

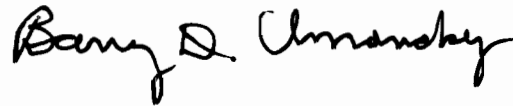
**Developing Copyright:
The Historical Relationship between Copyright Law and Technology**

An Honors Thesis

by

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A handwritten signature in black ink that reads "Barry D. Umansky". The signature is written in a cursive style with a large, stylized initial 'B'.

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Abstract

Developing Copyright: The Historical Relationship between Copyright Law and Technology

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History has shown a compelling and direct correlation between technological innovations and changes in copyright law. From technologies creating media, to advancements in distributing these works, to transportation technologies disseminating intellectual property worldwide, the law has adapted necessarily to these innovations. Currently, copyright law is adjusting to the challenges brought about by the proliferation of Internet into our everyday lives. As this medium has grown, and copyrighted works are available instantaneously online, we can assume copyright law will change drastically in response to the media world in the near future.

Since its creation in the 15th century, copyright law's purpose has been to protect and manage the way in which intellectual property is delivered, copied and adapted. The purpose is simple. Its history however is much more complex and unavoidably tied to the societies creating copyrightable works. In America, intellectual property rights were among the first considerations when framing the Constitution of the United States in the late 1700s. Copyright law sought "to promote the progress of science and useful arts" by offering exclusive rights to creators in these areas of study. Well over 200 years have gone by since this law was passed and many changes, especially in the area of technological innovation, have pushed American society through the Industrial Age to the Digital Age. These technological changes have influenced directly what intellectual property is and how it can be protected.

Currently, copyright law offers its owners the right to reproduce, distribute, perform, display, and transmit their property to the greater public. Copyright also provides a mechanism for legal production of derivative works based upon the original intellectual property. Given this definition, copyright's relationship to technology is not immediately clear, particularly in comparison to other intellectual property protections. Patents are issued to protect new technologies; mask works are layouts of computer chips; trade secrets guard the way in which these technologies are created. Copyright law protects a host of media including writings, photography, audiovisual and musical performances and artistic expressions. Each medium used to create these copyrightable works has been developed through a technological process which has changed this law's scope of protection since its inception. When considering that these technologies

necessarily developed in order for there to be creative works, copyright's connection to technology is much clearer. Moreover, the societies in which these technologies were developed helped shape the course of copyright history, making the connection between the law and innovation even deeper. One of these predominant, societal influences was immigration and mass transportation of people throughout the world, a phenomenon sparked by transportation technologies.

Transportation technologies developed at an astonishing rate in the mid to late 1800s, and continued to improve throughout the 1900s up to today. Though people had been circling the world for hundreds of years before this, the number of travelers increased exponentially when cheaper, faster and more reliable means for transportation became available. When people left their home countries, their intellectual property came with them. Mass mobilization raised a lot of questions in the international community about how sovereign countries could protect the works of their citizens abroad. Since the late 1800s, countries have met at international conventions and signed treaties to combat some of these issues, thus making transportation technology among the most influential components of historical copyright change.

These innovations in transportation technologies and artistic media have developed expansively in the last 200 years; similarly fast-paced developments are occurring in the area of digital technologies now. Today, the most pressing issue in intellectual property combines new technology with the international issues faced when people began traveling in record numbers in the 1800s. The Internet transmits ideas instantaneously around the world to any device with an Internet connection. Because

digital technologies are relatively new, copyright law has not had time to adjust to these developments. Technology is evolving constantly and copyright law will continue to respond directly to challenges prompted by innovation. By examining the historical nexus between law and technology, it becomes apparent that current advances in media will affect copyright law significantly in the near future, especially with the explosion of efficient, portable and less expensive digital technologies. New questions will arise, and new provisions will be created so copyright owners can and will continue to promote progress in the arts.

From technological innovations like photography, which created new media for copyright law to protect, to developments in the way ideas are transported, there is a strong, historical relationship between technological innovation and changes in copyright provisions. For the purpose of this paper, American copyright law will be discussed, though it will become clear that global copyrights will be affected by technology in the near future due to the globalization of protectable content on the Internet. To explain current issues in copyright law, I will establish how the laws adapted to developments in technologies used to create and disseminate works. The issue of transporting ideas will be discussed at length through an explication of the historical changes in transportation technologies; this will lead to a discussion of the Internet as the modern medium of transporting ideas. Finally, I will issue predictions about how copyright law will likely change in conjunction with digital media.

