gatekeepers such as publishers or educational administrators.

While the primary task of the foundational white paper was to identify these obstacles, the paper concludes with some discussion of paths toward reform that might improve the situation. It suggests that certain types of legal reform, technological improvements in the rights clearance process, educator agreement on best practices, and increased use of open access distribution would help overcome the obstacles we identified.

PART ONE: THE OVERVIEW

1. Introduction

Digital technology revolutionizes many of the ways we receive and use information every day. The availability of online resources has changed everything from hunting for a new house to reading the newspaper to purchasing plane tickets, and as a result has disrupted established structures (such as the real estate, news, and airline businesses). Telecommuting has become widespread. The market for popular music has transformed dramatically. Internet telephony presents a real challenge to established telecommunications companies. Millions of blogs, social networking sites, and interactive online games have created new modes for interaction and expression. In short, the advent of digital technology touches almost every aspect of modern life.

Perhaps no area holds more potential for such transformation than education. Many diverse and exciting initiatives demonstrate how rich sources of digital information could enhance the transfer of knowledge. Yet at the same time, the change in education arguably has been less radical, especially in comparison to mundane endeavors such as selling a used bicycle or booking hotel rooms. There are many complex reasons for this slow pace of change, including lack of resources and resistance to new practices. As this white paper explains, however, among the most important obstacles to realizing the potential of digital technology in education are provisions of copyright law concerning the educational use of content, as well as the business and institutional structures shaped by that law.

In 2005, the Berkman Center for Internet and Society at Harvard Law School embarked on a study, funded by a grant from the Andrew W. Mellon Foundation, to examine the relationship between copyright law and education. In particular, we wanted

to explore whether innovative educational uses of digital technology were hampered by the restrictions of copyright. We conducted research for the 2005-2006 academic year, including organizing two workshops with a cross-section of leading experts – scholars, lawyers, librarians, and educators (and some people who are all four of those things at once). This foundational white paper reports the results of those efforts. It seeks to identify the problems impeding educational uses of digital content and it begins the analysis of appropriate solutions.

This introductory section lays groundwork for the analysis in two respects. Subsection 1.1 provides examples of the extraordinary promise of digital technology for education. Subsection 1.2 provides very basic background about copyright law (later sections, as well as free-standing modules accompanying the white paper, elaborate considerably upon this rudimentary explanation).

The remainder of this white paper undertakes the analysis. Section 2 summarizes four detailed case studies of initiatives that have overcome some of the copyright-related obstacles they faced, but have also been forced to limit their plans as part of their response. Building on these case studies, the white paper then turns to an analysis of the obstacles to educational use of content:

- Unclear or inadequate copyright law relating to crucial provisions such as fair use and educational use [section 3];
- Extensive adoption of DRM-like technology to lock up content [section 4];
- Practical difficulties obtaining rights when necessary [section 5];
- Undue caution by gatekeepers such as publishers or educational administrators [section 6].

Finally, the paper concludes with some initial exploration of possible paths toward overcoming these obstacles [section 7].

1.1. The Promise of Digital Learning

Digital technology makes informative content easier to find, to access, to manipulate and remix, and to disseminate. All of these steps are central to teaching, scholarship, and study. Together, they constitute a dynamic process of "digital learning."

In general, this white paper adheres to a capacious definition of education. The sort of teaching and learning that occurs within traditional educational institutions such as K-12 schools and colleges and universities lies at the center of our understanding of education. Similarly, the concept clearly embraces scholarship undertaken by faculty, students, and other researchers affiliated with colleges, universities, or other established research institutions (such as medical centers and think tanks). Yet digital learning extends beyond these more formal institutions to involve everyone with internet access. In some instances, traditional institutions are making their educational content available to the general public online. In other cases, individuals who may have no connection to formal academia can nonetheless engage in teaching and learning with one another through the use of new technology. The examples below include all of these types of digital learning.

This broad scope for our definition of education is in keeping with the open-ended, collaborative, and disintermediated nature of the digital environment. Indeed, one of the most exciting features of digital technology is its capacity to permeate society unrestricted by the walls of a school or the formal roles of teachers and students. Of course, some issues we discuss herein are unique to the particular needs of more formal academic institutions. But it is important to keep in mind the wide spectrum of activity included in the concept of "digital learning."

Indeed, perhaps no initiative better epitomizes the concept of digital learning than one undertaken by a private company rather than a school: the efforts of the search engine company Google to digitize and index books housed in five major research libraries. (Harvard University is one of the five libraries participating in the program; the others are Stanford University, Oxford University, the University of Michigan, and the New York Public Library). As the company explains it, the "ultimate goal" of the Google Library Project is "to work with publishers and libraries to create a comprehensive, searchable, virtual card catalog of all books in all languages that helps users discover new books and publishers discover new readers." Google users will be able to enter search terms that would yield "snippets" of a few sentences from books still protected by copyright and the entire book if it is in the public domain. Google believes that such limited quotation is legal as a fair use [see section 3.2] and emphasizes that rightsholders can elect to have copyrighted books removed from the database.

As has been widely reported, federal lawsuits filed by a group of publishers and by the Authors Guild allege that the Google Library Project violates U.S. copyright law. In short, these rightsholders argue that the act of digitization is itself an infringement of their copyrights, regardless of the purpose to which Google puts the copies. They are also animated by at least two more practical concerns. First, the authors and publishers raise concerns about the security of Google's digitized database of their books – they worry that hackers may figure out how illicitly to copy the full text of books stored there. Second, the authors and publishers argue that they are entitled to licensing revenue from these uses of books. In sum, they argue, Google seeks to make an advertising profit from an illegitimate use of copyrighted material belonging to others.

The Google Library Project resembles both the projects noted here and the more detailed case studies that follow in section 2 in key respects. On one hand, the motivation behind the project is an imaginative, educational use of digital technology. On the other hand, copyright law and related business and institutional structures are proving to be obstacles rather than facilitators of such digital learning. Both sides advance reasonable arguments, in terms of both the current law and the wisest future policy. Their conflict raises the central question: how do we, and should we, encourage both widespread uses of content and preservation of incentives for creators and distributors? Attorneys and legal scholars have reached widely disparate conclusions concerning the merits of these suits, making the outcome difficult to predict.

Now, on to the other examples. Notwithstanding the obstacles documented elsewhere in this white paper, committed educators of every kind have taken advantage of digital technology to launch all sorts of exciting new initiatives. The mere sampling we offer here is intended to demonstrate the extraordinary promise of this technology and thus create context for the analysis that follows.

Teaching and learning in traditional schools, from kindergarten to graduate school, benefits from digital technology that enables new pedagogical methods and allows easy access to vast quantities of educational content. Examples of changes that capitalize on this potential include:

- A planned online network for high school history teachers, allowing them to share advice and classroom resources (the subject of a more detailed case study below);

- Classroom teaching enhanced with new media such as PowerPoint slides or video and audio clips (including the use of DVD clips in film studies classes, the subject of a more detailed case study below)
- Extension of the classroom dialogue through mechanisms such as e-mail or class blogs and wikis;
- Student authorship of diverse content beyond the traditional term paper and diorama, from video and audio to hyperlinked web pages;
- A few schools are moving to replace textbooks entirely with laptops and diverse multimedia source material, including Empire High School in Tucson, Arizona; other schools, such as Johnson Elementary School in Forney, Texas, are using laptops to enable digital delivery of traditional textbooks.

Traditional scholarship now enjoys unprecedented access to source materials as well as digital distribution methods. In place of the book and the journal article, printed on paper with months of lead time and mailed to libraries, scholarly work is increasingly presented online. This permits:

- More convenient access (e.g. desktop delivery through the internet);
- Quicker turnaround for time-sensitive work (e.g., certain work in political science or medicine);
- Use of hypertext to allow readers to engage with scholarship on multiple levels of detail (e.g. linking to tables, survey instruments, or data sets for those who desire more background);

- Incorporation of digital content such as audio or video clips (e.g. including segments of recordings in musicology work or archived video from a relevant academic conference);
- Collaborative discussion of work on an ongoing basis (e.g. enabling readers to submit responses; linking to other resources such as discussion boards).

Institutions enlighten the general public by using digital technology to make the educational content they create or control available to a much broader audience:

- MIT OpenCourseware makes materials used in courses taught at MIT available online, while the LionShare project at Penn State has created a peer-to-peer filesharing system designed to help university users find academic content housed at other institutions;
- New World Records, a nonprofit record label specializing in underappreciated composers, has established a Database of Recorded American Music for use in universities (also the subject of a more detailed case study below);
- Public broadcasters use a variety of digital tools, from special web sites to internet streaming to podcasts (the subject of a more detailed case study below);
- Museums such as the Smithsonian Institution, the British Museum, and the Metropolitan Museum of Art have devoted significant resources to their online educational presence;

- The BBC presents large quantities of its educational content online and has assembled a "learning" page on its web site.

Finally, **more "open" forms of digital learning** now allow efficient creation and distribution of varied educational content with little direct involvement of traditional institutions. As noted above, new technology allows everyone to become teachers and students – creating digital learning tools, disseminating them broadly through the internet, and learning from digital content promulgated by others. A few examples include:

- The Berkman Center's own H2O project, which allows users to create "playlists" of relevant recommended content on any subject;
- Rice University's Connexions project, which provides software tools to create, modify, and use online "modules" and courses;
- Educational content assembled by an authoritative "editor" and presented on the internet, such as the Red Hot Jazz Archive and the Victorian Web;
- Grass-roots open source educational resources that allow editing by the public, such as Wikipedia or the online Samuel Pepys Diary;

All of these diverse examples illustrate the potential that digital learning has to transform education. The case studies discussed in section 2 provide more specific detail, both about this promise and about the problems that the copyright system presents. In order to lay the groundwork for that discussion, some basic explanation of copyright law is necessary.

1.2. Brief Background About Copyright Law

[For overview of the law that is more in-depth than this brief description permits but still accessible to non-lawyers, see the U.S. Copyright Office's Circular #1, Copyright Basics, which is available online in a recently updated form].

1.2.1. Copyright Fundamentals

U.S. federal copyright law grants the creator of an original work of authorship (including literary, dramatic, musical, visual, architectural, and other kinds of works) a set of exclusive legal rights involving different means of exploiting the work. These include, among others, the right to reproduce, distribute, display, or perform the work. A copyright also confers the exclusive right to prepare "derivative works" from the original, such as a sequel to a novel based on the same characters, a translation into another language, or an abridged or edited version of the work. All the rights come into existence automatically once the work has been "fixed" in a permanent tangible form, such as being written down on paper or recorded in digital form. Generally speaking, under the most recent extension of the copyright term, passed by Congress in 1998, the rights most often persist for seventy years after the author's death, or for a total of ninety-five years if the "author" is a corporation. (This flowchart by Professor Timothy K. Armstrong of the University of Cincinnati provides some greater detail about the notoriously complex calculation of copyright duration.)

The most commonly cited rationale for granting such strong rights is the desire to furnish incentives to create original work. By granting legal protection against copying and other unauthorized exploitation of the work, copyright seeks to ensure that creators and distributors of works reap the monetary rewards flowing from their efforts. The availability of these rewards, in turn, should stimulate further creative work. Without

copyright, others might easily copy a work of authorship and never pay its originators for it. Digital technology and the accompanying ability to make perfect copies of content have further increased this feature of intellectual property.

In practice, the creator of a work often licenses or transfers some or all of these rights to other entities (such as publishers, universities, record companies, or periodicals) who then may enforce the rights themselves. Similarly, when creators die, their heirs typically inherit whatever rights they retained. As such, this white paper refers to "rightsholders" rather than simply "authors" when it discusses those who have the capacity to sue others for infringement.

The owner of a copyright can sue others who infringe on the exclusive rights covered during its term. The most basic sort of infringement is copying or distribution of a work without permission of the rightsholder. In addition, those who assist or enable others' infringing activities may themselves be held liable under copyright law. So, for example, as the Supreme Court held in its 2005 *Grokster* decision, a peer-to-peer file-sharing service that affirmatively encourages illegal copying and swapping might lose in court under such a theory of "secondary" liability.

1.2.2. Limits on Copyright

Of course, rightsholders do not have unlimited power to control all potential use of content. The very purpose of the copyright system is to ensure that public discourse is enriched by creative work, and this purpose would be thwarted by excessive control. Since its very beginnings, therefore, copyright law has sought to strike the appropriate balance between preserving rewards for creators of works (and therefore incentives for creation) and fostering subsequent uses of that content.

Some of the most fundamental elements of copyright law support this balance. So, for instance, copyright does not confer any control over facts or ideas, only the particular expression of those facts or ideas in a work. As a result, a historian can sue someone who copies the language she used to describe events, but not the underlying raw information. Copyright also confers control only over the intangible creative content of a work, not the physical object that houses content such as a book or CD. This limitation is reinforced by the "first sale" doctrine, which allows a person who buys an authorized copy of a book to dispose of it how he pleases, including selling or loaning it to someone else.

Congress and the courts have also fashioned a number of exceptions allowing uses of content notwithstanding the exclusive rights granted to creators. Not surprisingly, given the centrality of education to the purpose of the copyright regime, many of these exceptions apply to educational uses of content. The fair use doctrine is the most famous of these. Broadly speaking, fair use allows certain limited uses of content for purposes that further public discourse, such as comment, criticism, and parody; the doctrine is explained in more detail below in section 3.2. A set of educational use exceptions, explored further in section 3.1, seeks to augment fair use, particularly within the boundaries of the traditional school environment. Whether or not these exceptions are effective, especially in the context of digital learning, is another matter.

1.2.3. The Digital Millennium Copyright Act

A further addition to rightsholders' arsenal is the ability to use technological mechanisms to prevent unauthorized copying of works, discussed further in a case study in section 2.2 and in section 4. Such mechanisms are most widely known as

Digital Rights Management ("DRM") systems (the name used in this white paper), though they are also sometimes called Technological Protection Measures ("TPMs") or copy prevention technology. By whatever name, DRM systems are encoded into digital content by a variety of means, such as encryption or watermarking, so that users are incapable of accessing or using the content in a manner that the rightsholder wishes to prevent. Sometimes, as in the case with most commercially distributed DVDs, the DRM system simply aims to prevent all copying indiscriminately.

Copyright law reinforces the power of DRM systems through the Digital Millennium Copyright Act ("DMCA"), found in chapter 12 of the statute. In general, the DMCA seeks to forbid the circumvention of a DRM system – defined as "a technological measure that effectively controls access to a work protected [by copyright law]." It also outlaws development or trafficking of any DRM circumvention device or technology.

There are very limited exceptions to liability under the DMCA, but notably they do not include any defense based on an assertion of applicable exceptions under copyright law, such as fair use. Defendants who have a fair use right to reproduce content do not thereby have a defense if they must circumvent a DRM system to gain access to that content. There is also an exemption from civil damages for certain defined educational institutions under section 1203(c)(5), but it is available only if the defendant accused of circumvention "sustains the burden of proving, and the court finds, that the library, archives, educational institution, or public broadcasting entity was not aware and had no reason to believe that its acts constituted a violation." It would be extremely difficult for any responsible educational institution to demonstrate such ignorance of a well-known legal restriction, and individuals are not eligible for the same lenience.

Consequently, educators are potentially vulnerable to civil or even criminal penalties if they interfere with whatever technological restrictions rightsholders choose to impose on the use of content.

2. Summaries of Case Studies

This section summarizes the four case studies completed as part of research for this white paper. More detailed versions of each study are also available as separate documents.

Each of the digital learning efforts described here is moving forward despite obstacles presented by legal rules, institutional structures, and market forces. The educators involved in these case studies have devoted hard work and accepted compromise. They are fighting against a copyright-related system that instead should be helping them accomplish their goals.

2.1. The History Teacher Network: Copyright Law Hampers Teachers' Sharing of Educational Resources

[A more detailed version of this case study is here]

The Center for History and New Media (CHNM) at George Mason University is a research center dedicated to using "digital media and computer technology to democratize history" and to enhance the presentation and preservation of the past. As part of this mission, CHNM is planning an online social networking service that will allow elementary and secondary school teachers to communicate across distances and provide mutual professional support.

CHNM recognized early on that one of the features in such a network that users will find most desirable is the opportunity for teachers who have developed successful classroom resources to share them with their colleagues. The exchange of resources incorporating photographs, animation, maps, sound clips, and the like lets teachers draw on one another's creativity to stretch their limited time and supply budgets and to offer their students a rich, multifaceted learning experience. Through such a system, a teacher who had created, say, an excellent PowerPoint presentation about early African cultures, or media coverage of the Vietnam War, could allow other teachers around the country to use it. In addition, through rating and social tagging technologies, the system would allow users to find suitable lessons and to rely on colleague's opinions of their quality.