The History of Copyright Law –The History of Technological Progress

The first copyrights created protected the written word. For centuries, thoughts were recorded on papyrus in Egypt, tiles in China, and clay in ancient Greece. Needless to say, “written” media of this kind were not copied or distributed to the same extent works are today. Paper, in the form of parchment, was first created around 170 BC; the Spanish developed the first paper produced using cotton or linen fibers hardened with sizing material (Tonsing 11). Hundreds of years passed before the most rudimentary printing press. Developments in the printing process led to wood block prints in the 1400s; however most books were produced arduously by scribes, often taking a year or more to complete the volumes (Tonsing 11). Adding together the cost of materials and labor, books were exorbitantly expensive and generally remained the property of very wealthy families or large community organizations such as churches.

Johann Gutenberg changed the business of bookmaking. Gutenberg revolutionized the printing industry by introducing moveable type into the printing process. Instead of etching full pages worth of text into wood blocks or copying works by hand, Gutenberg’s press used a screw mechanism to imprint letters, set in a complex grid, on to paper (Tonsing 17). This press saved printers significant time and money during the production process. In turn, printers were able to produce much more and distribute their products to a much wider audience. The world felt the effect of this process considerably. William Claxton brought the “power of the press” back to England in 1471 after one of Gutenberg’s machines during an internship in a print shop in Germany (Tonsing 19). He published his first book in 1477 (Blagden 23).

The introduction of the printing press into English culture created an environment where books were in higher demand because more copies were available at a cheaper price. This created an uncertain situation for parchminers who produced and sold the paper, for scrivners who wrote the texts, the limner who illuminated the pages with highlights of gold and paint, the bookbinders who sewed the entire book together, and the stationer who would sell the book (Tonsing 22). Most of these craftsmen were unnecessary to the production of cheap books filtering into the public. At this point, everyone involved in the bookmaking process wanted to know who would profit from this increase in book sales. Because the shopkeeper, e.g. the stationer, could stock his shelves with cheaply printed books, he did not find the same need for the craftsmen he employed, and therefore profited most heavily during this period (Blagden 23).

As many other tradesmen did before them, the stationers set up a guild during the late 15th century with a licensing act from the British royal government which gave this group unlimited control of what was being published. This licensing act established one of the world's first copyright systems. The group obtained a royal charter from the British government in 1557 (Blagden 23, 28). It is important to note that the crown's involvement in the Stationers Company was significant, and the royalty used their influence to control what could be printed and by whom these pieces could be distributed (Blagden 29). Essentially, this meant no one could publish anything without the Stationers' consent, thus giving them a monopoly over printing. This also meant that copyrights were the property of the copiers, not the writers themselves. When the Stationers' licensing act expired in 1695, the guild no longer maintained the same control

over published works; this caused them to seek action which would give them an even stronger right to copy books (Blagden 29). However, the British Royalty then created the Statute of Anne in 1710.

The Statute of Anne was the model for most copyright law around and after this time. It changed the allocation of entitlements and created a free market for publishing instead of allowing the Stationer to have a near monopoly over book-printing and selling; additionally, the Statute of Anne shifted the copyrights from the sellers to the authors and gave this group the right to print their own books (Adler 1). This copyright law also stated authors had the rights to their personal works for 28 years total, or 14 years to publisher and 14 years to the authors (Adler 1). The importance of these adaptations in the copyright system cannot be overstated; this was among the most significant changes in copyright policy in the law's earlier years. The Statute of Anne was the central copyright law through the 1700s, and served as the model copyright policy in the United States after the former British colony broke away and established an independent nation.

Copyright in America

At the very first Constitutional Convention lawmakers in the newly sovereign United States of America drew up guidelines and ideas for necessary laws in the union. Among these was the concept that the national government should protect the innovations created by its citizens, just as the British government had done with its intellectual property laws. Copyright law was highly contested on both sides of the issue. Strong proponents believed in offering authors their due for creativity; opponents were more pragmatic and felt that restricted access to ideas would “deprive society of improvement”

(Goldstein 40). In 1787 Article 1, Section 8, Clause 8 of the United States Constitution was written: “Congress shall have the power... to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.” This was the first copyright law established in America. Through the years, numerous influences have forced the basic law established by Congress to protect “writings and discoveries” to evolve to fit current times. Many of these influences are technologically-based. Copyright law has adapted necessarily to the products of new technologies as well as to human mobility spawned by improved transportation technologies. In both cases, technology itself was the key influence in changing the law in America.

The first new technology sparking change in the American copyright law system was photography. Though photography had been around since Louis Daguerre captured images on silver-plated copper, it wasn't until the 1880s that photography appeared in public presses and the process became commonplace (Greenspun). Almost immediately, photographers sought ways to protect their works of art from unlawful reproduction. The first test of American copyright law considering photography was in 1883 when Sarony, a famous portrait photographer, sued Burrow-Giles Lithographic Co. after the company used one of the artist's portraits of Oscar Wilde without his express consent (“Burrow-Giles”). After proving he had marked his photographs with the date the picture was taken and his full name, which was enough to establish that Sarony had copyrights, the court affirmed that Oscar Wilde's image belonged to plaintiff; Burrow-Giles was required to pay \$610 in penalties (“Burrow-Giles”).

In the music industry, there have been numerous technologies developed to create exact replicas of original music. Piano rolls were among the first technologies developed to recreate musical performances as clearly as if someone were playing the musical piece. Though their construction consisted of long reams of paper punched with tiny holes, when these sheets were placed in a player piano, the piano rolls would generate music exactly without the need of a human piano player. Authors and producers were terrified that this new invention would erode their profits from sheet music significantly; piano roll companies contested that reams of holey paper could not constitute copies of sheet music. Despite the fact that phonographs were even more popular than piano rolls during this time, the 1906 *White-Smith v. Apollo* case was pushed through the court system condemning producers of piano rolls for authors' profit-losses because sheet music and piano rolls are "intuitively the same" (Gitelman 201). This meant that because both sheet music and piano rolls were made of paper, it was a much easier case to call the latter a copy of physical sheet music. The court ruled that the media were innately different because the perforations and holes found on a piano roll were different than musical notation; therefore, it was the mechanical function of the player piano which reproduced the music exactly, and therefore it was the mechanical function of the player piano which should be debated in the court. The question about whether these mechanically reproduced works were copies was still debated heatedly by musicians and producers. At this point it became clear that, as Goldstein puts it, "a finely tuned law was needed, not the blunt instrument of a judicial injunction" (Goldstein 52). The issue of piano rolls, and the new issue of phonographs were considered during the 1909 American Copyright

Revision. The bill broadened the definition of copyright to say that “anything that mechanically reproduces a musical composition should be held as a copyright” meaning that copyright holders did not have to pay royalties to composers in the same way sheet music producers paid (Goldstein 53).

As with piano rolls, the question of whether machines could violate copyright played out in another hallmark case, this time attacking recorded television. Sony’s Betamax “time shifted” recording so that viewers could watch a program on live television while recording another program (Balio). The mechanization of this process brought into question whether copying rerecorded television off-air could constitute copyright infringement; however the bigger issue brought by the television and film industries was whether the act of videotaping programs violated copyright. Sony argued that as long as these programs were recorded for private purposes, and not for distribution, consumers had every right to make copies. Productions companies did not agree, because at this time these corporations received remuneration every time their movies were shown. The Federal District Court of Los Angeles ruled that the “First Sale Doctrine” established in the 1976 American Copyright Law Revision stood, which meant that anyone who purchased original programming could use it or loan it out to whomever he or she pleased as long as use of this work did not include illegal copying and distributing (Balio). The U.S. Court of Appeals reversed the lower court decision; the Supreme Court in turn reversed the Court of Appeals’ decision, so that the First Sale Doctrine would stand (Balio). Another case to address copying works for private use

went to trial around the time of the *Sony Corporation of America v. Universal City Studios, Inc.*

By far one of the biggest threats to controlled copyright policy was the photocopier. Chester F. Carlson developed the basic method used in electrophotography, which led to the subsequent development of the photocopier machine between 1937 and 1946 (Marples). He sold the patents to his machines in 1946 to The Haloid Company, better known today as the Xerox Company. Xerox continued to develop its photocopiers until the machines became more user-friendly and were routinely placed in major libraries. One of the most important cases in modern copyright history was *Williams & Wilkins Co. v. The United States* which was the first Supreme Court case to bring up copyright issues in relation to photocopiers. According to Goldstein, “few cases in recent years have held the challenge and consequences of the copyright case” (66).

Williams and Wilkins Co. produced specialized medical journals which were commonly subscribed to by libraries and private practices alike. In 1973, they brought their case against the National Library of Medicine and the National Institute of Health because these two agencies allowed unauthorized photocopies of articles, which in turn led to a marked decrease in profit for the company (Goldstein 75). Williams and Wilkins wanted to establish that photocopying did constitute copyright infringement because exact replicas of original work could be produced without the writers’ or publishers’ knowledge. The plaintiff stated that “unrestricted photocopies substitute for journal subscriptions, driving up the costs and driving away subscribers” (Goldstein 75). This fact, along with the fact that the majority of those making copies in the libraries were

medical professionals who would likely subscribe to the magazine had free copies not been available, proved to the courts that medical journals and similar publications would lose money if unrestricted copying were allowed. The publishing company computed their losses for 1967; they found that one billion copies were made, most of which were made without the owners' knowledge. (Goldstein 87) The appellate courts decided a blanket license fee paid by all libraries and similar institutions would be fair. Taking a stand against the courts and publishing companies, libraries refused to renew their subscriptions to the magazines if they were required to pay the licensing fee.