CHNM has been forced to curtail its plans for a resource exchange component of the network because of the risk of secondary liability for copyright infringement. CHNM fears, not unreasonably, that teachers might use the network to post resources that include content from other sources in a manner which infringes copyrights. The hypothetical PowerPoints named above, for example, might incorporate a recording of early African music or the famous photo of Vietnamese children fleeing napalm. Because both are likely copyrighted, CHNM must take care not to be held secondarily liable for their distribution by users of the network.

Ironically, copyright law does not prohibit teachers who create such a resource from showing it in their own classes, even if it contains copyrighted content. In general, the educational use exceptions in copyright law, particularly those in section 110 of the statute [further explained in section 3.1.1 of this white paper] shield that teacher from

liability. Furthermore, the fair use doctrine [further explained in section 3.2 of this white paper] should fill whatever gaps may exist in the coverage of these exceptions.

The problem arises only when the teachers who create such a resource distribute it to other teachers for use in their classrooms. The act of distribution likely falls outside the scope of the educational use and fair use exceptions to liability. Thus, teachers who would be permitted to produce and use their own "do-it-yourself" digital teaching aids are not allowed to loan them to colleagues to use in their classrooms. (The British Library, for example, which owns the copyright to the African music recording in the above hyperlink, makes this limitation explicit in its copyright statement.)

CHNM still plans to include a lesson-swapping function in the History Teachers Network, but will forbid users from sharing any copyrighted material and will present a strongly-worded warning at the upload point not to do so. CHNM will also take other precautions, such as providing access only to users affiliated with school districts, establishing notice-and-takedown procedures in compliance with the Digital Millennium Copyright Act, and posting disclaimers.

From the teachers' perspective, this is at most a second-best option, because it will exclude potentially high-quality teaching materials that incorporate protected works. Teachers who originally developed lessons for use in their own classrooms had no reason to attend to the copyright status of content, and so they are likely to be unsure whether they can upload these resources. Organizers at CHNM are also concerned that dire-sounding copyright warnings will discourage teachers from submitting resources that would in fact be legal to distribute. For example, a teacher might have created a presentation incorporating material that, while not in the public domain,

carries the permission of the rightsholder to copy and distribute for educational purposes (such as a Creative Commons noncommercial use license). Or the teacher might have used scientific data that, because it is factual and not creative, is not entitled to copyright protection. Teachers are not copyright experts and will be reluctant to make the judgments necessary to ascertain whether uploading is permitted. CHNM fears that users of the system will exercise undue caution when they make conscientious efforts to heed warnings about copyright infringement.

The result: a wealth of valuable, creative educational materials that could be used legally by the teachers who originally designed them will not benefit additional children in other schools. The lessons with African music recordings or photos from the Vietnam War cannot be distributed to peer teachers under the current copyright regime. The greatest value of such resources lies precisely in the integration of rich source material with educational content that explains and analyzes it. That value is lost in most cases. This is a particular impediment in emerging curricular fields such as world history (an alternative to more traditional western civilization courses), where textbook publishers may not adequately serve teachers' needs, making reliance on self-created materials a necessity.

This case study illustrates one of the most difficult issues raised by digital technology: how can the interests of teachers and learners to use content flexibly be reconciled with the need to preserve reasonable incentives for creators and distributors of content? While adhering to prior law developed in an analog context foregoes many potential benefits of digitization, removing all limits would go too far in the other direction.

As in all of our case studies, CHNM has found a way to move forward with a more limited version of its original plans. But copyright law, far from assisting efforts to help teachers harness the power of digital technology, instead stood in CHNM's path.

2.2. DVDs in Film Studies Classes: DRM and the DMCA Interfere with Educational Use of Film Content

[A more detailed version of this case study is here.]

A recent addition to the academy, film studies applies the techniques of established disciplines, including psychoanalysis, literary studies, and linguistics, to examine the art of cinema. Though a small group of intellectuals recognized the significance of film as a medium for artistic expression in the early twentieth century, film studies did not surface as an accepted area of scholarship until the 1960s. In the decades since, the popularity of film studies has spread dramatically, so that dozens of colleges and universities now offer undergraduate and graduate degree programs in film studies, and many more offer courses in the field. Technological advancement, including development of the DVD, has fueled this growth. And with the emergence of cinema as a crucial element of modern culture, film studies is certain to continue to develop as an important area of scholarly endeavor.

The ability of teachers and students to view and critique excerpts of film – essentially, movie clips – is a fundamental building block of serious study in this area. One of the most common means for professors to teach students about film is to show a series of excerpts from different movies that illustrate a common point. For example, a professor may wish to screen clips from different films that use a certain camera angle

to produce a particular visual effect. Film studies professors also present and discuss relevant clips from assigned works during lecture, just as literature professors examine novels in class by reading important passages out loud.

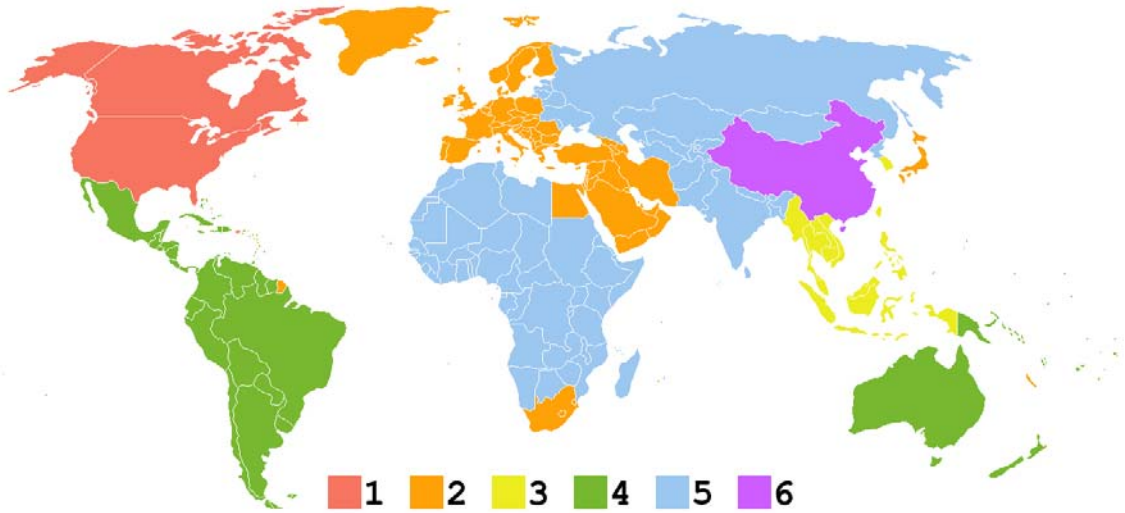
Creating compilations of such excerpts (or, as they are sometimes called in a throwback to older technology, “clip reels”) should be a relatively straightforward process using DVDs. Digital technology should also enhance the ability for students to have access to clips for homework or other study outside of class, either online or through distributed DVDs. In fact, our research and interviews with film studies professors demonstrates that, for a combination of technological and legal reasons, the opposite has occurred. The DRM systems used on DVDs, and the restrictions of the DMCA, interfere with these educational uses of film content. We have found that many film studies professors nonetheless reap the benefits of digital technology for their teaching – but only by bypassing DRM systems in likely violation of copyright law.

Rightsholders almost always distribute film content on DVDs with DRM systems and a number of other technological limitations embedded in the discs. These technological barriers are reinforced by legal ones. As discussed above in section 1.2.3, the DMCA outlaws circumvention of DRM systems and the creation or distribution of circumvention tools. Even though showing a clip of a movie in class is unquestionably permissible, under both face-to-face teaching exceptions (see section 3.1.1) and the fair use defense (see section 3.2), the DMCA does not recognize any comparable exceptions. Professors who circumvent the DRM systems in DVDs to enable such uses thereby expose themselves to civil or even criminal penalties.

The most significant DRM barrier is CSS. Commercially available DVDs are encoded in CSS, an encryption and authentication scheme that prevents copying of

video files directly from DVDs. CSS does not merely block DVD copying. Rather, CSS is an encryption system that scrambles DVD content and restricts playback to licensed devices equipped with keys for decoding the scrambled content. This encryption, combined with the terms of the CSS license, prevents copying by regulating the devices that play DVDs. Put differently, CSS restricts *access* to DVDs as well as duplication of them.

Copyright owners further restrict DVD access by limiting the geographic areas in which a disc can be played through region coding, another DRM system. A map of the coding system is set forth below.[1]



For example, DVDs sold in Europe (region 2) cannot be viewed on DVD players sold in the United States (region 1). Rightsholders use these access restrictions to control the timing of DVD release around the world so that it is possible to release a movie on DVD in one region, and in theaters in another, without running the risk that access to the DVD version of that movie will leak across regions and interfere with theater attendance.

[1] Source: http://en.wikipedia.org/wiki/DVD_region.

Finally, as anyone who watches DVDs at home is painfully aware, many contain navigation restrictions that force playing of previews, copyright warnings, or even advertising content (and often prevent fast-forwarding) before gaining access to the feature film. While not formally DRM systems, such features prohibit easy movement between different sections on a DVD in ways that further undermine a film studies professor's practical ability to make use of its content. They certainly negate any argument that a professor could simply insert a DVD into a player and bring up the desired scene during class rather than creating clip reels. For example, in order to show students clips from five different DVDs during a single class, the class would have to waste valuable time waiting for previews and copyright warnings to play on each of those discs before showing the desired clips.

Our research indicates that many film studies professors – probably most of them – respond to these difficulties by circumventing CSS, region coding, and navigation controls, despite the likely illegality of doing so. Those who abide by the law face enormous practical difficulties in their everyday teaching.

Software tools capable of circumventing these DRM systems became available as early as 1999. Since then, developers have created numerous tools that allow users to copy and manipulate DVD content. For example, Fast DVD Copy 4 by Velan is a popular program among film studies professors that allows users to duplicate CSS-protected DVDs and remove region and navigation restrictions from the copies it creates. Other programs with similar functionality, such as Forty-Two DVD-VX Plus and MacTheRipper, are also available. Notably, manufacturers and distributors of these programs risk sanction under the DMCA. The courts have enjoined several manufacturers of circumvention software, prohibiting further distribution of their

programs. Nevertheless, film studies professors continue to rely on these programs, and software manufacturers continue to produce them.

After creating a DRM-free copy of a movie, it is possible to isolate and extract desired movie excerpts using editing tools such as Cinematize. Cinematize allows users to extract video and audio clips from DVDs and save them in a variety of formats compatible with popular movie and audio editing applications. The developers of Cinematize, cognizant of the liability issues surrounding the manufacture and distribution of software capable of circumventing CSS, did not include such a decryption feature in the program. Nevertheless, as advertised on the Cinematize website, "Cinematize is fully compatible with decrypted output from all the popular [] decryption tools available." By combining tools such as Fast DVD Copy 4 and Cinematize, professors can (and do) harness the full power of the DVD format.

The advantages for film studies of digital content over older analog formats are significant. Liberated from the constraints of CSS, the digital information stored on DVDs permits rapid duplication, without concomitant degradation in quality. Once region codes are overridden, professors can introduce students to movies never before available in their geographic region. In addition, absent navigation restrictions, DVD content is more readily searchable than analog media, permitting instantaneous navigation by title, chapter, and timecode. In sum, DVDs stripped of these DRM systems allow film studies professors to duplicate content, create clip compilations that they can show in the classroom, and navigate DVDs in order to avoid wasting time.

Clips taken from videotape or other analog formats are not adequate substitutes for the educational needs of these professors. Most obviously, the resultant copies are lower in quality than the originals (which most likely were already inferior to DVDs of the

same film). A sophisticated analysis of cinema requires access to a version of the film in excellent quality, not the grainy images found on bootleg videos. Tape also must be copied in real time, making the creation of larger clip reels unrealistic. Finally, some analog formats do not lend themselves to creation of clip compilations whatsoever. For example, most professors do not have access to the equipment necessary to duplicate and splice clips from 16-mm film.

As a supplement to presenting segments of works in class, film studies professors occasionally distribute excerpts of works to students as part of the course curriculum – either by handing out physical copies, or by posting content on an intranet. Creating DVD copies of excerpts is the most efficient, cost-effective way to distribute this content to students. DVDs are faster to copy and less expensive to create than other media. And these five-inch plastic discs produce higher quality, more durable copies than other formats. Further, DVD players are ubiquitous on college campuses – available on computers, in libraries, and in dormitories. In contrast, certain analog formats, such as 16-mm, are difficult to duplicate, and even if duplication were possible, most students would not have access to the projectors needed to view most such formats. While VCRs are readily accessible, creating videotape copies of movie segments for individual students is prohibitively expensive and time consuming. For these reasons, film studies professors depend on DVDs to create physical copies of media for students.

Professors who wish to distribute movie clips online encounter issues similar to those faced when distributing physical copies of content. Posting analog content to the internet (or an on-campus intranet) is a costly and time-consuming proposal, since it is necessary to digitize analog content before putting it online. This conversion reduces

the quality of formats such as 16-mm film, since some resolution is lost during digitization. Clips from DVDs, in contrast, are easily compiled and posted to with the use of software tools such as Fast DVD Copy 4 and Cinematize. Unsurprisingly, the majority of film studies professors who post content online derive that content from DVDs.

At present, there is an uneasy equilibrium that tacitly permits film studies professors to carry on with systematic violations of the DMCA for educational purposes. Film studios appear unwilling to take the potentially unpopular step of suing professors for studying their work; universities appear generally to turn a blind eye to DMCA violations perpetrated by their faculty. This apparent equilibrium is dangerously unstable, however. First, rightsholders could choose at any time to revoke their implicit tolerance of DMCA violations. Indeed, teenagers and college students who used peer-to-peer file-sharing services likely felt that their activities were unlikely to result in litigation until the recording industry adopted an aggressive strategy of pursuing such cases. The same could occur in this context – and most likely only one rightsholder needs to bring one action in order to chill these now-common educational uses of film content.

Second, even if the educators themselves do not become targets, they could lose access to the circumvention tools necessary for them to use DVDs effectively. Already, the U.S. government and the film industry aggressively target such products through the legal system. In addition, there is an ongoing “arms race” between DVD distributors and the hackers who create circumvention tools, with new DRM systems introduced frequently and then new technology developed to bypass them. A combination of a simultaneous improvement in DRM technology for DVDs and a legal

crackdown on DMCA trafficking violations could leave film studies professors without practical technological means to bypass DRM systems. While a few may have the technological sophistication to design their own circumvention mechanisms, most professors would be left unable to use DVDs in their teaching at all.

Here, as in other case studies, many educational uses of content are proceeding despite obstacles. In this instance, however, the benefits are realized only by breaking the law. An increase in legal enforcement, against either educators themselves or developers and distributors of circumvention tools, would prevent such uses. The deployment of CSS and enforcement of the DMCA may be motivated by reasonable fears about large-scale piracy of Hollywood new releases. They have the bizarre side effect, however, of turning film scholars into outlaws.

2.3. The Database of Recorded American Music: Copyright Burdens Educational Distribution of Music

[A more detailed version of this case study is here]

New World Records (NWR) is a non-profit corporation that sees itself as analogous to a university press for American music. Its mission is to promote awareness of and access to the works of U.S. composers who are not distributed on mainstream record labels. NWR sells to individual customers, but its main market is libraries, which "subscribe" to NWR's releases, meaning that they receive a copy of every album NWR puts out at a discounted rate.

NWR is committed to the idea that digital delivery is the future for music. It has launched a multi-million dollar effort to create a digital database of music for library and

scholarly use, the Database of Recorded American Music (DRAM), a model analogous to JSTOR for scholarly journals and ARTstor for art images. Initial funding for the project, which aims to become self-sustaining, comes from the Andrew W. Mellon Foundation and Robert Sterling Clark Foundation. DRAM, developed in collaboration with New York University, will be offered at some 100 universities by the end of 2006, either as paying customers or on a free trial basis in the hope that the schools will subscribe once they experience the DRAM's benefits. The Database includes recorded selections already distributed by NWR through its existing catalog of CDs and those culled from partner labels with similar lists.

The process of converting to a new method of delivery required a detailed review of intellectual property rights. Because NWR champions underrecognized composers, it is especially committed to protecting their copyright-related financial interests, so ensuring fair compensation for these creators was a high priority. Even armed with this commitment and comparatively generous funding for a nonprofit educational project, DRAM faced many difficulties in its efforts to secure the necessary licenses.

Even before the advent of digital technology, the legal issues around music licensing were very complicated. A musical recording is protected by two separate copyrights, one for the underlying musical composition and another for the recording as a fixation of a specific performance of the music. As a record label, NWR owns copyright in the sound recordings of most selections in its catalog (with the exception of a few recordings included in particular albums under licenses). However, NWR still needed to secure digital distribution rights for the musical compositions. In addition, these music-related rights implicate two quite complicated aspects of the copyright regime. First, section 115 of the copyright statute creates compulsory licenses for

certain sound recording rights. Under a compulsory license provision, rightsholders are not allowed to deny permission for the uses covered by the provision, and the royalty rate they receive is set by some statutory mechanism. The second complication is the prevalence of intermediaries (such as the "performing rights organizations," ASCAP, BMI, and SESAC) for licensing of certain rights to copyrighted music. These intermediaries serve as clearinghouses, managing licensing activities on behalf of many distinct rightsholders. In the simplest case, for example, radio broadcasters pay these intermediaries for blanket licenses covering all the rights they manage, and the fees are then distributed among individual rightsholders under complex formulae.

This complex legal tangle grew still more confusing with the arrival of digital music delivery. There is great uncertainty about whom should be paid for digital distribution and how much they should be paid. Under the terms of a voluntary 2001 agreement between the Recording Industry Association of America (RIAA) and the National Music Publishers Association (NMPA), record labels that belong to RIAA pay an advance on royalties for rights to use music compositions in digital delivery, even though the actual royalty rate has not yet been set. The Harry Fox Agency, an intermediary used by many publishers to manage royalties, has collected those payments on behalf of the NMPA. Meanwhile, however, performing rights societies have also issued licenses for interactive streaming of compositions. Thus, cautious entities may find it necessary in this uncertain environment to pay twice for the right to stream a composition on demand. Although Congress is currently considering legislation, the Section 115 Reform Act, which would attempt to rationalize the licensing and royalty process for digital delivery of music, details of the legislation are highly controversial and the prospects of passage remain uncertain at this writing.

NWR ventured into this quagmire in an effort to clear the rights necessary to launch DRAM. NWR's original conception of the Database involved providing downloads of music files to professors for classroom use. In addition, DRAM would give students access to on-demand or interactive streaming – the ability to listen online to a requested recording, without the capacity to download a copy for future use.

Composition rights for more than half of the content in the DRAM are controlled by an estimated total of at least 700 separate entities that are not represented by Harry Fox and not covered by the RIAA-NMPA agreement. Because there was no central intermediary, each one needed to be contacted individually. NWR wrote letters to these publishers explaining DRAM and requesting permission to (1) extend existing CD distribution rights and royalty terms to digital downloads and (2) track usage figures for on-demand streaming but delay payment of royalties until the legal system clearly established applicable rules and rates. Many publishers and composers responded favorably to these license requests, but those that did not required follow-up communication, sometimes repeatedly. Tracking the progress of the effort required a significant investment of time and organizational skill.

Clearing permission for the approximately 38 percent of DRAM works represented by the Harry Fox Agency proved in fact *more* challenging, despite the centralized licensing source. NWR requested the necessary permissions several times and was unable to elicit a response. It appeared that Harry Fox was disinclined to pay attention to such a low-volume, low-profit project. As NWR stated, "A frustrating stumbling block appears often when we describe the function of New World Records and our activities as 'not-for-profit' and 'educational.'" Finally, NWR decided to apply for RIAA membership in the hopes of taking advantage of the RIAA-NMPA agreement.

Mention of this membership application succeeded in attracting Harry Fox's attention at last. This led to acceptance of NWR's request for downloading licenses and, after its RIAA application was approved, for interactive streaming licenses according to RIAA's agreement with NMPA.

A further challenge came in dealing with Harry Fox's fully automated license application process. Harry Fox requires a formatted computer file containing 28 data fields about compositions to be licensed, such as title, composer, publisher, and so forth. A lack of established industry standards meant that the data that NWR and its partner labels already maintained for purposes of royalty payment was different from the data tracked by Harry Fox. After some additional data processing and formatting, NWR eventually was able to submit the required information and secure licenses from Harry Fox.

Finally, as explained in more detail in the full case study, NWR also sought other miscellaneous licenses required in certain circumstances: additional (and perhaps duplicative) licenses from performing rights organizations such as BMI and ASCAP; grand rights for musical theater works; and rights to reproduce certain textual material, such as liner notes, for scholarly reference.

All told, rights clearance for DRAM consumed several years and enormous amounts of staff effort and expense. The small scale and nonprofit status of the initiative often made rightsholders or their intermediaries less interested in responding to those efforts.

Even after clearance was complete, DRAM faces another obstacle which has not yet been overcome fully. All downloading licenses from Harry Fox include particular requirements for the use of DRM to secure files. At present, the only compliant DRM

solutions available, such as those offered by Apple's iTunes and Microsoft's MSN Music, are geared toward – and priced for – profit-making distributors. NWR has been unable to find a DRM system that would allow it to take advantage of the downloading licenses. For now, the component of the Database project allowing professors to download music has been shelved.

Far from complaining about these problems, NWR told us that it believes the copyright system basically worked in the development of DRAM. Because of its commitment to ensuring that composers are compensated for their work, and through the hard work of its staff, NWR persevered and is now rolling out a valuable resource to aid the study of music in higher education.

Yet even NWR was forced to compromise, both in omitting titles that could not be cleared and in foregoing a downloading option because of the impracticability of deploying DRM. Furthermore, it is important to note that NWR enjoyed certain advantages that many educational users of content would lack. For example, NWR already controlled significant portions of the rights necessary for the project; it was comparatively well-funded and could absorb the high transaction costs involved in clearance as well as the licensing fees themselves; it was able to join the RIAA and thereby get the attention of Harry Fox and the benefit of the RIAA-NMPA agreement; and it devoted staff to clearance-related tasks who built up expertise in the process. Smaller educational efforts would not enjoy these benefits – indeed, one would expect rightsholders and intermediaries who ignored NWR's licensing approaches to be even less responsive to smaller entities with still fewer resources.

The relatively happy ending for DRAM is cause for both celebration and concern. NWR's ultimate success, of course, is heartening. On the other hand, the copyright system, here as in our other case studies, hindered rather than assisted NWR's efforts.

2.4. WGBH: Statutes Keyed to Outdated Technological Assumptions Prevent Educational Use of Content in Public Broadcasting

[A more detailed version of this case study is here]

WGBH Boston ("WGBH"), a member of the Public Broadcasting Service ("PBS"), operates the public television stations in Massachusetts, and it also produces fully one-third of PBS's primetime content. WGBH is responsible for some of the most well-known and widely viewed PBS programming, such as *Frontline*, *American Experience*, and *Nova*. WGBH is also one of the largest contributors of content on the PBS.org web site. Like other PBS stations, it operates as a nonprofit enterprise with the goal of producing educational media for the benefit of the public. WGBH depends upon a combination of private grants and contributions and government funding to finance its work. As a result, it must produce content subject to resource restraints that do not apply to commercial broadcasters. The federal government now provides only 15 percent of public television funding. Corporate or foundation underwriters are important sources for the remainder, and they typically require broad distribution of content as a condition for their support of a program.

In recognition of the limited resources available to public broadcasting entities and the important educational goals they pursue, Congress included several special provisions, further discussed below, for the benefit of public broadcasting providers in

the Copyright Act of 1976. WGBH fully utilizes those special rights, which were designed to ease clearance difficulties and costs for public broadcasters. Unfortunately, those 30-year-old provisions are not well-suited to new technology and digital distribution formats. As a result, the provisions have become nearly meaningless relics of a time when the only method of distribution was on-air broadcast. Increasingly, WGBH and all of public broadcasting face challenges in efforts to produce and distribute both new content and older, archived materials.

Most of the special statutory provisions are somewhat complex. One of them, found in section 114(b) of the Act, simply allows public broadcasters to use copyrighted sound recordings in programming without permission or payment. A more detailed compulsory licensing scheme under section 118 allows public broadcasting producers such as WGBH to avoid the time-intensive and costly process of negotiating licensing deals to use "published nondramatic musical works and published pictorial, graphic, and sculptural works." In those cases, the public broadcaster need not ask permission, and instead pays a predetermined royalty rate. The exemption under section 114(b) applies to educational programming "distributed or transmitted by or through public broadcasting entities." The section 118 compulsory license is available for qualifying content included "by or in the course of a transmission made by a noncommercial educational broadcast station." Finally, section 118 provides an exemption from antitrust laws under which public broadcasters can negotiate with rightsholders for blanket licenses. PBS has reached a number of agreements with rightsholders as a result, which also benefit WGBH.

In the past, the statutory provisions have been helpful to WGBH in its mission to produce high-quality educational programming with limited resources. One such

example is WGBH's production of *LAPD Blues*, a 2001 documentary about corruption in the Los Angeles Police Department and links between some corrupt officers and the controversial rap music label Death Row Records. The producers of *LAPD Blues* relied extensively on the use of rap music to depict the "gangsta culture" that they contend infiltrated the LAPD. The composition rights to this music were covered by the compulsory licensing regime, while the special exemption for sound recordings eliminated any payment for those separate rights. Thus, WGBH required no permission for uses that rightsholders certainly might have tried to prevent, given the critical light in which the program placed the record label. Payment for use of the content was limited and predictable (not always the case with contemporary commercially popular music) and WGBH avoided the difficulty and costs of negotiating with rightsholders. It would have been impossible for WGBH to use this music in *LAPD Blues* without relying on these special statutory rights. The resulting program would have been less powerful.

Today, public broadcasters feel they must distribute their programming through new formats such as internet streaming, home video and DVD, audio and video podcasts, and on-demand video. Use of these platforms clearly improves the public's access to content and assists WGBH in fulfilling its educational goals. In addition, while WGBH and other producers distribute through some of these technologies without charge, revenue available from other formats (such as DVDs) helps support public broadcasters' financing of program production and pursuit of their nonprofit mission.

WGBH has also sought to deploy new technologies as tools to better serve its basic educational goals by disseminating content in different configurations. A comprehensive example of this is WGBH's Teachers' Domain website. Teachers' Domain is an online educational service that offers teachers a variety of materials to

enhance their students' experiences in the classroom and their own teaching skills. The site features multimedia materials for classroom use, many of which incorporate clips from programs such as *Nova* and *American Experience.* These materials are divided into sections based upon subject matter and targeted grade level, making it easy for teachers to access tools and information relevant to their individual classrooms.

In this environment, WGBH has decided that all the programming it produces must be suitable for distribution on multiple platforms, not only through domestic broadcast on public television stations. This shift to digital distribution technologies severely undermines the efficacy of the statutory provisions on which public broadcasters have relied. Because of its reference to "transmission made by a noncommercial educational broadcast station," the statute establishing the compulsory licensing regime clearly excludes non-transmitting media such as DVDs. The status of other digital forms of transmission, such as internet streaming, remains murky at best. The conflict between developing technology and static law presents two distinct challenges to public broadcasters, involving efforts to distribute existing archived programming and the use of content in new programming.

First, if public broadcasters have relied on their statutory rights when they originally used content in programming, and if those rights do not extend to new distribution formats, then vaults full of valuable content will gather dust rather than being made available in an efficient manner for public education. With great effort and expense, WGBH can clear the rights necessary to make an archived program available, but the costs are too high to make this anything other than a rarity. One success story in this category is *Eyes on the Prize*, a 1987 documentary about the civil rights movement considered among the best and most compelling films of its kind. The

program was composed entirely of third-party materials, including music, pictures, quotations, and news footage. Use of much of the material (such as Motown songs and other music of the times) was protected under the special statutory provisions – but not for new distribution platforms. The expiration of some licenses to use content and the limitation to broadcast for others further complicated the licensing scenario. As a result of these combined problems, the acclaimed documentary was completely unavailable for some years. WGBH was finally able, after Herculean efforts, to clear enough rights to broadcast the program again and to make it available through some digital platforms – but still not through DVD sale or rental.

More common is the fate of a ten-hour WGBH-produced series entitled *Rock & Roll* that tells the story of rock and roll from the perspective of its most prominent artists and innovators. Despite high demand, the documentary has not been made available on VHS tape or DVD since its broadcast because of the practical difficulties and overwhelming costs involved in clearing home video rights to the songs and recordings featured in the film. Moreover, the inability to use content from prior programs in derivative educational works makes it very difficult to assemble resources such as Teachers' Domain, which draw on segments of programming contained in WGBH's archives.

In some cases, although it is labor-intensive, producers may be able to modify programs by removing content first used under statutory protection if it cannot be cleared for other formats. WGBH created a version of *LAPD Blues* that contained only original composed score music for use in home video and foreign broadcast. Not surprisingly, the resulting production lost a great deal of its impact when the rap music at the center of its narrative was deleted. Furthermore, this kind of substitution creates

unease among producers. Among their worries is the concern that such modifications amount to a "bait and switch," which confuses and potentially angers audiences who sought out programming after seeing it broadcast in its original superior form.

These concerns lead directly to the second problem that arises from a narrow interpretation of the statute's provisions for public broadcasters. WGBH and other producers often make editorial decisions about what type of content to include in programs they are producing for broadcast based on how using that content could restrict future distribution in other formats. Even when producers have the option of invoking compulsory licenses to acquire rights to content for broadcasting purposes, therefore, they are increasingly reluctant to exercise this privilege. One small production company that works with WGBH has decided that all music in its programming for public broadcasting will be originally scored, because this solution is more efficient and cost-effective than using existing music and clearing rights. Thus, a provision intended to help public broadcasters is becoming an unused relic when they produce new programming for broadcast.

These basic problems of changing technology are only the most serious flaws of the statutory provisions, all of them magnified by digital technology. The other problems are discussed further in the full case study. In combination, the shortcomings of sections 114 and 118 mean that WGBH can rarely rely upon them any more.

The public uses educational media quite differently today than it did when the 1976 Copyright Act was adopted. Despite the difficulties presented by the disconnect between the statute and technological realities, WGBH continues to move ahead delivering publicly beneficial programming, and using copyrighted content to do so. As in other case studies, however, copyright law and institutional practices surrounding it

impede this educational mission rather than advancing it. WGBH believes that ultimately it is the public that suffers from the limitations public broadcasting producers face when using, or not using, copyrighted content in the digital learning resources.

PART TWO: OBSTACLES TO DIGITAL LEARNING

3. Obstacle: Uncertain or Unfavorable Copyright Law

Lawyers tend to look first to legal regimes when surveying the landscape of a public policy issue. At times, this is the wrong place to begin, because economic or social forces play a greater role in shaping practices. In studying educational use of content, however, the law is the natural starting point: all of those other forces operate in the shadow of copyright law. Copyright single-handedly creates the monopolies that underpin economic interests in this area, and it profoundly shapes norms and institutional practices concerning the use of content.

The next several subsections review and analyze exceptions to copyright that may protect uses of content for digital learning. It finds that they are frequently narrow, cumbersome, incompatible with new technology, or vague. The penultimate subsection discusses the potential consequences for educators whose unauthorized use of content is found to fall outside of these exceptions: a potential infringement suit, steep legal fees, and substantial damages. The final subsection briefly considers different treatments of these legal issues in other selected countries outside the United States.

3.1. Educational Use Exceptions

While the fair use doctrine (discussed below in subsection 3.2) is the centerpiece of copyright exceptions applicable to digital learning, there are several narrower provisions intended to benefit educational uses of content. In general, their specificity provides clear protection for those activities that fall within their confines. That same specificity often makes these exceptions narrow and bound to particular technology, however.

3.1.1. The Classroom Use Exception

The most straightforward educational use exception is the classroom use exception, found in section 110(1) of the Copyright Act. Under this provision, the following activity is exempt from any copyright liability:

> performance or display of a work by instructors or pupils in the course of face-to-face teaching activities of a nonprofit educational institution, in a classroom or similar place devoted to instruction, unless, in the case of a motion picture or other audiovisual work, the performance, or the display of individual images, is given by means of a copy that was not lawfully made under this title, and that the person responsible for the performance knew or had reason to believe was not lawfully made;

This relatively simple language has hardly ever been the subject of litigation. As a congressional report noted when the provision was first added to the statute in 1976, "There appears to be no need for a statutory definition of 'face-to-face' teaching activities to clarify the scope of the provision." The report went on to note that this language was intended to exclude broadcasting technology (including closed-circuit broadcast), but to include a teacher's use of other technology "as long as the instructor and pupils are in the same building or general area."

Despite this intent to design a broad and technologically neutral exception, however, Congress has not kept the statute up to date. It can handle reasonably well the use of once-current methods (such as mechanical slide shows and wall charts) in traditional settings (as the statute says, in a "classroom or similar place" housed within a "nonprofit educational institution"). Some digital learning activities also seem to fall squarely within this language: presumably teachers may stand in front of a class and show PowerPoint slides incorporating third-party content, display web pages, or play digitally stored music clips designed to illustrate aspects of a lesson. Students, too, may engage in similar activities within the confines of the classroom.

The classroom use exception may not apply, however, to activities that move beyond its fairly narrow conception of time and space. Increasingly, digital learning does just that. A class web page, blog, or wiki, for example, would extend beyond the classroom walls and perhaps beyond the classroom use exception – even if online access were limited to teachers and students. While "pupils" are among those entitled to its protection, the classroom use exception does not appear to shelter student projects undertaken as homework, only the display of such work as part of "face-to-face teaching." Finally, of course, this provision has no bearing on any digital learning outside the traditional classroom structure, whether extracurricular activity, web-based or open source educational projects, or scholarship.