When the libraries refused to renew their subscriptions, Williams and Wilkins took their case to the Supreme Court. Both sides brought compelling cases. The library professed that these copies were private, not commercial, copies used for personal research and therefore the library should not be liable for private copying. More importantly, the libraries recognized the importance of providing information to the public without restriction; in the case of medical journals, the public could suffer physically because the information found in those journals would not be available to them. On the other side, publishers believed that private copying had huge, commercial consequences and the companies had a right to protect their information and the price it cost to produce this information. The Supreme Court case ended in a stalemate because Congress was already reviewing copyright policy for an upcoming American copyright revision. However, the courts recognized that withholding pertinent information from the public would be more harmful to the general population, and established the importance of allowing private citizens access to this knowledge. Photocopiers were at the center of

the American Copyright Law Revision of 1976. This revision established a “fair use” policy. Fair use allows the public to copy protected works for private use, for educational or research purposes and in small quantities. Anything outside of these regulations constitutes copyright infringement.

These technological innovations were necessary in creating and distributing new, copyrightable works to the greater public. Their influence was direct and changed the shape of modern copyright. However, one of the central drivers to forcibly advance copyright law beginning in the early 1800s was innovation in transportation technologies which sparked mass population mobilization. When transportation became more readily available, cheaper, efficient and far reaching, people started traveling and took their intellectual property with them. Moving ideas from one nation to another brought about specific challenges. Among these were issues dealing with foreign copyright laws, translations of texts into other languages and republishing books abroad. Beginning with the American Copyright Revision in 1831 up until today, intellectual property has been affected drastically by swift, geographical mobilization.

At its inception, American copyright law was modeled from the laws settlers and booksellers worked under while in England. The first copyright revision took place in 1790, three years after the Constitutional Convention in 1787 established that Congress has the right to “promote the progress of science and arts” through issuing intellectual property rights. The 1790 revision clarified the grandiose statement by modeling new laws after England’s Statute of Anne which, as stated above, offered a 14 year term limit, the right to a 14 year renewal, and the right to reprint one’s own work. Congress’ revision

lasted until in 1831, when they decided to extend the term of protection to 28 years with a 14 year renewal. The major influence behind this change was to align America's copyright policy more in line with the policies in Europe. This adaptation was marginal, but it marked the beginning of an international exchange of legal ideas which would begin to surge with the advancement of transportation methods.

In the early 1800s transportation was just starting to evolve at this time beyond a reliance upon horses. Nicholas Roosevelt had developed a steamboat in 1811 to navigate in smaller waterways, which did a great deal to increase supply transportation up the American rivers, and inventors were beginning to develop steamships to travel across great distances (Wright 2). However, transportation at this time was very rudimentary, and people largely remained settled where they were.

In the upcoming years, innovations in transportation would turn travel upside down. Changes in boat making especially were among the most important in changing international travel. Expensive and small steamships made way for large ships, with the traveling capacity and price range for almost anyone. Transportation was the source of momentous cultural change by making it possible for anyone to leave his or her home county and travel safely and inexpensively across the ocean to another country.

Individuals searching for work traveled to the United States in record numbers; writers and artists traveled around the world divining inspiration. This was a time of enormous change. Immigrants brought rich cultural traditions to America, including literature, artwork, and music among other things. New, copyrighted works were available to the greater American public through cheap, pirated copies of foreign works in both their

native languages and translations into English. It should be stated additionally that piracy “had been a long-established feature of European social and cultural life,” so many did not consider piracy sincerely in their new American home either (Goldstein 150). This forced international lawyers and national governments to face difficult questions about how foreign works should be protected in other countries, who has the rights to translations of texts and who will check the international copyright system to maintain the important protections offered by these laws. Questions of this nature drove European countries to organize an international conference in 1886. This was the first move globally to come to an agreement about mutual recognition of copyrights and universal protection.

The Berne Convention provided the basis for internationally-recognized copyright regulations. In 1886, member nations decided to extend protection of literary and artistic works to nationals from the other member nations, meaning sovereign countries would respect writers, artists and musicians’ rights in another member nations (“Treaties”). This was the first movement to establish a uniform policy for protection of these works, and it occurred when immigration and emigration were at heightened levels worldwide.