While the exception immunizes teachers from liability for the public performance rights involved in displaying content in the classroom, other rights, including reproduction rights, are not included. When teachers simply displayed directly an analog copy of the work, this was sufficient. In a digital environment, however, incidental reproduction is commonplace – as when a teacher inserts an image into a

PowerPoint slide. This problem is clearly demonstrated in the Center for History and New Media case study. While there are good arguments that the reproduction is protected under the fair use doctrine, the omission of other rights certainly limits the effectiveness of the classroom use exception.

Furthermore, the exclusion of films and audiovisual work if a teacher shows a "copy that was not lawfully made" interacts perniciously with DRM-like technology. The professors in our film studies case study bypass encryption technology in DVDs to make clip reels for display in class. The DMCA forbids such circumvention of DRM. Thus, even if the only way these professors use the content is in "face to face teaching activities," this clause nonetheless strips away the protection of the classroom use exception. As more and more content becomes laden with technological measures to prevent copying, increasingly this exception to the exception will constrain the effectiveness of the entire provision.

Thus, even where educational use is essentially impossible without reproducing digital content or circumventing DRM, the benefits of section 110(1) do not apply. The boundaries of this exception do not mesh well with the realities of digital technology.

3.1.2. The TEACH Act

[A more detailed paper from the Digital Learning project analyzing the shortcomings of the TEACH Act is here. A chart prepared by Professor Laura N. Gasaway summarizes the provisions of the TEACH Act and classroom use exception in graphical form]

The Technology, Education and Copyright Harmonization Act of 2001 (TEACH Act) represents an attempt by Congress to update educational use exemptions in light of new technological realities. Section 110(2) of the copyright statute had been enacted

at a time when closed-circuit television and radio were the only distance learning technologies. By the late 1990s, its provisions clearly had become outdated. The Copyright Office recommended changes, and Congress authorized a fuller study of the issue in 1998. As the legislative proposal evolved, it incorporated numerous compromises between representatives of educators and rightsholders, and it was the subject of significant lobbying by content industries.

In its final form, the new provision for distance learning did provide some limited additional protection for educators operating in a digital environment: it expanded the types of content that could be used; it allowed the digitization and short-term retention of content that the internet and similar technology require; and it eliminated a provision that generally required students to be physically present in the same location. However, a number of stipulations sought by rightsholders were also incorporated in the statute. In combination, these restrictions so limit the reach of the TEACH Act, and make it so difficult for educators to comply with its requirements, that most observers believe the exception from liability it offers has little or no value.

One of the statute's primary problems is that the scope of digital learning it covers is so narrow. The TEACH Act applies only when the educational use of content is "an integral part of a class session offered as a regular part of the systematic mediated instructional activities of a governmental body or an accredited nonprofit educational institution." Further, the content must be for the sole use of "students officially enrolled in the course for which the transmission is made." (There are also narrow exceptions for government employee training.) The references to class sessions, accredited institutions, and official enrollment make it clear that legislators imagined the TEACH Act applying only to endeavors that resemble traditional

classroom instruction in every possible way, except that they occur through digital technology such as the internet. Indeed, its coverage may represent no more than a modest update of the "face-to-face teaching" standard under the classroom use exception. This bias excludes, for example, an adult education class offered by a nonprofit but unaccredited institution; asynchronous instruction and discussion that occurs outside of class sessions at preset uniform times; and even access to material by students in other related classes at the same institution.

A second set of problems with the practical implementation of the TEACH Act involves DRM and similar technological access restrictions, also discussed in detail in section 4. The statute requires that, in order to benefit from its protection, educational institutions transmitting digital content must use technological measures that "reasonably prevent retention of the work … for longer than the class session" and "further dissemination of the work" to others. Implementing such technological measures requires significant levels of financial resources, skill, and technological capacity. Even if the courts were to read this provision very liberally – and interpretations of the DMCA from courts thus far display the opposite tendency – the most favorable possible interpretation would require that educators who circumvent DRM protections in order to make use of digital content must restore that DRM in its entirety prior to any dissemination of the content. As we see from the New World Records case study, this is an expensive proposition, and likely infeasible for all but the most wealthy or technologically sophisticated institutions. Individual grass-roots educators or elementary and secondary schools would be incapable of complying even with this most generous interpretation. Furthermore, the requirement that content be

accessible solely during a class session means that a teacher cannot leave content available to students to refer to after the lesson has been completed.

Finally and perhaps most significantly, an additional requirement bars interference with underlying DRM restrictions imposed on content by rightsholders. As such DRM protections become increasingly common, this rule may eviscerate the TEACH Act altogether. In order to distribute digital content for distance learning, even in full compliance with all other requirements of the TEACH Act, educators almost surely need to override DRM – after all, they are about to distribute digital content on a network, precisely the conduct DRM systems aim to prevent. As the use of DRM systems spreads, then, the TEACH Act will provide a theoretical right to use digital content but simultaneously will ensure that little such content is actually available for legal use in the real world. Ironically, it will do so even if educational institutions assiduously comply with the Act's other provisions and add their own robust DRM to the content they disseminate.

3.1.3. Library and Archives Exceptions

Section 108 of the Copyright Act codifies certain exceptions intended to allow libraries or archives to engage in their missions of preservation of content and making content accessible to the public. Under its terms, libraries or archives may make limited copies of content in their collections for purposes of preservation or to replace damaged or lost copies of works. Section 108 also permits limited copying of certain works by patrons for their personal use. Mary Rasenberger and Chris Weston of the U.S. Copyright Office have prepared a background paper providing a comprehensive history of these exceptions and a detailed explanation of the present contents of section 108.

Not surprisingly, because Congress enacted most of these provisions in 1976, they mesh poorly with the needs of librarians and archivists dealing with digital content, from DVDs to web sites. In response to these concerns, the Librarian of Congress has convened a Section 108 Study Group with representatives of different stakeholders to review the current provisions and recommend changes. The Group has held roundtables in several major cities, accepted written comments, and otherwise sought feedback from those affected by section 108, and expects to submit its findings and recommendations to the Librarian later this year.

Earlier this year, in advance of the roundtables, the Group promulgated a background document summarizing some of the issues likely to arise in reviewing possible amendments to section 108, including: (i) the lack of a definition of qualifying libraries or archives, leaving ambiguous the status of virtual digital-only collections such as the Internet Archive; (ii) the limited number of copies allowed; (iii) allowing replacement copies of digital content that is unstable or at risk of loss; (iv) permitting off-site use of digital content; (v) the relationship of Section 108 to the DMCA; and (vi) special issues surrounding preservation, particularly of web sites.

As this long list of deficiencies makes clear, section 108 is yet another example of a narrow educational use exception that has failed to keep pace with technological change. The prospects of any recommended statutory changes remain unclear at this time. If the Group can forge consensus to update section 108, it may serve as a model for other legislative initiatives aimed at facilitating educational use of content.

3.1.4. Public Broadcasting Exceptions

As explained in more detail in the WGBH case study, several provisions of sections 114 and 118 provide targeted provisions for the benefit of public broadcasting.

One such provision, found in section 114(b) of the Act, simply allows public broadcasters to use copyrighted sound recordings in programming without permission or payment. A compulsory licensing scheme under section 118 allows public broadcasting producers such as WGBH to avoid the time-intensive and costly process of negotiating licensing deals with certain other rightsholders when creating content to be distributed through public broadcasting. The somewhat complex arrangements apply to copyrights in "published nondramatic musical works and published pictorial, graphic, and sculptural works." Most of the intermediaries that negotiate rights for this content, spurred by the existence of the compulsory license, have reached separate agreements with PBS and its affiliates governing the use of content. However, as public broadcasters distribute their content in newer digital formats, from DVDs to internet streaming, statutory provisions keyed solely to traditional over-the-air broadcast may be rendered essentially useless.

3.2. The Fair Use Doctrine

[A more detailed paper from the Digital Learning project analyzing the fair use doctrine as applied to educational use is here. A recent study of fair use from the Brennan Center for Justice, although not limited to the educational context, provides further background and context. The Stanford University Libraries maintain a comprehensive page of resources about fair use here.]

If the educational use exceptions are excessively specific and narrow, the fair use doctrine presents exactly the opposite problem. The fair use doctrine has evolved through over a century and a half of judicial decisions as a defense to copyright liability governed by a very general set of standards. The only way to predict whether the

doctrine will immunize a particular use from liability is to analogize the facts at hand to those of other cases that have come before the courts in the past. This open-ended structure gives the fair use doctrine important flexibility to deal with myriad situations left uncovered by the various particularized exceptions to infringement, such as educational use exceptions that fail to anticipate new technology. At the same time, however, this uncertainty frustrates institutional educational users who feel pressure to establish clear rules for educators, librarians, and students concerning the legal use of copyrighted works.

The essence of the current fair use doctrine dates back at least to *Folsom v. Marsh*, an 1841 decision by Justice Joseph Story. The doctrine continued to evolve for over a century. In its 1976 overhaul of the Copyright Act, Congress codified the fair use doctrine for the first time, without modifying the doctrine or removing from the judiciary the power to determine its boundaries. The current fair use provision, found in section 107 of the statute, reads:

> the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords … for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—
>
> (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
>
> (2) the nature of the copyrighted work;
>
> (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
>
> (4) the effect of the use upon the potential market for or value of the copyrighted work.
>
> The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.

Since the 1976 codification, courts have continued to shape the fair use doctrine by applying its standards to particular situations. While most courts analyzing fair use review each of the four enumerated factors in reaching their decisions, these factors are not a mechanical test that can be applied with precision. The evolution of this defense is an ongoing project.

3.2.1. Some limited grounds for optimism

At first blush, there are two reasons for optimism that the fair use doctrine, given its flexibility, might protect many educational uses of content from liability, including some of the digital learning initiatives discussed in this report.

The first ground for optimism lies in the text of the statute itself. In two separate places, section 107 singles out educational uses as deserving particular deference in the fair use calculus. First, the preamble lists educational activities such as "criticism, comment, … teaching (including multiple copies for classroom use), scholarship, or research" as illustrative examples of fair use. Then, the first factor of the more specific four-part test contrasts "commercial" uses with those of a "nonprofit educational nature," indicating that uses of the latter type are more likely to qualify as fair uses. In both places, the statute itself goes out of its way to signal that educational uses are especially likely to constitute fair uses.

The second ground for at least guarded optimism is the fact that, in all the vast case law over fair use, virtually no decisions apply the fair use test directly to educational defendants who made educational uses of content. The closest cases are probably those involving commercial copy shops' production and sale of "coursepacks" of supplementary readings assigned by professors at nearby universities. [More information on those cases is available on this web page maintained by the Stanford

University Libraries.] It is noteworthy that these decisions considered the liability of the commercial businesses who extracted profit from the sale of materials for educational use, not the teachers making nonprofit educational uses of content. Another high-profile coursepack case involved New York University as a defendant, but it was settled by the parties in 1983 before any judicial decision. Even the legal complaints filed against the Google Library Project emphasize the commercial nature of the advertising-supported search engine.

This near-total absence of lawsuits against educators may suggest that rightsholders have tacitly accepted that the appropriate construction of the fair use doctrine leaves significant room for educational uses of content, or that they fear a negative public reaction if they sue educators. That said, workshop participants and others interviewed in our research were aware of recent litigation threats by legal representatives of publishers against several large research universities. The publishers' counsel apparently believed that digital distribution of some course materials extended beyond the boundaries of fair use. Some of those familiar with the private negotiations that ensued said they believe the publishers' counsel were seeking a test case of their own, perhaps hoping to force settlements in which universities voluntarily limit their use of digital technology. It is not yet clear whether these discussions will lead to private settlements or evolve into litigation.

Overall, when we consulted teachers, lawyers, librarians, and educational administrators involved in these issues, they were generally pessimistic about the scope of fair use to protect their digital learning activities. The paucity of direct guidance from cases involving educational uses of content causes anxiety and uncertainty in educational institutions. When examining the most analogous case law, there are

indications that common educational uses might not benefit from the fair use doctrine as it is currently construed. Nevertheless, some scholars and librarians with whom we spoke did believe that educators, universities, libraries, and private individuals now feel more emboldened than they were in the past to rely on more robust interpretations of fair use.

3.2.2. Application of the statute

The statutory text has not always proved as helpful to educational users as one might assume, despite its two prominent references to educational uses.. Courts rarely rely on the preamble of section 107 as the basis for decisions on fair use. The other mention of education, in the first factor of the test, has also been minimized in some decisions. Several influential cases have shifted the focus of the first factor from the commercial nature of the use to the existence of *any* benefit for the user. In particular, a 1985 Supreme Court case, *Harper & Row Publishers, Inc. v. Nation Enterprises*, held that the inquiry under the first factor was "not whether the sole motive of the use is monetary gain but whether the user stands to profit from exploitation of the copyrighted material without paying the customary price." This shift in emphasis from pecuniary gain to more general benefits has been repeated in subsequent cases. In an appeals court decision finding that the Napster file-sharing system was not entitled to a fair use defense, for example, the court upheld a determination that even a user who listened to a song once solely to determine whether or not to buy a CD was nonetheless engaged in "commercial" use for purposes of fair use analysis.

Of course, taken to its logical conclusion this premise would destroy the entire fair use defense, as it is difficult to imagine why any defendant would use any content in the first place if that content provided no benefit. Because teachers and their students

surely benefit from educational uses of content, they may still lose on the first factor – despite the specific language included there about "nonprofit educational purposes."

Similarly, analysis of the fourth factor, concerning the market impact of a use, increasingly focuses on all possible future revenue a rightsholder could extract, regardless of whether such markets exist at the time or not. For example, earlier this year in *Perfect 10 v. Google* a court found that Google's "Image Search" function, which responds to search terms by showing miniature "thumbnails" of images available on the internet, harmed the *potential* market for downloading such low-resolution images onto cell phones. This will also be an important focus in the Google Library dispute, because the publishers and authors argue that they are denied licensing fees for indexing their books, even though no such opportunity exists today. In an environment of pervasive and often automated licensing, plaintiffs almost always point to some manner in which they possibly could extract revenue for an allegedly infringing use, even if the quantity of the work used is small and the context is changed. In conjunction with the first factor, this interpretation turns seemingly noncommercial educational uses into lost business opportunities and slants this factor to favor plaintiffs.

A further evolution of the analysis under the first factor of the test may also disserve educational users. Increasingly, courts considering the first factor ask whether or not a use "transforms" the content (as in instances of parody or satire), thereby increasing the likelihood of a fair use finding. Arguably, most educational uses of content are faithful reproductions of original content for purposes of analysis or teaching, and as a result they would fare poorly in this evaluation. On the other hand, the leading case of *Kelly v. Arriba Soft*, involving inline linking to images on the web by a visual search engine, found that a use could be transformative if it served a different

informative purpose than the original content. The Second Circuit used similar reasoning in a recent case, *Bill Graham Archives v. Dorling Kindersley Ltd.* (although the *Perfect 10* case noted above leans the other way). Educational uses might fare better under these broader articulations of the transformativeness standard.

Finally, cases in areas somewhat related to the core of digital learning suggest that courts may tend to take a narrow view of fair use for educational purposes. As discussed in greater detail here, judicial decisions involving study aids, biographers, documentary filmmakers, and others have sometimes rejected fair use defenses. Because these cases involve various factual differences from the digital learning environment, their meaning is open to interpretation. At a minimum, however, they fail to provide any certainty to educators hoping to rely on a fair use defense.

3.2.3. Negotiated guidelines for fair use

Another complication that can cause difficulties for digital learning is the development of various sets of "guidelines" meant to increase certainty in the application of the fair use doctrine. Both at the time of the 1976 Copyright Act and later, educators and rightsholders have intermittently attempted to negotiate mutually-agreeable guidelines.

Guidelines hammered out at the time of the 1976 Act were widely criticized by educational users and organizations as tilted in favor of rightsholders. The Guidelines for Classroom Copying, for example, set numerical limits on the amount and frequency of photocopying by particular educators and require a degree of "spontaneity" that critics consider unrealistic. The resulting rules shrink the scope of fair use and greatly limit the doctrine's flexibility.

Notwithstanding such objections, these and other guidelines were integrated into the legislative history of the 1976 Act and some courts have considered them persuasive (though not binding) authority on the contours of fair use. Furthermore, as discussed in section 6.1 below, many educational institutions have voluntarily adopted versions of such guidelines as internal policies, including an estimated 80 percent of American universities.

Subsequent attempts to agree to guidelines for fair use have failed. Most prominently, the Commission on Fair Use (CONFU) met through the mid-1990s, but educators and rightsholders were unable to reach accord on most fundamental issues. In light of this history, commentators such as Kenneth Crews have recommended caution in both the application of existing guidelines and any future attempts to reach consensus between rightsholders and users.

3.3. Statutory Damages and Legal Fees

[A more detailed paper from the Digital Learning project analyzing statutory damages as they relate to educational uses of content is here.]

Even where content users have a good-faith belief that their conduct is permitted under exceptions for educational use or fair use, every such use carries at least a small risk of litigation. A successful defense still entails significant legal fees. A report by the American Intellectual Property Law Association estimates that the average cost to defend a copyright case is just under one million dollars. While some education-related cases surely would require less than this average amount, this is an especially expensive type of litigation across the board.

Should the educational user lose the case, damages may be steep, particularly because of a special feature in copyright law that provides for statutory damages. These are damage awards, within ranges set by the copyright statute, that are available to owners of federally registered copyrights in place of actual provable damages.

Statutory damages, like actual damages, aim to reduce incentives to violate copyright law, making the expected cost of infringing action no less than the expected cost of obtaining authorization. However, statutory damages often explicitly and purposefully go much higher than actual damages. Under some circumstances common in educational settings, especially where a teacher draws content from multiple works, maximum statutory damages for infringements can reach extremely high levels. Nonprofit educational enterprises can seldom risk such large damages on top of substantial legal fees. In addition, a number of factors make statutory damages awards unpredictable, further complicating educational users' calculus of risk.

Congress has articulated that statutory damages serve a number of purposes not served by actual damages. First, the law allows awards in excess of actual proven damages because actual damages are considered inadequate in light of the difficulty of detecting copyright violations and the burden and expense of calculating and proving actual damages. More recently, Congress has also indicated that greater damage awards may deter large-scale piracy enabled by new copying technologies.

In pertinent part, the current statute (section 504(c)(1) of the Copyright Act) reads:

> [T]he copyright owner may elect, at any time before final judgment is rendered, to recover, instead of actual damages and profits, an award of statutory damages for all infringements involved in the action, with respect to any one work…in a sum of not less than $750 or more than $30,000

> as the court considers just. For the purposes of this subsection, all the parts of a compilation or derivative work constitute one work.

The section further provides for the increase of the statutory maximum to up to $100,000 per infringed work if the defendant is shown to have acted willfully, or down to $200 per infringed work for innocent infringements. The law requires that minimum damages be awarded even in cases where infringers reap no profit from their activities and cause no significant losses to the plaintiff. No absolute maximum applies other than the per-work statutory maximum. As such, an educator found to have infringed five works even "innocently" would be required to pay a minimum of $1000 in statutory damages, and a maximum of $250,000. Thus, even a noncommercial use of copyrighted content for educational purposes could yield a statutory damages award of tens of thousands of dollars or even more.

Of primary importance to educational users, the next portion of the provision on statutory damages, section 504(c)(2), states that a court may not award statutory damages in any case where an infringer believed and had reasonable grounds for believing that his or her use of the copyrighted work constituted a fair use, if the infringer was:

> (i) an employee or agent of a nonprofit educational institution, library, or archives acting within the scope of his or her employment who, or such institution, library, or archives itself, which infringed by reproducing the work in copies or phonorecords; or
>
> (ii) a public broadcasting entity [or an employee or agent] who, as a regular part of the nonprofit activities of a public broadcasting entity … infringed by performing a published nondramatic literary work or by reproducing a transmission program embodying a performance of such a work.

A great number of educational users of content fall outside of these narrowly drawn categories, however, including those not affiliated with such traditional institutions, or those who used types of content not covered by the exception. (The public broadcasting provision is particularly limited, and WGBH reports that it approaches fair use with the assumption that damages could be substantial.) Additionally, proving "reasonable grounds" for the belief in fair use may be difficult. And, although the issue has never arisen in a reported opinion, the exception does not mention good faith belief of non-infringement under any other exceptions; educators with a good-faith belief that their activity is privileged under the classroom use exception or the TEACH Act are not necessarily protected from statutory damages in the event that their judgment is incorrect.

In addition to their possible size, several circumstances make statutory damages unpredictable as well. For one, statutory damage awards are largely shielded from appellate review. Furthermore, the Supreme Court ruled in 1998 that plaintiffs have a right to seek a jury trial on the issue of statutory damages, rather than having them set by a judge. Thus, as lay juries calculate statutory damages more often, predictability can be expected to decrease even further and there is reason to believe that juries may grant larger statutory damages awards. Finally, although some courts recognize rough rules that statutory damages should be two or three times provable actual damages, these rules diverge between courts; in any event, such unofficial "benchmarks" are unlikely to be included in jury instructions.

As noted above, there are virtually no precedents in which educators themselves were defendants, so it is difficult to predict whether courts would award high statutory

damages in such a case. There is little question, based on statements by our workshop participants and others, that educators fear such an outcome.

Even if the actual risks of being sued and of losing are small, those risks are multiplied by the potential damages. Where the expected cost of relying unsuccessfully on legal provisions for fair use or educational use – including both legal fees and damages – exceeds the cost of a license, educational actors will prefer to rely upon licensing over their good faith assessments of the law. As a result, even where most observers would conclude that an educational use of content fell well within the bounds of fair use or the TEACH Act, educators may shrink from relying on their protection because of the (small) risk of (very large) statutory damages.

3.4. Education and Copyright Law in Non-U.S. Systems

Most of the discussion of legal issues thus far has focused on the copyright law of the United States. While various international agreements over the last half century have moved various national intellectual property laws closer to one another, there are still very significant differences between U.S. law and law in other countries. At least two differences are worthy of brief mention.

First, most other countries do not have a fair use doctrine at all. Britain and some Commonwealth countries with roots in British law embrace a related doctrine called “fair dealing,” but its scope is narrower than fair use. In other nations, the educational uses of content covered by fair use in the U.S. are instead handled under various specific provisions aimed more directly at education. Those educational use exceptions should not be confused with the narrow ones found in section 110 of U.S.

copyright law (and discussed above in section 3.1). Generally, these exceptions are broader and less encumbered by specific requirements than their U.S. counterparts. Indeed, in some instances the scope of these "specific" exceptions is quite sweeping.

Second, a number of other nations have resisted adoption of statutes equivalent to the DMCA, and in some cases those that have enacted some form of anticircumvention legislation have included more breathing room for educational uses of content.

To further elaborate on the legal status of digital learning in the rest of the world, we solicited preparation of separate modules discussing the law in a few other legal systems:

European Union: Silke Ernst, and Daniel Häusermann of the Research Center for Information Law at the University of St. Gallen prepared a paper under the direction of Prof. Urs Gasser examining the statutory exceptions for disseminating a work for educational purposes over the internet in most European Union countries [available here]. Because these disparate countries are all implementing the provisions of the EU's Copyright Directive (EUCD), one might imagine that they would share nearly uniform approaches to digital learning. In fact, however, the authors of this paper classified countries into at least four different clusters based on the scope of the statutory exceptions applicable to education:

- Some countries allow the reproduction and the making available of articles and short excerpts of books (Belgium, Germany, Greece, Hungary, and Lithuania);

- Some countries allow short excerpts only (Luxembourg, Portugal, Slovakia);
- Some countries have a provision similar to the U.S. face-to-face teaching exception but recognize virtually no other noninfringing educational use (Estonia, Slovenia);
- Finally, one country (Malta) seems to be highly permissive, as it has transposed the directive (almost) literally. Yet the exception is overlaid by an additional application of the three-step test – which results in considerable legal uncertainty.

In addition, a number of countries (including Denmark, Sweden, Ireland, and Britain) implement the education-related aspects of the EUCD primarily through collective licensing schemes (in some cases combined with fair dealing) rather than through statutory exceptions.

India: Dr. Mira Sundara Rajan of the University of British Columbia wrote a paper [available here] examining the evolution of copyright law in India, which has various permissive provisions motivated in large part by India's status as a rapidly developing nation. Digital learning carries particular urgency for a country of one billion persons with a shortage of educational resources. India's copyright statute thus includes provisions for compulsory licensing and fair dealing that are more lenient towards educators than comparable aspects of U.S. law, especially when it comes to importing educational content from more industrially advanced nations. For example, detailed and powerful provisions allow for the translation of works into Indian languages that are "not in general use in a developed country" if no one has prepared such a translation within one year of first publication. Works to be used in "systematic

instructional activities" can be reproduced if they are either unavailable in India or more expensive than "comparable works" in India. An elaborate set of fair dealing provisions for computer software allows copying of programs in order to study them. As these examples show, Indian law has allowed significant educational uses of content.

The future of this orientation in Indian law is in doubt, however. The government is currently engaged in an overhaul of the copyright statute. The U.S. and other industrialized nations are exerting pressure for India to further harmonize its law with international trends. Possible changes under review include modifying or abandoning the software fair dealing rules as well as the possible enactment of the country's first law concerning circumvention of DRM systems, comparable to the DMCA. In general, the trajectory of India's copyright law may create new obstacles to digital learning there.

China: Haochen Sun prepared a paper explaining the treatment of educational uses of content under Chinese copyright law. China follows the model of allowing quite specific exceptions to liability for certain activities, rather than codifying any catch-all exception such as the fair use doctrine. These uses, for which neither payment or permission is necessary, include:

- Use of a published work for the purpose of the user's own private study, research, or appreciation of the work in question;
- Proper quotation for the purpose of reviewing the work in question or proving an argument;
- Translation or reproduction in a small quantity of a published work for the sole purpose of carrying out school teaching or scientific research.

Chinese copyright law provides for compulsory licensing in a broader array of situations than U.S. law. The most relevant involves textbooks prepared in conjunction with national educational policy, which generally may incorporate excerpts of published works, short literary works or musical works, or a copy of a painting or photographic work under a compulsory license. The textbook editors need not seek permission but they must pay equitable remuneration and provide attribution of authorship.

Japan: Ermal Frasheri prepared a summary of Japanese copyright law which shows that it bears a strong resemblance to the EUCD. Like the EUCD, Japanese law purportedly omits any general provision comparable to fair use, and instead immunizes certain specific activities from liability. Those specific provisions include copies for personal use, an exception for limited quotation, and provisions applicable to libraries.

On further examination, however, certain provisions provide substantial leeway for educational uses of content. Like China, Japan has special provisions for textbooks, but Japan goes further by simply allowing reproduction of published works "to the extent necessary" for education, rather than establishing a compulsory license. Japan also extends this exception to educational uses of content that is "broadcast or diffuse[d] by wire," provided it is done in conformance with national curriculum regulations. And Japanese law further allows nonprofit educational institutions to reproduce and transmit published work "to the extent deemed necessary for the purpose of use in the course of lessons, provided that such reproduction does not unreasonably prejudice the interests of the copyright owner in the light of the nature and the purpose of the work as well as the number of copies and the form of reproduction." This language, far from a narrow exception, sounds remarkably similar to the fair use doctrine.

4. Obstacle: DRM Technology

[A more detailed paper commenting on the obstacles imposed by DRM can be found here.]

In an environment where large-scale copyright infringement takes little more than a click of the mouse, DRM systems have emerged as a supplement to – and increasingly a replacement for – the remedies provided to rightsholders under copyright law. DRM systems offer a secure technological framework for distribution of digital content that permits greater control over works than does copyright law. Such additional control may encourage investment in the development of such content. But it also allows rightsholders to lock digital works up, keeping them out of the hands of educators. Educators themselves, in turn, are restricting works with DRM systems, thus imposing the same burdens on other educational users..

A DRM system is a set of technological protections that supplies rightsholders with persistent control of their digital works. DRM systems incorporate terms specified by rightsholders into remote, automatic, technological enforcement mechanisms. Regardless of where a work is located, or whether a work has been shared, traded, or resold, DRM systems enable rightsholders to permanently enforce restrictions – such as "no copying allowed for any purpose" – through technological means. In addition, DRM systems enable rightsholders to engage in price discrimination by offering differential access to works at a range of costs.

The persistent and automatic regulation of digital media permitted by DRM systems, combined with economic incentives to use them, motivate rightsholders to preclude educational uses of digital works. This is the problem confronting the media studies professors in our case study. It will become a more widespread obstacle to

digital learning as rightsholders secure increasing volumes of content with DRM systems.

4.1. Incentives for Rightsholder Use of DRM Systems

Rightsholders use DRM systems out of rational self-interest, driven by at least two clear incentives. The prevention of piracy has been the primary motivation. Looking to the future, many believe the ability to engage in price discrimination will provide further impetus for adoption of DRM systems.

4.1.1. Piracy

The economic incentives for rightsholders to use DRM systems to safeguard their digital works are easy to understand. First and foremost, copying of digital works is substantially easier than copying of traditional analog works, and copies of digital works are identical to the originals, free from the degradation that plagues copies of analog works. These perfect digital copies have the potential to erode the commercial market for works because they can be made available for little or no cost. Remembering the enormous popularity of peer-to-peer filesharing systems such as Napster, apprehensive rightsholders employ DRM systems to prevent users from copying, altering, or distributing works without permission. Likewise, rightsholders also develop and deploy ever stronger, more restrictive DRM systems to combat piracy perpetrated by users who attempt – and often succeed at – defeating those systems.

Although this concern can be a legitimate one, particularly in reference to the high-demand mainstream consumer marketplace, it is may be somewhat excessive in the educational context. The types of media used by educators, and the manner in

which those media are used, substantially reduces the risk of piracy. Academic journal articles and visual artworks are more often their province than works created for widespread commercial dissemination. Moreover, regardless of media type, educators do not typically distribute full-length, unprotected works to their students. Rather, they incorporate excerpts, images, or recordings into in-class digital slideshow presentations, create compilations of film clips for classroom performance or use in student assignments, and provide small portions of text for student review. These activities do not subject digital works to the type of piracy risk likely to damage whatever markets exist for the full work.

4.1.2. Price Discrimination

The second economic factor militating in favor of DRM system use is price discrimination. DRM systems enable rightsholders to maximize revenue by making different versions of their works with different functionalities available for a range of prices. Some commentators argue that such price discrimination will enhance rather than imperil educator access to digital works. This argument neglects the realities of price discrimination in the digital context, however.

Information costs render perfect price discrimination impossible, creating incentives for rightsholders to design products that only meet the needs of relatively wealthy educational institutions – leaving resource strapped institutions (such as community colleges or elementary schools), individual teachers, and non-institutional educators without access. Disparities between rightsholder and educator interests make it especially unlikely that the opportunity to engage in price discrimination will motivate rightsholders to provide educators with access to the relatively unprotected and manipulable versions of works required for educational use. To benefit educational

use, rightsholders would have to agree to make *more* accessible versions of their works available to educators at rates near or below those charged to other consumers for *less* accessible versions. Finally, rightsholders of content that is not principally oriented toward the academic market have shown remarkably little interest in granting differential licensing treatment of any kind to educational use, as demonstrated by the difficult licensing experiences documented in our case studies about both New World Records and WGBH.

4.1.3. The Effect of Different Markets

The market power of the educational use segment for a given work is an important factor that serves to modulate the degree to which rightsholders use DRM to restrict works. For example, DVDs, which are widely adopted and have a strong non-educational commercial market, are equipped with potent DRM systems that impede educational use. Digital textbooks, in contrast, which cater to the educational market and have not been enthusiastically received by users, are safeguarded by less restrictive DRM systems. Given the characteristics of these two markets, it is unsurprising that DVDs are more tightly controlled than digital textbooks.

Even though market factors have a substantial influence on DRM system usage by rightsholders, all DRM-dependent rightsholders demonstrate concern over the potential for piracy and a corresponding reluctance to grant educational users access to unencumbered or less encumbered versions of their works. Indeed, existing economic incentives typically encourage rightsholders to leave educators out and foreclose many educational uses of digital works.

4.2. Inducements for Educator Use of DRM Systems

The second element of the DRM threat comes from obligations and incentives that drive educators themselves to use DRM systems to restrict access to the digital content they generate or disseminate. Restrictive licensing terms set forth by rightsholders frequently require educators to lock digital works they obtain permission to use with DRM systems, increasing the financial and resource costs imposed by incorporation of digital works into teaching activities. In addition, fear of copyright infringement liability motivates some educators to employ DRM systems when distributing digital works. Finally, the individual interests educators have in regulating their own works encourage DRM system usage. Convergence of these factors could create walled gardens at educational institutions, blocking the flow of knowledge from educational institutions to the public, between different institutions, and even within individual institutions. As noted in the final subsection, the dominant architecture of course management software encourages this unfortunate result.

4.2.1. Strict Licensing Requirements

Educators often pursue licenses to use digital works. As a condition of such licenses, rightsholders frequently require licensees to regulate user access to and use of the content – often mandating the adoption of DRM systems to do so. Consequently, educational use of licensed content may be highly constrained. Moreover, the impact of licensing restrictions can extend beyond the licensed content itself to infect compilations incorporating works licensed on such terms. If, for instance, a teacher's license to integrate text from a book into a course web site carries a condition that it be protected with DRM, then the teacher may need to limit access to the entire web site in order to

comply. In this manner, licensing conditions can become “viral,” spreading to content that would otherwise be available on an unrestricted basis.