The first Berne Convention set the stage for international intellectual property agreements. There have been numerous amendments and revisions of the Berne treaty since 1886, as more nations have signed on in support of the treaty and as technologies have changed (“Treaties”). The United States chose to stay out of these conventions because many felt that creating international copyrights would decrease the profit booksellers and publishers in America would make (Goldstein 151). However, America

was centrally concerned with protecting its intellectual property abroad; therefore numerous treaties and copyright revisions have occurred in America in relation to, but not directly connected with, the Berne Convention.

The International Copyright Treaty was signed to stifle the “cheap books” movement, where new publishers printed inexpensive copies of books after the Civil War, subsequently flooding the American book market with pirated books (Goldstein 150). The result was the Chase Act in 1891 which protected works by foreign nationals on one condition: the manufacturers of these books were required to type-set the texts in the United States in order to gain protection (Goldstein 151). This was called the “manufacturing clause.” But as time went on, there was increasing pressure from Berne Convention signatories for the United States to sign the treaty, so America formed the Universal Copyright Convention with Canada and Latin America to provide multilateral, “bland requirements” from member countries while also maintaining autonomy (Goldstein 151). However, Americans were beginning to lose money in negotiating trade agreements because they were not treaty signatories (Goldstein 152). As photocopiers were being considered before the 1976 American Copyright Revision, international copyright provisions were being considered by Congress. In this revision, the U.S. proposed a term measured by Berne’s standards and omitted the manufacturing clause; when this revision did not offer a change in trading results, the United States signed the “Berne Convention for the Protection of Literary and Artistic Works” in 1989, the most recent and far-reaching (Goldstein 152). This treaty extended the duration of copyright protection, and made copyright laws almost universally similar. The Trade Related

Aspects of Intellectual Property Rights (TRIPs) added to the Berne Convention with a standard for protection which made it possible for member nations to file complaints with the World Intellectual Property Organization (W.I.P.O) against one another if the contracted rights were violated (Goldstein 160).

Though these international treaties tried to alleviate up some of the confusion and instability in the publishing and performance areas of international copyright law, it did not predict technological changes to come. As Jessica Litman wrote, “Both the threat and promise of new technology center on the ability it gives many, many people to perform the 21st century equivalents of printing, reprinting, publishing and vending” (Litman “Revising” 133). The trend for transporting ideas worldwide no longer requires the physical transportation of people; rather, digital technologies have made the transportation of ideas internationally instantaneous, and more difficult to handle.

Fusion of Innovation and Transportation: The Internet’s Challenge to Copyright Law

It is clear that copyright law is highly reactive to technological changes, both directly through adapting to protect new, copyrightable mediums and indirectly through transporting people and ideas throughout the world, and prompting legal questions about international law. However, with major innovations in digital technologies within the last 10 to 15 years, technology is changing rapidly and copyright law is struggling to stay on top of these innovations. As Goldstein writes, “The great question for the new century is whether in a wired – or wireless – world, copyright can perform its historical task” (161).

Media use is the number one life activity in the American day, by taking up 29.8% of the average waking day (Holmes). Most of this media use is spent with “digital

media” which includes broadband Internet, high speed computers, television media centers and mobile phones loaded with features, among others. Most importantly, all of these comparatively new technologies connect almost instantaneously to the Internet, a feature which makes the dissemination of ideas worldwide nearly immediate. Just as transportation technologies facilitated the spread of ideas around the world, thereby making international copyright protection much more difficult, the Internet allows for immediate transmission of intellectual property to any device with Wi-Fi, dial-up, or broadband Internet connection. Moreover, copies made of documents, movies, images or music are easy to manipulate and redistribute digitally. Since its proliferation into the greater public, the Internet has established itself as one of the most complex challenges facing established copyright law since the photocopier allowed unlimited duplication of documents.

The Internet itself was created by the United States Department of Defense during the late 1960s. It wasn't until the 1980s that the Internet resembled something close to what we know today, and even then, the connection remained incredibly slow and difficult to run. (Schawach xiv). The Netscape Navigator Internet browser, which made all web content easily accessible to the greater public, changed the Internet from a government-run computer network to a worldwide information exchange. When the browser launched in 1994, the Internet hosted around 25 million users; in December 2007, there were roughly 238 million, or around 70% of the American population (Internet World Statistics). Of the Americans who have internet in their homes, 50% have high-speed, broadband Internet access, which makes surfing the web substantially faster

than other, narrow-band options (Horrigan “Why”). These statistics only begin to describe the modern media environment which is shaping copyright issues today.