It is easy to imagine requirements for DRM system protection excluding large classes of potential educational users from any opportunity to license content. Smaller institutions and individual users likely lack the leverage required to negotiate with content providers. Moreover, if rightsholders insist on a DRM requirement, some educational institutions, especially elementary and secondary schools, will lack the resources to fortify works with DRM systems, and will be precluded from licensing those works. Individual educational users rarely have the skills or resources to deploy such protections, and they too will be unable to obtain licenses under such conditions. Thus licensing requirements not only lock up some content that would otherwise circulate unprotected, but also prohibit users with restricted resources from making use of licensed works.

4.2.2. Lawsuit Avoidance

Institutions sometimes require faculty and students to post digital content on password-protected websites to reduce the risk of copyright infringement litigation. Moreover, the copyright policies of individual educational institutions often indicate that the preferred practice is to limit access to distance-learning works and “electronic reserves” (e.g., course-related content posted to the Internet) to students enrolled in the class, and only for the duration of the class term. This type of walled garden may become more common as instructors adopt digital teaching tools and further integrate digital media into their teaching.

4.2.3. Educator Interest in Protecting Intellectual Property

Educational institutions and their faculty members sometimes use DRM systems to protect the content they generate. Educational institutions invest heavily in the infrastructure necessary for the creation and distribution of digital content. Accordingly, they have an interest in how that content is shared. Faculty content creators also have an interest in maintaining the integrity of their work, enjoying credit for it, and sometimes receiving remuneration. Thus, academics' self-interest limits their adoption of "open access" and related models for distributing content unencumbered by copyright restrictions. These impulses are also likely to lead academic content creators to restrict access to their works with the same types of DRM systems as other rightsholders use.

Even though many scholars wish to eliminate the toll structure currently in place for the distribution of digital versions of their works by offering no-cost digital copies, they still have an interest in protecting their intellectual property, and regulating how it is used. Accordingly, even accounting for the open access movement [discussed further in section 7.4], limited use of DRM systems by individual educators and their institutions might increase with time. Although academics tend to reject DRM systems as a means for charging users for access to their works, they may nevertheless use DRM systems to ensure the integrity of their works, attribution for their efforts, and enforcement of restrictions on how their works may be used.

4.2.4 Educational Impact

The advent of DRM systems fundamentally altered the copyright landscape for educational users of digital works. Before the development of DRM systems, educational users could make whatever use they chose of copyrighted works, leaving the shield of copyright infringement litigation as the remedy for restoring rightsholders to

their pre-infringement position. Emergence of DRM systems as robust technological tools for protecting digital works transferred power from content users to rightsholders, by permitting rightsholders to control usage of their works technologically ex ante. Reinforcement of these technological devices with the anti-circumvention and anti-trafficking provisions of the DMCA gave these technological restraints the added force of legal compulsion.

The courts' interpretation of the anti-circumvention and anti-trafficking provisions to exclude fair use and other copyright exemptions as defenses to actions under the DMCA stripped educational users of their shield against copyright infringement liability, and the TEACH Act failed to create the safe harbor it promised, effectively leaving educational users of digital content without legal recourse to make use of such works.

Rightsholders are not the only parties responsible for limiting access to digital works. Educators also interfere with access to digital works. Institutional barriers to access – inadvertent and intentional – lock digital works within walled gardens. Institutional concern for receiving a return on investment in the creation of digital works and the infrastructure that supports them offers an incentive for institutions to use DRM systems to restrict access to and use of digital works. Moreover, a substantial number of individual scholars have indicated an interest in using DRM systems to ensure that they receive credit for their work, to maintain the integrity of their work, and to regulate how and by whom their works are used. These interests militate in favor of academic employment of DRM systems.

4.2.5. Architecture of Course Management Systems

These various incentives, combined with universities' excessive caution about the potential risk of intellectual property litigation, contribute to the adoption of closed

course management systems (CMS). These tools allow teachers to manage their courses by posting syllabi, lecture notes, slideshow presentations, readings, media clips, and other content online, and permit them to maintain discussion boards where students and instructors can carry on course-related dialogues. Most of the content included on typical CMS sites either is not protected by copyright or could be freely licensed by the sites' creators. Much of it is produced by the university faculty themselves, and a great deal of the remainder consists of links to public-domain resources. Making such content available to the public would enhance digital learning enormously.

Unfortunately, most university-adopted CMS have a different default position. The majority of popular CMS products prohibit public sharing of content posted using the system. These products, such as Blackboard Academic Suite and WebCT Campus Edition typically employ login and password-based authentication systems to prevent unregistered users from accessing posted content. Moreover, most CMS restrict access to all content to students enrolled at the institution or even to those registered for the particular course. To the limited extent that some CMS permit broader access to works, they allow only intra-system sharing between registered users of the CMS platform at different schools. The majority of popular CMS currently in use do not offer even intra-system sharing, and those that do so allow system administrators to block sharing options. This narrow conception of public access reduces the reach of beneficial educational works.

One of the most significant explanations offered for the adoption of such locked-down CMS architecture is the desire to avoid complaints from rightsholders about broader access to any content posted on the sites. As discussed in section 5.5,

licenses often require DRM or other access limitations as a condition for digital delivery. Even when fair use is the basis for using content, institutions are concerned that wider distribution might undermine the defense. In response, they cautiously counsel that all content be delivered through closed CMS.

To be sure, in some cases the degree of access may be a suitable fair use consideration, and it may sometimes be a reasonable condition of a license for access to be limited to a certain number of students. Such arrangements can facilitate educational uses of content where licenses are necessary by keeping their cost down. There are also reasons to adopt a closed CMS architecture unrelated to copyright: to limit the strain on computer resources by limiting user numbers; to protect sensitive data such as student directories from unauthorized access; and to distribute information selectively or to limit discussion to students enrolled in particular courses. Yet at most these are arguments for establishing access restrictions on certain particular types of material, not for password-protecting the entire resource. Instead, the system architecture of most CMS is inherently restrictive, and creates a walled garden around the knowledge distributed through those platforms.

Emerging alternatives to CMS such as MIT OpenCourseware, iCommons, H2O, and LionShare are aimed to address the walled gardens problem. The most prominent of the set, MIT OpenCourseware, offers free online access to uncopyrighted materials from over 1,400 courses at MIT. Through the OpenCourseware Consortium, universities in 13 countries have adopted similar software for their own open platforms. Like OpenCourseware, iCommons and H2O permit public sharing of course materials. All of these systems also offer many of the features provided by traditional CMS, such as discussion tools. LionShare takes a different approach by offering a peer-to-peer

network designed to facilitate the sharing of teaching and research materials. These CMS offerings are evolving to provide educators and their institutions with reliable and desirable alternatives to restrictive commercial CMS products.

Another alternative to traditional CMS is Connexions, a project started at Rice University, which allows educators to create and share small modules of material, which can be joined to create course lesson plans. Content posted on Connexions is available for use by all through a Creative Commons "attribution" license. Under that license, users can use, copy, share, and make derivative works from posted content. Rather than lock knowledge inside a walled garden, Connexions facilitates educator resource sharing and collaboration. Connexions is more of a supplement than a replacement for traditional CMS, since it is not designed as a platform for content distribution. Nonetheless, Connexions does provide a means for educators to share their works, instead of leaving them sequestered behind CMS walls because of the default options embedded in the system.

These exceptions demonstrate that universities could avoid the use of passwords and other measures that prevent access to educational content. Instead, the dominant architecture for CMS impedes rather than promoting generally available digital learning.

5. Obstacle: A Burdensome Rights Clearance Process

Whatever the scope of the educational use and fair use exceptions to copyright liability, at least some types of educational uses of content require rightsholders' permission. Consider, for example, a teacher who reproduces an entire copyrighted book, film, or song, in either analog or digital format, and without a license distributes it

to all students in a class for their unrestricted use. If such activity were permitted, and thus repeated in classrooms everywhere, it would cause significant harm to the market for the copied works and might reduce incentives for their creation. Presumably, such distribution would and should constitute copyright infringement.

Because of the so-called "permissions maze," however, securing licenses can be extraordinarily difficult, particularly for individuals and noncommercial institutions lacking time and resources to engage in the sophisticated "rights clearance" now common within some content industries. The experiences documented in our case studies involving New World Records and WGBH illustrate these problems – and those entities have comparatively more resources and legal knowhow than most other educational users. Navigating the permissions maze requires users to determine if a license is required; locate the appropriate rightsholder; agree to a license; pay for the license; and carry out other terms and restrictions of the license. Trouble can arise at any of these points. The overall result is an onerous clearance process, especially for individual educators or small nonprofit enterprises.

5.1 Determining Necessity of a License

The first step, determining the necessity of a license, sometimes requires sophisticated legal analysis. As section 3 of this paper demonstrates, provisions of copyright law applicable to education (and especially fair use) are often narrow, vague, and fact-dependent. In some situations, a roomful of intellectual property lawyers would not reach consensus on the need for a license. As discussed in section 6 below, this indeterminacy often leads institutions to seek licenses much more frequently than legally necessary. Even an individual or institution that takes a less risk-averse

approach to educational uses of content may sometimes find it impossible to evaluate risks and benefits in an informed fashion.

Academic institutions face further complications at this threshold step because they often enjoy the benefits of numerous existing licenses – in a large university, so many that it may be challenging to keep track of them in an organized and centralized fashion. Universities hold licenses through individual professors and departments, through their libraries (including blanket licenses with certain publishers or distributors and participation in various library consortia), even through their student groups. Would-be users must evaluate whether existing licenses already cover the use they intend to undertake. Because of the complexity and vagueness of many licenses, this is often difficult.

Finally, the question of when a license is necessary quickly becomes fraught with implications for the fair use debate. The more extensively educators seek licenses to use content, and the easier rightsholders make it to procure such licenses, the more pressure it puts on the fair use analysis whenever licenses are not sought. Courts have been more likely to reject fair use defenses when there is a demonstrated market for the content being used. While educators certainly should seek licenses when they are truly necessary, doing so out of excessive caution, when fair use would otherwise apply, is harmful. Such behavior may encourage courts to overestimate the appropriate strength of the market for educational uses of content, and correspondingly reduce the vitality of fair use.

5.2. Locating the Rightsholder

If a would-be user of educational content decides that a license is necessary, the next step is locating the rightsholder. Sometimes this is a simple task, as when a creator or distributor is easily identifiable from the work itself and a quick internet search locates the entity. But some situations are less straightforward. For some works, such as photographs or musical recordings, metadata about authorship or rightsholders is not generally embedded in the work itself. The complexities of termination rights under copyright law (found in section 304(c) of the Act) , which under certain circumstances allow original grantors and their heirs to cancel transfers of copyright rights made many years earlier, increase the difficulty of tracing the chain of ownership of rights over time. And, of course, knowing that Jane Smith wrote a novel in 1940 does nothing to ensure that she can be located, if she is still alive.

5.2.1. Licensing Intermediaries

Intermediaries can greatly facilitate the process of locating rightsholders and initiating negotiations. (A page of links to various intermediaries can be found here.) Perhaps the best known of such intermediaries are ASCAP and BMI, performance rights organizations that license performance rights for musical compositions. The Copyright Clearance Center (CCC) aims to serve this function for textual content, usually nonfiction, to be used by educators and businesses. Many academic institutions have accounts with CCC that facilitate quick clearance of rights.

In addition, the CCC web site includes an electronic permissions function that provides pay-per-use clearance for academic uses such as photocopying in coursepacks or publishing on a web site. (Harry Fox offers a similar system, Songfile, for musical composition rights). Sometimes, the CCC system can quote the price and

grant permission instantaneously. For example, a teacher who wishes to assign the policy-oriented concluding chapter from *Technologies of Freedom* by Ithiel de Sola Pool, a classic but now somewhat dated 1983 book, could conduct a quick title search on the CCC website. The search shows that the 27-page chapter can be photocopied for 30 students for just over $100, and the license can be ordered with a few mouse clicks.

Because of rightsholders' greater reluctance to license digital uses of content, as opposed to analog uses such as photocopies, such uses typically require a special order. Thus, an inquiry on CCC's web site about posting the same book chapter on an intranet for 180 days could not be fulfilled instantaneously. This is somewhat ironic, since arguably a time-limited electronic posting on a limited-access network, particularly if accompanied by DRM restrictions, actually grants much less widespread and long-term access to the content than would the permanent analog hard copy.

CCC manages the rights to over 1.75 million works on behalf of nearly 10,000 publishers. This may seem like a large quantity, and it is in absolute terms. Relative to the 29 million books and other printed materials in the collection of the Library of Congress, however, CCC's portfolio is a mere drop in the bucket.

According to CCC, the two most common reasons for rightsholders to decline participation in its program are a belief that the complexity of determining legal rights and licensing parameters is not worth the small payoff in licensing fees, and a desire not to grant any permission for secondary uses of content. As to the first reason, some content of interest for educational uses is especially likely to have smaller potential demand and thus smaller potential licensing revenue. To be sure, highly commercial content is often desirable for educational uses as well (such as the rap music used by

WGBH's producers in *LAPD Blues*). But the "long tail" of content, including much specialized academic material, may be less accessible through intermediaries.

5.2.2 Orphan Works

Sometimes, diligent efforts to find a rightsholder simply fail. When a license is required but the rightsholder for a work cannot be identified and located, then using that work entails significant legal risk. If the rightsholder later emerges and sues for infringement, the impossibility of determining ownership of the copyright is no defense. Works in this situation are known as "orphan works." The orphan works conundrum may be especially common for academic content, which is more likely to be old; to have a small or specialized audience; and to include informally published or unpublished content.

Thus, orphan works are frozen in a legal form of suspended animation until enough time elapses that they finally fall into the public domain. Recent extensions of the copyright term exacerbate the orphan works problem by further extending this waiting period. When Congress last extended the copyright term in 1998, it made a very small change in the law to accommodate somewhat concerns about orphan works. Under this new provision in section 108(h), a library or archive may copy and distribute an orphan work "for purposes of preservation, scholarship, or research," provided it is not "subject to normal commercial exploitation" or available "at a reasonable price." But other educational users remain vulnerable to liability if they use orphan works without permission.

The Copyright Office recently completed a notice-and-comment study about orphan works and issued a report on the issue earlier this year. In general, the report proposed that, when a "reasonably diligent search" had failed to identify any

rightsholders, remedies in a subsequent infringement suit for use of the orphan work should be limited to "reasonable compensation" – essentially, the licensing fee that would have been charged for the use. In addition, the report suggested that no damages should apply to noncommercial uses of orphan works, provided that the use of content is suspended upon a request by a newly-revealed rightsholder. While some observers hoped the recommendations would go further, this proposal certainly would help facilitate educational uses of content when the search for rightsholders fails.

Legislation generally tracking these recommendations, H.R. 5439, has been introduced in the House of Representatives. A subcommittee passed the bill by voice vote in May 2006 but it is now pending before the full House Judiciary Committee. The likelihood of ultimate passage is unclear.

5.3 Negotiating a License

Once a relevant rightsholder has been located, the would-be user must engage in negotiations for a license. This should be the simplest step, but it is often the most frustrating for educational users. As illustrated in detail in case studies about both the Database of American Music and WGBH, large rightsholders and intermediaries may simply ignore approaches from small would-be educational users. New World Records made repeated requests to the Harry Fox Agency before receiving a response. In many cases, these larger institutions do not consider the potential revenue from such a license sufficient to bother with the trouble and transaction costs of a negotiation. A small laptop-based school like Empire High School, for example, would likely have even more trouble than NWR or WGBH getting attention for its licensing requests from distributors and intermediaries.

This problem can be ameliorated by blanket licenses (as with the licenses negotiated by PBS or many library consortia) and automated licensing (as with the CCC web site). Such arrangements are not universal, however, and they may be especially uncommon in two of the zones that are the focus of this white paper: educational uses and digital content. As discussed above, content of a highly specialized or academic nature – more likely to be of interest to educators – is often created for reasons other than commercial exploitation and often has less mass market potential than other works. Rightsholders have correspondingly less interest in investments to make negotiations easy or automated. Furthermore, content of a highly commercial nature likely derives a smaller proportion of its revenue from educational uses, so rightsholders have less incentive to negotiate with and provide attractive terms to educational users.

As to digital works, CCC and others have found that rightsholders are more cautious about licenses for digital uses until they see how the market for these new uses develops and how concerns about leakage of content are addressed. As WGBH discovered when seeking licenses for internet streaming, outlets from NBC to C-SPAN have adopted such wait-and-see approaches to licensing digital uses of content.

5.4 Paying for a License

The next obstacle in the clearance process is simple to recount but often very difficult to overcome: licenses can be very expensive. Many educational users – creators of independent nontraditional digital learning efforts; individual teachers; small publishing companies; and elementary school districts – have limited resources to pay for licensed content. Most rightsholders do not provide any routine discount for educational uses of content. When the content sought appeals to wider commercial

markets (such as contemporary music or film), a price dictated by overall demand often will be higher than educational users' willingness and ability to pay. Finally, as noted above, many rightsholders are unsure about digital distribution formats, and their uncertainty translates into higher fees.

5.5 Complying with Other License Conditions

Finally, in some cases the license itself is encumbered with other requirements beyond the simple exchange of money for limited rights to use content. The most common and troubling of these conditions is a requirement that educational users employ DRM systems to protect content, as discussed in greater detail in section 4 above. Certainly, rightsholders' desire to protect digitized content with DRM is understandable. Yet these mandates, especially if highly specific or burdensome, may require large additional investments by educational users. New World Records, for example, has been forced to abandon a downloading option for its Database of Recorded American Music project, at least for the time being, because of burdensome DRM requirements. Educational users with more limited resources frequently find that, even if they can pay the license fee, they cannot afford the DRM systems that many rightsholders require as conditions for use of content.

Even if an educational user has the wherewithal to deploy the sometimes sophisticated DRM systems specified in licenses, the result is undesirable in another way: it makes a greater quantity of educational content inaccessible to the general public. The "mission creep" of DRM affects content that might otherwise be freely available. For instance, where copyrighted content is incorporated into a larger work, the entire new work may be locked up by a DRM system. Moreover, the spread of DRM

systems for third-party content contributes to a culture where educators place content within walled gardens by default.

6. Unduly Cautious Gatekeepers

All of the pressures discussed up to this point – unclear and unfavorable law, the proliferation of DRM systems, and the permissions maze – combine to create a fourth obstacle to the educational use of content: undue caution by various institutions that serve gatekeeper functions. While those other problems are serious, gatekeepers often overreact to them. Frequently, for example, they dwell on the theoretical possibility of large statutory damages and the indeterminacy of fair use principles. They may as a result insist on costly licenses where none is truly necessary. As discussed in section 5.5 above, they may also demand use of DRM systems to lock up content created by educators even where there is no good reason to do so.

In many situations, the availability of a fair use defense for a certain use is completely clear and the likelihood of litigation – or even a dispute with a rightsholder – is infinitesimal. Extreme risk-aversion by large institutions can mean that educators sometimes find themselves unable to use content, or unable to make it available to others, even when the law, DRM systems, or clearance difficulties should not impede them. This section briefly discusses problems with three categories of powerful gatekeepers: universities, publishers or other distributors, and insurers.

6.1. Universities

Colleges and universities would seem likely to take a strong stance in favor of educational uses of content by their faculty for the benefit of their students. Certainly, they sometimes do. But participants in our workshops and others we interviewed agreed that universities in general, and their counsels' offices in particular, were exceedingly cautious about avoiding any potential dispute over intellectual property. The use of closed CMS is one result of this caution. Another representative example is the adherence to restrictive fair use policies as a way of avoiding copyright litigation, even where the law allows uses of content.

In 1983, as part of its settlement of litigation brought by certain rightsholders, New York University adopted a policy restricting photocopying of educational materials. The terms of NYU's new internal policy mirrored the restrictive requirements of the Guidelines for Classroom Copying, which had been discussed in negotiation of the 1976 Copyright Act but eventually rejected by the American Association of University Professors and other educators' groups. These Guidelines set numerical word limits for copies and impose requirements that teachers limit the cumulative frequency of unlicensed copying (even if each individual instance of copying could be defended as a fair use). Furthermore, the Guidelines allow copying only if there is not enough time to ask for permission – essentially imposing a general presumption that teachers seek licenses in all but the most extraordinary instances. The Brennan Center's report on fair use quotes NYU Professor Clay Shirky, who calls the policy "phenomenally restrictive" and says, "[I]t's fair use if a student is in your office and you think of something they should read and you take the book off the shelf and take it down the hall – anything more premeditated than that must go through copyright clearance."

Yet according to one estimate, approximately four out of five American universities have now adopted internal policies similar to NYU's rules and the Guidelines. Publishers and other rightsholders failed to achieve such restrictions in legislation, but have persuaded many institutions to adopt them voluntarily nonetheless. These self-imposed restrictions are particularly troubling given that the statutory definition of fair use, as described in section 3.2, specifically names "multiple copies for classroom use" as an example of a fair use. According to several of those we interviewed for the white paper, publishers are now threatening litigation and entering into private negotiations to seek restrictions of a similar scope on digital uses of content at universities. It remains to be seen whether the excessive caution that drove adoption of photocopying policies 20 years ago will repeat itself in the digital context.

6.2. Publishers and Other Distributors

A second set of timid intermediaries includes the institutions that distribute scholarly work to the public. Publishers of books and journals, such as university presses, are the most obvious examples of these gatekeepers. In less common situations, broadcasters, film producers, or music labels might serve the same function. Even in the internet age, these middlemen are responsible for making much educational content available to the public. Unfortunately, participants at our workshop and others we interviewed expressed great frustration with the extent to which publishers operate in fear of copyright infringement litigation. Many of those interviewed by the Brennan Center for its fair use report had the same concern.

One example of such caution by publishers is the response to the litigiousness of Stephen Joyce, the grandson and heir of James Joyce, who is infamous for seeking to

control and often scuttle scholarly work about his grandfather's writing and life. (Some of the long-running battles are described in this article published in the *New Yorker* on June 19, 2006.) In one instance, to avoid threatened litigation, the publisher Farrar, Straus & Giroux deleted over 30 pages from a 400-page book about the mental illness of James Joyce's daughter and its impact on his work. The book's author, Professor Carol Loeb Shloss, believed that the manuscript used material only in ways permitted by copyright law. Although she urged her publisher to go ahead, fear of a lawsuit resulted in the excessively risk-averse deletion of content. Reviews of the book, while positive overall, criticized the (apparent) lack of evidence for its conclusions. Shloss has since sued the Joyce estate in a declaratory judgment action, represented by the Center for Internet & Society at Stanford Law School. The legal complaint argues that the deleted material either constituted *de minimis* illustrative quotation covered by the fair use doctrine; quoted work that was in the public domain under copyright law; or described and relied upon the content of copyrighted material rather than reproducing it in an infringing manner.

As documented by the Brennan Center and confirmed by our workshop participants, such stories are all too common. A similar dispute broke out when the Indiana University Press altogether withdrew copies of the *Rebecca Clarke Reader*, a study of the late composer and violist (the controversy described in this July 16, 2004 story from the *Chronicle of Higher Education*). In this instance, the author and the Rebecca Clarke Society regrouped and published the book themselves, offering it for sale on the internet. Thus far, they have not been sued.

6.3. Insurers

A third type of gatekeeper that often imposes unduly strict requirements for the educational use of content is the insurance industry, particularly providers of "errors and omissions" insurance. It is essentially impossible to undertake conventional dissemination of documentary film projects without the protection of an "E&O" policy, because film distributors refuse to carry films without one. As a condition for coverage, E&O insurers require that filmmakers submit forms documenting that they secured licenses for every conceivable use of third-party content in their work product. There is simply no mechanism to rely on fair use or other exceptions in lieu of a license. As the Center for Social Media documented in *Untold Stories*, its report on the chilling effect of rights clearance on documentary film, E&O insurers also impose unreasonable demands for the scope of licenses that often prevent educational filmmakers from using content at all.

PART THREE: SOME PATHS TOWARD REFORM

7. Some Paths Toward Reform

The primary aim of this white paper has been the identification of obstacles to educational uses of digital content. We have found that copyright law and related structures impede the full promise of digital technology for education where instead they should be enabling creative uses of content. Yet with all diagnoses come thoughts of a cure. This section suggests the outlines of a broad range of possible cures for the ailments of digital learning.

It is important to restate here a recurring theme running throughout the white paper: the regime governing educational use of content, like all of the copyright, requires balance. The system must encourage the development and dissemination of content as well as facilitating its use. Any changes must not destroy sufficient incentives for creators or distributors. To be sure, as discussed in section 7.4 below, digital technology allows creators and distributors of content to avoid many costs. In addition, other rewards besides financial ones certainly motivate the production of much highly academic content – most scholars write out of love of knowledge, or at least a desire for professional prestige and tenure, rather than for money. Notwithstanding these observations, copyright exists to ensure that content providers are rewarded for their efforts. And the special incentives for creation of academic content do not apply to material aimed at a more traditionally commercial market that is nonetheless important for educators to use, as with our case study about Hollywood movies viewed in media studies classes. Solutions, therefore, must maintain – or perhaps more accurately, restore – the appropriate balance.

Four paths toward reform seem especially promising and garnered the greatest enthusiasm from participants in our workshops and others interviewed in research for this report:

- Reform of at least some problematic legal rules (section 7.1);
- Greater reliance on technology to help users analyze the need to secure licenses for using content and to assist with such rights clearance where necessary (section 7.2);

- Agreements among educators of various stripes concerning standards and best practices for their use of content, their reliance on fair use, and their deployment of DRM (section 7.3);
- Increase in distribution of content under more open licensing models such as Creative Commons, thus enlarging the amount of content available for unencumbered educational use. (section 7.4)

Pursuing these four strategies in earnest will require further research and activity by the Berkman Center and others. This section briefly considers each of them in turn, and concludes by noting some other possible reform efforts and areas where further study would be fruitful (section 7.5).

7.1. Legal Reform

The most direct means to repair flaws in the legal regime would be to change laws, through either congressional or judicial action. Of course, this is easier said than done. Some past efforts to reach compromises on these legal issues have yielded disappointing results, including the CONFU process and the failure of the TEACH Act. Nonetheless, it is important to consider legal strategies in response to a set of problems that, after all, originates in the law.

Most meaningful changes in the law would need to originate from Congress. By and large, the problems stem from the federal copyright statute itself, which only Congress can change. The experience of judicial interpretations of the DMCA suggests that courts may not be likely to take an aggressive role in promoting most types of reform discussed here.

One exception to this generalization, however, is the fair use doctrine. As discussed in section 3.2, the legislative branch basically has delegated future development of the fair use doctrine to the judiciary. If cases directly involving educational use come before the courts, judges would have opportunities to improve the doctrine. The litigation over the Google Library Project, although involving a commercial defendant, may provide such an opportunity (unless the parties settle their dispute out of court first). Indications that publishers may be seeking a test-case lawsuit against a university alleging copyright infringement involving readings made available to students digitally, such as through online "e-reserves" may also bring such issues before a court. Participants in our workshops were split in their opinion about whether litigation involving educational uses of content – or even an impact litigation test case brought by educational users – would be likely to improve the fair use doctrine or to narrow it further.

Whether through the legislative or judicial branch, the types of legal reforms that would improve the status of educational uses of content can be classified based on their scope. Narrow "rifle-shot" amendments present the best chances of success, while more radical solutions would have broader impact but likely present much greater political challenges. It is also critical to recognize the limited scope of the present discussion: these are merely various potential paths to reform, the precise features of which may be highly debatable. As with all legislation, the devil is in the details. Future research in this area should mark out more clearly the desirable specific parameters of legal solutions.

7.1.1. Targeted Legal Reforms

In the case of some narrower legal problems discussed in this white paper, fairly limited "rifle-shot" amendments to the Copyright Act might address them quite well. Some examples of possible initiatives of this scale include:

Addressing the orphan works problem: An early bellwether of the potential for legislative strategies will come quickly, from the congressional response to the Copyright Office's legislative proposals to facilitate uses of orphan works, as discussed in section 5.2.2. If Congress ignores the proposal, or begins to water it down considerably, that will indicate that the prospects are poor for meaningful legal reform to address the other issues discussed in this white paper.

Early signs are promising. After the Copyright Office issued its report, representatives of many key rightsholders and educational users agreed to legislative language they could support. That language was introduced in the House of Representatives as H.R. 5439, the Orphan Works Act. On May 24, 2006, the Subcommittee on Courts, the Internet, and Intellectual Property approved the bill by voice vote, sending it to the full House Judiciary Committee.

The proposed reforms surely represent improvements over the present situation. In line with the Copyright Office recommendations, the legislation limits damages and injunctive relief in an infringement action against a content user who performed an unsuccessful "reasonably diligent search" to find a rightsholder. A proposed ban on retrospective damages for noncommercial uses of orphan works would eliminate the single greatest risk for conscientious educational uses of such content.

Reforming the libraries and archives exceptions: As discussed in section 3.1.3 above, the Section 108 Group is considering wide-ranging proposals to update section 108 of the Copyright Act. At this writing, the Section 108 Group has not yet made its formal recommendations to the Librarian of Congress, but its report is expected soon. The Group set aside certain issues that proved highly controversial, including issues surrounding the handling of e-reserves by libraries, to permit further study and public input.

Ideally, the eventual recommendations will broaden the definition of libraries and archives to include untraditional noncommercial entities and "virtual" collections available online. In addition, they should propose loosening some of the more stringent limitations in the present statute, such as the number of copies.

Updating public broadcasting exceptions: As demonstrated by the WGBH case study, provisions originally intended to allow public broadcasters to avoid some of the clearance headaches that so impede educational uses of content have now become nearly meaningless relics. As we witness the emergence of a new sort of public media, powered by digital technology, Congress should revisit and update those provisions.

A retroactive extension of the compulsory license to additional distribution formats, accompanied by appropriate royalty increases, would probably constitute a fair outcome. Of course, difficult line-drawing issues will need to be considered when defining eligible nonprofit media outlets in today's much less orderly information environment. To accommodate concerns about leakage, an extended compulsory license might need to be limited to technologies such as internet streaming or video on demand that do not permit easy digital copying. (The analog hole would persist in these formats just as in the on-air broadcasting covered by the original provisions).

Such an extension preserves the original congressional intent to promote the educational mission of public broadcasting while maintaining royalties as incentives for creation and dissemination of content. At a minimum, it seems that such an extension should ensure that existing programming originally created under the rubric of these special statutory provisions – and with the partial support of tax dollars – remains available to the public through new digital distribution platforms. A functionally inaccessible archive of public broadcasting content is a tragic waste that should be avoided if at all possible.

Open access mandates: As discussed below in section 7.4, Congress is considering mandating some level of open access for research results and scholarly work funded by grants of public money; there is parallel discussion of such initiatives in Europe as well. Serious open access mandates certainly promote digital learning because they lead to a larger universe of content that educators may draw upon freely.

7.1.2. Broader Legal Reforms

Restoring educational uses to a privileged place in fair use analysis: As explained in section 3.2, courts have not had the opportunity to rule directly on a fair use defense raised by an educational user of content – the few judicial decisions involving core educational uses have involved commercial photocopy shops as defendants. Pessimism surrounding the application of fair use principles to digital learning is based on extrapolation from decisions in analogous but distinct factual situations.

The new Google case, along with litigation threats by publishers against a number of universities, raise the prospect of a judicial reevaluation of fair use in an education-related context. Educators may wish to consider pursuing a declaratory judgment action in a carefully chosen case as a means of promoting a decision based

on facts most favorable to educators. As noted above, workshop participants and other interviewees did not agree whether such a review will more likely lead to an improvement or erosion of fair use.

An appropriate recalibration of the fair use doctrine would take seriously the statutory language singling out educational uses in both the preamble and the explication of the first factor. These educational purposes would still need to be weighed against other considerations, such as the amount of a work copied and the real (not theoretical) market impact of copying. Nevertheless, just as the nature of a work is considered significant (it is considered more important that factual works be available for fair use than fictional ones), so too the nature of a use should weigh heavily in the balance. Where the purpose is to teach and learn, to analyze, to critique, and to contextualize, then a finding of fair use should be significantly more likely.

Revising the TEACH Act: Now that a few years have elapsed since its enactment, it is clear that the TEACH Act has failed to accomplish the lofty goals Congress articulated for it. Because of its narrow definitions of eligible institutions, its temporal limitation to "class sessions," and its hefty requirements for use of DRM, teachers and schools have not found it useful in permitting educational use of content. To repair the TEACH Act, however, Congress might well need to start from scratch. In particular, the across-the-board exclusion of asynchronous teaching and learning sacrifices one of the principal benefits of digital technology. Likewise, the limited conceptualization of education as tied closely to highly traditional academic institutions limits the statute's effectiveness in the decentralized digital environment.

Drafters of a new TEACH Act should also involve technologists more closely in its development. Workshop participants repeatedly told us that, when educational

institutions took their first steps toward implementing distance learning mechanisms compliant with the TEACH Act, their information technology personnel were horrified by the vagueness and the impracticality of many of its terms. A new TEACH Act would need to think realistically about the ability of educators to meet DRM mandates and other system requirements.

Harmonizing the DMCA with traditional copyright exceptions: As discussed in section 4 and repeatedly throughout this white paper, the DMCA's sweeping prohibition against circumventing DRM systems effectively vitiates many traditional copyright provisions important to educational users of content – including fair use, classroom use, and use allowed by the TEACH Act. There should be no penalty under the DMCA when DRM systems are circumvented purely to enable uses of content that are educational, legally permitted, and noncommercial – perhaps with a proviso that reasonable efforts are made to avoid subsequent leakage of the content.