According to the Veronis Schuler Stevenson Communications Industry Forecast, which measures Americans’ spending and time with media, the Internet and mobile media have seen huge gains in use because of “the expansion of traditional media companies in the digital arena, the growing popularity of social network content, the emergence of new video services and technological advances that made buying and content distribution more efficient” (49). Simply, original content is spreading across all digital platforms quickly. A TV show is now available for live streaming online; Internet websites are accessible from mobile phones; media centers allow television, telephone and Internet service to converge. Digital technologies make content accessible whenever a consumer wants it, wherever that consumer happens to be. In this kind of environment, it is easy to see how the transmission of ideas throughout the world would make the field of copyright law much more complex than in the days when steamboats and railroads were first being developed.

Historical Accommodations for the Internet

No one expected the World Wide Web to take off as it did, and its immediate and widespread adoption brought up a host of legal questions quickly. Though there were numerous incidents prompting legal action, two key events marked the beginning of America’s copyright interactions with the Internet.

The first was the 1996 WIPO meeting in Geneva, Switzerland of 160 delegates from countries around the world to discuss various treaties and the creation of fair

intellectual property laws internationally (Litman *Digital Copyright* 152). The second was the creation of MP3.com. An MP3 file is a digitally compressed music file which allows CD-quality recordings of music in a much smaller file size than before, which means files can be duplicated indefinitely without legal repercussions (Litman *Digital Copyright* 154). MP3.com was the first web site to facilitate efficient copying and sharing of these files. The creator, Michael Robertson did not consider that sharing MP3s between computers would be illegal considering consumers had purchased the original copies of these files, and could make copies of their CDs privately. Because these files were transmitted online in a public place, they were legally “performed”; because Robertson did not receive the required licenses from the record companies to perform this music, MP3.com was sued for copyright infringement (Litman *Digital Copyright* 158). Like other technological advances throughout history, the creation of this website spawned marked and swift reaction from copyright lawyers.

According to Aaron Schwabach, this was the first time the digital music industry “joined the ranks of those demanding the government do something, in this case to protect copyrighted content” (xv-xvi). By 1997, only three years after Netscape Navigator was established, corporations and copyright holders were calling out to their lawyers and Congress to do something about the rampant file-sharing and piracy allegations which were becoming an enormous problem. Having no prior cases to refer to dealing with the Internet, the Clinton Administration assembled the Information Infrastructure Task Force (Barker 49). Comprised of copyright lawyers and the media industry professional most affected by file-sharing and piracy, this task force was asked

to pull together white papers for Congress outlining their concerns and suggestions for future legal action. Linked with the W.I.P.O.'s suggestions and MP3.com's legal battle the Digital Millennium Copyright Act (DMCA) was born.

The DMCA is, by far, the most influential piece of copyright legislation to address the issues facing copyright holders in the "digital age." Former President Bill Clinton signed the DMCA on October 28, 1998 (Adler 10). The DMCA implemented the W.I.P.O.'s five Internet treaties, including: establishing safe harbor for online service providers; permitting use of temporary copies of computer programs during routine computer maintenance; numerous amendments including Internet broadcasting; protected boat hull design; and prohibiting trafficking or selling digital circumvention tools (Adler 10). Of all of the titles implemented in the DMCA, the anti-circumvention provision is by far the most controversial, and the one targeted at solving issues the MP3.com case brought up of circumventing traditional copyright infringement restrictions online.

Circumvention tools are considered software which allow unauthorized access to digitally copyrighted works. In prohibiting their use, lawmakers were attempting to stifle rampant file-sharing by making copyright infringement online illegal. Theorist Emery Simon likens copyright infringement to breaking into a home and stealing the owner's property. He writes, "The DMCA essentially says that if you are a person who sells products that are primarily designed or advertised for the purpose of defeating locks on my doors, or in this case the locks on my copyrighted works, you have committed a criminal act... The bottom line is that copyright violations are serious criminal acts. Pirates are thieves" (Simon 175).

Though this provision makes sense when considering that circumvention software allows the public to access copyrighted materials without charge, theorists and lawyers alike have met this act with muddled reviews. Goldstein says that this act amounts to little more than a speed bump in the piracy process, that what this act does is “make it more difficult, more time-consuming to copy things” (185). Others believe the act makes copyright infringement a criminal act, which should be considered unfair because most people do not understand the reasoning and specifics of the law itself. Both sides of the argument call the law into question because these anti-circumvention technologies continue to proliferate into the Internet even after the DMCA went into action. The most famous piracy case in recent history involved a company which built its business model on copyright infringement.