A parallel defense should be available under the trafficking provisions. It should be lawful to develop, distribute, possess, or use circumvention technology for purely educational purposes. Rightsholders have understandable concerns that such technology, even if its initial purposes were educational, might ultimately migrate to users and uses that are more commercial in nature. At a minimum there exist sensible methods for ensuring the proper and limited use of such technology within educational institutions. Perhaps there could be licensing to obtain the technology, or stringent rules designed to ensure appropriate usage. Besides, as demonstrated by our case study involving media studies professors, presently there is little difficulty obtaining such technology, so this concern might therefore be seen as fairly theoretical.

Limiting statutory damages: As discussed in section 3.3, the possibility of large statutory damages serve, not only as a disincentive for infringement, but as a chill on the exercise of fair use and other rights. Recent increases in the amounts of statutory damages may be appropriate when assessed against large-scale for-profit piracy enterprises. The exception from statutory damages for good-faith reliance on fair use, currently limited in application both to certain types of works and certain types of users, should be extended to all bona fide educational uses of all works.

7.1.3. Comprehensive Compulsory Licensing

The legal responses listed above assume that the general framework of copyright law remains in place. A more comprehensive response to all the obstacles to educational uses of content might involve a compulsory licensing scheme broadly applicable to such uses. Formulating the details of such a proposal would require significant further study and dialogue among rightsholders, educators, and legislators.

As summarized in section 3.4 above, other countries use compulsory licensing to facilitate educational uses of content far more extensively than does U.S. law. In Denmark, Sweden, Britain, Ireland, India, and China, certain particular educational uses enjoy the benefit of such provisions. Indeed, with the exception of the special provisions oriented toward public broadcasting, there are no other compulsory licensing rules in U.S. law to enable digital learning. (There are a few other compulsory licenses in U.S. copyright law, but with little application to education).

In general outline, a proposal to extend compulsory licensing to other educational uses would require: (1) a sufficiently precise definition of educational users who qualify for the compulsory license; (2) a mechanism to set fair royalties for licenses, (3) a mechanism for educational users to report their uses of content and to pay fees; (4) a

mechanism to deliver the licensed content in a format and with DRM features that do not interfere with the desired uses; and (5) reasonable provisions related to the security of the content to prevent leakage. Royalty rates would need to take account of the noncommercial status of most users and the unique features of the market for much content of educational interest. In some circumstances such as limited classroom use, a no-cost license would be appropriate, perhaps with some conditions related to issues such as leakage prevention and attribution of authorship. The resulting license might well resemble some of those developed by Creative Commons.

This model would obviate the need for point-by-point reforms related to many of the obstacles discussed in this white paper. The educational use exceptions would be subsumed in the broader scheme. The clearance process would be rationalized and transaction costs reduced. Overly cautious institutions would be able to rely on the existence of clear rights in most circumstances.

This model also has drawbacks. For one, fair use would remain outside its boundaries and difficulties with the fair use doctrine identified in this white paper would remain unaddressed. Indeed, as noted earlier, because excessive licensing can harm fair use, such a scheme might actually increase the difficulties educators now face in relying on this defense. In addition, one might predict that such a licensing regime would require payments for uses of content in circumstances where educators currently need not pay; if so it could cause problems for institutions and individuals with limited resources. Finally, compulsory licenses are controversial, and opponents generally note that one of the rights associated with a copyright is the right to refuse permission for use of content.

These complex pros and cons merit much more exploration before such a proposal could be endorsed. Unlike the more modest legal strategies listed in the previous two subsections, however, this model offers the possibility of a comprehensive solution to the many nettlesome interrelated obstacles facing digital learning today.

7.2. Improving the Clearance Process Through Technology

As discussed in section 3, the complexity of educational use and fair use law make it difficult for ordinary educators to ascertain whether desired uses of content fall under those exceptions. And as section 5 explored, the current clearance process for educational uses of content can resemble a permissions maze calculated to prevent such uses. An educator who wishes to use content for a digital learning project often ends up puzzled and stymied by these twin problems. Two typical undesirable responses are (1) to go ahead and use the content in a way that may well violate copyright law or (2) to avoid the issue by self-censoring and foregoing the content, even if the contemplated use might be legally permissible.

Technology may offer a superior third option in this situation. Digital tools could automate and lubricate much of the clearance process, from analyzing whether a license is necessary to securing a license if required. Market forces already are encouraging development and expansion of such mechanisms. Further research into the types of tools that would best serve educational users might help advance their adoption and increase their real-world utility. This subsection will map out some characteristics of an ideal technological tool.

For purposes of this hypothetical example, imagine a program on the computer desktops of faculty at a school or university. Presumably such a system would be deployed most easily, and therefore earliest, within such traditional institutions. Institutional counsel have an incentive to push for such systems as an efficient means of educating faculty about intellectual property restrictions, and centralized administration of information technology would make widespread installation easier. But there is no reason that a tool like the one described here could not be made available for download or at a web site so that all educational users of content could benefit from them, whatever their institutional affiliations (or lack thereof). Indeed, once New World Records broke through initial resistance at Harry Fox, it used automated interactive licensing to clear most of DRAM. CCC's existing automated permissions system is also made available to the general public.

The tool would first guide the user through a set of questions about the content and its contemplated use. This threshold questionnaire would need to be user-friendly, and it also would need to identify the desired content with some specificity. An institution would have to think carefully about both the questions and the answers, and customize them to align with institutional copyright policy. Because interfaces distributed by licensing entities might be expected to tilt toward requiring licenses in more situations, this customization is critical.

Once this step were complete, the software would attempt to ascertain whether exceptions for educational use or fair use might apply. Depending on the circumstances, the tool often would be able to give a yes-or-no answer. While fair use is notoriously blurry, as discussed in section 3.2, many everyday uses of content fall clearly within or outside of its boundaries. In borderline situations, the software would

need to direct the user to contact an employee with more specialized experience (perhaps counsel or library staff), and possibly link to e-mail or similar mechanisms to do so on the spot. Widespread use of this tool within an institution would serve to triage inquiries, preserving staff time for situations which truly require their judgment.

If a license is necessary because no exception applies, the program would search the licenses already available within the institution, including blanket licenses and those associated with library consortia and similar groups. CCC is currently preparing to offer just such a license management solution to corporate customers under the name Rightsphere, and plans to make the same system available to educational institutions in the near future.

Ideally, if no license were found for the specific content requested, the tool would also be able to search for comparable material that is available for use. Possible substitute content might be covered by an institutional license, or might be distributed under open access principles, a Creative Commons license, or similar terms. This function would require a sophisticated and consistent set of metadata in order to make valid comparisons and find desirable substitutes, which it may not be practical to develop.

Finally, if neither an exception nor a pre-existing license were already available for the content, the software would query databases of intermediaries (and perhaps major publishers and distributors themselves) to seek necessary permissions. As noted in section 5.2.1, systems like CCC's electronic permissions function and Harry Fox's Songfile system allow users to license much of the content in their portfolios instantly. The above discussion about these systems also noted their limitations, particularly the continuing reluctance of rightsholders to license digital uses. Another problem would

arise if other intermediaries and distributors were reluctant to create the kinds of databases that CCC and Harry Fox have made available. Hopefully the ironic hesitance of rightsholders to offer automated licensing for digital uses – the very uses most likely to benefit from a simple online permissions process – would break down as those uses became more common and market pricing stabilized.

To be sure, not all clearance problems can be solved with technology. Fair use cannot be reduced to algorithmic simplicity. Small-scale rightsholders who do not use intermediaries might fall outside of such systems. Clearance for more complicated or pathbreaking digital learning initiatives, such as the DRAM project, still would require some level of individualized contact. And technical difficulties, especially associated with inconsistent metadata, would present challenges.

Nevertheless, automating common aspects of the clearance process – such as answering typical questions about permissible use, searching existing licenses, and securing permissions – could remove obstacles now blocking many would-be uses of educational content. If such a tool were available, for example, the Center for History and New Media could build it into the upload page of the History Teachers' Network, replacing a threatening message that discourages uses of content with a tool that facilitates uses instead. Automated clearance seems likely to be an important element of a broader agenda for reform.

7.3. Developing Educator-Defined Best Practices

Part of the problem with discerning copyright boundaries when contemplating educational uses of content comes from the lack of consensus even among educators

about the appropriate boundaries. Participants in our workshop generally reported that there were differing perspectives within their institutions, and certainly among colleagues at different institutions, about the best "rules of the road" for using content. For those outside the confines of an established institution, the difficulty is even more significant, because there is no authoritative source of guidance.

Some of the participants in our workshops expressed a belief that the excessive caution of certain institutions – such as the widespread adoption of stringent photocopying rules discussed in section 6.1 – is partly attributable to this lack of consensus. In the absence of well-established norms, each educator is left alone to determine the most prudent course of action. It is perhaps predictable, given the inherent vagueness of so much of the law and the perceived costs of litigation, that those isolated educators are risk-averse.

An innovative project spearheaded by the Center for Social Media may be a model for forming such consensus. After wide consultation with affected individuals and organizations, the Center developed a statement of best practices for fair use by documentary filmmakers, which was endorsed by a broad array of those affected parties. The statement elaborates on the four factors in the statutory test and applies the doctrine to everyday situations that documentarians often face. The initiative serves two related purposes. First, it provides more practical assistance to filmmakers in determining whether a particular desired use of content qualifies as fair use. Second, the statement serves as the nucleus of a set of customary practices that over time can help guide courts in determining what types of uses are generally accepted as fair within the documentary film community. If the norms in the statement of best practices become widely shared, they can influence judicial outcomes profoundly.

Inspired by this project, there are now nascent movements to develop similar articulations of best practices in music and visual arts. As with the documentary film version, these statements would aim to interpret the law faithfully and to respect the rights inherent in copyright. (After all, their developers are themselves creators who often hold copyrights in their own work.) But they would also create a more robust shared understanding of the fair use norms within each community.

Statements of best practices are different from the previously-discussed guidelines such as the Guidelines for Classroom Copying, because they represent consensus among different people pursuing similar work instead of compromises between adversaries with divergent interests. Educators, both in the narrow sense of institutionally-based actors and in the broader sense of all those involved in digital learning, could develop similar statements of best practices, with similar advantages for the future of fair use in educational contexts.

While fair use may be the most visible area in which consensus-building would be useful, there are other problems discussed in this white paper which might also benefit from efforts to coalesce around shared standards. The educational use exceptions might likewise be ripe for such an exercise. A statement of best practices for licensing negotiations could establish benchmarks for the scope of licenses; their duration; and the types of conditions that educators can accept and those they should reject. A statement of best practices for deployment of DRM systems might highlight the situations in which DRM systems are appropriate (and not) as well as some tactics for system design that best accommodate the needs of educational projects.

A small number of experts could draw up such standards and promulgate them with relative ease, but the grass-roots model employed by the Center for Social Media

seems more likely to result in practical and widely-accepted principles. For similar reasons, it would not be advisable to develop a sweeping statement that encompasses all the various obstacles confronting digital learning. Rather, more narrowly-tailored statements of best practices should be developed with the participation of those constituents most directly affected by each.

Such a process could serve as a focal point for further outreach to educators about digital learning and copyright. Our research (like that reported in the Brennan Center's report) found misunderstanding and confusion among educational users of content about relevant copyright principles, especially in connection with fair use but also including educational use exceptions, the DMCA, and damages. Clear statements of best practices will help educate the educators themselves. This white paper and its related reports strives to do the same. Many others, including university administrators and librarians, have also worked to explain the fundamental copyright rules surrounding educational uses of content. Initiatives of this sort have flowered especially in teaching about fair use; the Center for the Study of the Public Domain at Duke University even published a comic book explaining the fair use doctrine. More activity of this kind, particularly if it is focused on educational uses, should improve understanding and perhaps combat the apathy and caution that sometimes lead to unnecessary self-imposed restrictions and impede adoption of open access practices.

7.4 The Promise of More Open Distribution

[Professor Peter Suber, a well-known advocate for open access to scholarly research, has prepared an excellent overview of the topic here.]

Educational uses of content would face fewer obstacles if more content were available under less restrictive terms. The move toward more open distribution of content, both within academia and outside of it, has picked up significant momentum in recent years. The internet and other digitized networks remove most practical impediments to distribution of information – the costs of paper, printing, and mailing; the need for access to a physical copy of a work; the marketing and related costs necessary to publicize the existence of content and help interested users find it. In response, passionate advocates of the open access movement have promoted the potential for distributing knowledge over these networks unencumbered by most copyright restrictions.

A number of successful initiatives to distribute educationally useful content more widely demonstrate that this potential is very real. A comprehensive examination of the many efforts undertaken by these advocates is beyond the scope of this white paper. Here are just a few examples:

- The "some rights reserved" licensing schemes promoted by Creative Commons and Science Commons, which can be easily customized at their web sites;
- The Free Software Foundation's GNU Free Documentation License, intended for use in "textbooks and teaching materials for all topics" and used as the license for Wikipedia entries;
- Numerous open access journals, such as those sponsored by the Public Library of Science (PLoS) (a list can be found at the Directory of Open Access Journals);

- Efforts by universities, including the University of California and Harvard, to require their faculty to make copies of their scholarly articles available in open access repositories, and to provide the faculty technical assistance in doing so;
- Increased self-archiving by professors and other educators on personal or institutional web sites;
- Multiple initiatives to make curricular materials, syllabi, and other educational content accessible to the general public, including Connexions, LionShare, MIT OpenCourseware, and the Berkman Center's own H2O project;
- Increased discussion of legal mandates for open access to research funded by government grants – effectively including most major biomedical research in the United States and Europe.

Despite these exciting developments, however, there remain significant obstacles to further increases in the amount of content available under such "copyleft" principles. The most important of these include:

- Resistance from the academic publishing industry to changes in its fundamental business model, which depends on enforcement of intellectual property rights (this industry effectively includes nonprofit scholarly societies that rely on their journals for significant revenue, university presses, and journals such as law reviews that are associated with universities, as well as large commercial publishers);

- Concern by scholars that publishing in an open-access journal or similar venue might lack the professional prestige associated with publishing in established traditional journals;
- Apathy and inertia by scholars and educational institutions who do not perceive the benefits of open access as justifying the effort, expense, and upheaval of shifting to more open distribution models;
- Uneven adoption between different academic disciplines, with greater use of open access among scientists and less in humanities, social sciences, and professional fields.

There is already a vibrant community of organizations and activists promoting open access in the face of these impediments. Educators can contribute to this cause in many ways, by promoting open access within their institutions and by using it in their own work. Those publishing in traditional journals can negotiate to retain certain copyright powers, including at least the right to self-archive. The Scholar's Copyright Project at Science Commons recently released three versions of model Author's Addenda that scholars in all fields can append to the form copyright assignment contracts used by journal publishers.

Open access is spreading, and will continue to grow. It will never become a universal mode for distributing content, particularly content of a more commercial nature (which educators often wish to use in their teaching or writing). Nevertheless, continued efforts to increase open distribution will remain an important means of enabling educational uses of content. When content is available, for instance, in an open-access journal or under a Creative Commons license, the other obstacles discussed in this white paper simply dissolve. Because the impact of such minimally restricted content is

so profound, any increase in its amount will greatly improve the landscape for educational uses of content.

7.5. Some Areas for Further Study

One of the most significant lessons learned in the development of this foundational white paper is that the issues surrounding educational uses of content in the digital age are complex and interconnected. Not surprisingly, the work generated many more questions than we had the capacity to address. Beyond the legal, technological, and institutional reforms suggested in this section, further work in this area should also include further research on some of these difficult matters. Areas ripe for further inquiry include:

- A study fully analyzing how the market for digital learning content differs as between elementary and secondary schools, colleges and universities, and non-institutional projects;
- An attempt to document how often educational users of content in fact are threatened with copyright infringement suits, and how often such suits are filed (the dearth of judicially decided cases in this area suggests that these numbers may turn out to be surprisingly low);
- A survey of the use of DRM systems by educational institutions to shelter their own content, with some further investigation to determine the relative prevalence of different motivations for using DRM (whether compelled as a condition of using third-party content; initiated to protect content created

by the institution and its employees; or used for other reasons such as student privacy and extended by default to additional content);

- Analysis of how frequently rightsholders decline permission for educational uses of content and the typical reasons for such refusal;
- Updated empirical data concerning policies and guidelines adopted by universities and school districts concerning educational use of content;
- More sophisticated economic analysis of the potential for a compulsory licensing scheme to facilitate educational uses of content;

8. Conclusion

Without question, digital technology provides new opportunities for rich reuses of content in many educational contexts, from the traditional classroom to the cutting-edge openness of Wikipedia. That progress will continue. But significant obstacles also confront educational uses of content. The law itself is often unclear or unfavorable. Pervasive use of DRM and the permissions maze created by the present licensing regime further impede such uses. And educators and intermediaries have too often responded to these problems with inertia or fear rather than action.

This white paper has identified this interlocking set of obstacles, and has begun the discussion about removing them. The very purpose of the exclusive rights conferred by copyright law is to make enriching content available to all of us. The great promise of the digital age is much the same. In order to realize the full potential of digital technology to transform education, however, our society must understand the

need for change and support appropriate reform. We hope that this white paper has helped lay the foundation for such a future.

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