Shawn Fanning created Napster.com to make file-sharing across the Internet even easier. Napster made downloading and saving MP3 files more convenient than MP3.com. Napster’s appeal spread exponentially. Within several months, Napster had 20 million subscribers; within one year, there were 70 million subscribers (*Litman Digital Copyright* 158). Because Napster was created while MP3.com was still fighting its legal battles, the company was sued almost immediately after it gained public popularity. However, it took some time for copyright lawyers and recording companies to build their cases against the file-sharing juggernaut. The case received enormous press coverage due to celebrity endorsements on both sides of the courtroom. During the trial, Napster tried to defend itself by saying it did not provide the pirated content and therefore they could not be punished for the transfer of content between users. Further, the company tried to hide

under the “safe harbor” provision established under the recently passed DMCA. This provision allows search engines like Google.com and Yahoo.com to host information about products, because they are essentially directories which offer listings of content but do not store it on the site itself (Litman *Digital Copyright* 159). Napster did not provide any of the music recordings; rather, it too supplied a directory-style listing of content from its subscribers’ computers. The courts did not agree with their arguments and Napster was required to shut down within 48 hours of the decision.

Napster was one of the first, very public cases addressing digital media as a means for copyright infringements. The construction of web pages devoted to trading content for free was new at this point in time and required an equal and opposite reaction from businesses, which is what the DMCA did during the early years after it was passed into law. What this legislation did was prevent unchecked file-sharing, and made piracy a central issue in American culture. In the ten years since Clinton signed his name to the bill, however, there have been significant changes to digital technologies and companies have established digital business models which complicate the issue of online copyright more than was anticipated at the end of the last millennium. With a growing population excited to use digital media and take advantage of technological innovations, copyright lawyers face new challenges to old copyright laws. The new media environment is unlike anything we have seen before and will require a reaction from the copyright community in the near future, whether new provisions are established or stricter online procedures are adopted internationally.

Current Issues in Internet Copyright

As stated before, the Internet currently presents the greatest challenge for copyright lawyers currently because its power is only now being realized by lawyers and authors. A world of books, movies, music and art is just a few mouse clicks away. Because the Internet transmits and shares ideas immediately with the global population, copying and manipulating the content is simple. These issues are, in and of themselves, significant enough to prompt important changes in copyright law. However, the evolution of the Internet is spawning other troublesome issues which have not been considered primarily because they have not existed until recently. The cases concerning Napster and MP3.com brought digital music piracy to the forefront of copyright policy consideration, but these forms of online content sharing only mark the beginning of content issues in the “digital age.” Among these issues is that copyrighted art and print files have not received as significant legal attention as the movie and music industries’ products, but should be considered with the same scrutiny. Another issue is that copyrighted content is available wherever and whenever a viewer wants it because the Internet now reaches almost every media “screen” in our lives, bringing about questions of copyright protection across media platforms. Because mobile, computer and television platforms offer Internet there are questions about how companies can protect content when each of these platforms adapts and changes the original piece through digitization. All of these issues present new challenges for the upcoming years. Copyright history has shown that when technological innovations overstretch the constraints of current protections, copyright law changes

necessarily. But because the Internet is relatively new and there are few legal precedents from which to work.

The United States has done a lot of work to provide protections for authors by placing restrictions on anti-circumvention software through the Digital Millennium Copyright Act. The DMCA has subdued anti-circumvention software in the ten years since the act was passed because it established criminal repercussion for those who do circumvent copyright protection technologies to steal and use copyrighted content. This was a step in the right direction because it recognizes the importance of protecting copyrighted materials online. File-sharing remains a significant issue, especially in terms of music and video files. YouTube and video sharing sites allow the public to post content despite these property protections directly to the site with very little regulation. While many of these videos are original content, a significant number of videos online are copyrighted works, and with 10 billion video views across the Internet in a single month, this is a serious problem for all video copyright holders (Learmonth). Music file-sharing is less of an issue than it was before the DMCA because business models have adapted to legal restrictions. Downloadable content on platforms like iTunes have made the online, computer-based stores more popular than brick-and-mortar stores (Quinn). That being said, there remain plenty of websites and circumvention tools which allow those who do not want to pay for content through iTunes or other purchase-and-play sites to download files for free.

Because the DMCA focuses so heavily on file sharing, less attention has been paid to protecting print and images. Books, news stories, journal articles and copies of art

are all readily available online with very little copyright protection. These web pages can be copied physically by anyone with a printer attached to his computer. While this issue is similar to the *Williams & Wilkins Co. v. The United States* case which questioned photocopying journal articles, tracking who is copying online content is much harder. Currently, publishers and authors keep watch over who is viewing their content online. Some of these documents are available through online subscriptions alone, which cut down on the number of people with access to the information. Many other documents are available with no protection at all because the public can post personal or copyrighted content without legal supervision on personal websites. It is important to note that some organizations are able to patrol for illegal content use, but searching the Internet for excerpts and stolen content is arduous and can be expensive. From this issue branches the question of how to protect derivative works. Copyright law guards original content from unlawful adaptation; if works are modified, the original author must be notified and receive due compensation. The Internet destroys this provision. Anyone with a “copy” and “paste” function on his computer can take digital content and adapt it as he sees fit without the author’s notice, or any kind of compensation for the original creator. Upcoming copyright legislation will need to address these issues through stricter regulations on the “fair use” policy, because this provision allows for copying of this nature under current law.

Many professional website are bending to the public desire for more content, more video, and more pictures. News and entertainment sites are layered with multimedia elements, all of which are protected by copyright. Consumers want their media all of the

time, wherever they happen to be. Protecting all of this content is incredibly difficult. Interestingly, website developers are making television and radio content available online and vice versa. This cross-platform intellectual property exchange makes copyright protection much more complex than traditional, “siloed” media protection which protects one medium alone. With traditional media, protection would cover a copyrighted work within that area of technology; with digital media, copyright needs to cover a copyrighted work across all digital platforms. According to the PEW Internet and American Life Project, 58% of all Americans have cell phones, and 41% of all Americans have used their cell phones to look up Internet content (Horrigan “Mobile”). This means that 41% of Americans view at least some of their online content through their phones. Examining how to protect this content across platforms can be incredibly confusing considering the extent to which some websites merge their content across platforms.

This issue was touched on in the *New York Times v. Tasini* when a group of freelance authors sued the newspaper for republishing their articles online through LEXIS/NEXIS database because doing so was not in their contracts. They did not consider use of these materials as simple revisions of the work, which publishers are allowed to do under the law (Stim 265). The Supreme Court agreed with the publishers and ruled in 2001 that authors cannot sue if their work is republished in a new media which is meant to be a revision of the original work (Stim 265). The implications of this case are important, because it means that works transferred between media platforms are simply revisions of the original work, and therefore protected under traditional copyright. While this case is relevant to digital media, much of the media environment has changed

in the last six years. The *New York Times v. Tasini* case set an important precedent for authors and publishers. However, the issue of cross-platform media protection is relevant and even more confusing as more media platforms are created for content to spread across.

Consider CNN.com's website. Live stream content from the television broadcasts play online for listeners to consume while surfing the web; photographs from viewers, termed "iReporters" are downloaded to the webpage for others to view; articles written based upon television news stories are available; video, photos and links to other web pages line the homepage. The content on the website comes directly from television broadcasts, other online sources, and the greater public. Websites like CNN.com are layered with multimedia elements to the point where every medium protected by copyright law will be integrated onto one webpage. In turn, all of this content will be available on mobile phones, in print, on television and possibly through podcasts. By spreading content across media, copyright protection becomes much more difficult to interpret. It is my prediction that cross-platform intellectual property protection will be the most important issue in the upcoming years as websites and digital technologies become more complex.

Copyright's Future

Copyright law has a history of reacting to technologies. At each point after these innovations took root, those people involved took steps to change the law to fit the current societies in which they were created. Mechanization of music through player pianos and piano rolls forced copyright lawyers to consider whether a machine's

replication of music infringed on the writers' copyrights; photocopiers forced the law to institutionalize fair use policies; transportation technologies facilitated efficient and surprising mobility of people and ideas around the world. The same phenomenon is occurring online. People across the globe are place their ideas, artwork, and music on the Internet for immediate consumption by anyone with Internet access. Instantaneous consumption benefits those who are able to promote their work with little more effort than a few clicks and a web page; however this spread of ideas is frightening for copyright holders because their works can be placed on any website by the same people. The Internet is forcing, and will continue to force, change in copyright. Copyright law is currently at a stage where future provisions to protect rights online are inevitable, but lawyers are uncertain as to how these rules will be established in the upcoming years.

Some believe that copyright law should be much more open in allowing people to post and play with copyrighted works online. The Internet makes valuable content available to the public for free which many see as a positive, even egalitarian, development. This cohort insists that allowing for the free transmission of ideas is what the original writers of the American Constitution wanted when they wrote that the United States would "promote the progress of science and useful arts." Without looking at previous works, this group states future innovation in science and art is much less likely. Copyright lawyers disagree with this perspective, and even the most open minded in this group believe that the Internet will require more specific provisions to guard copyrighted content.

Jessica Litman surmises that future copyright law will require simplification of these provisions so content will be protected uniformly. She writes that “Making digital reproductions is an unavoidable incident of reading, viewing, listening to, learning from, sharing, improving and revising works embodied in digital media,” therefore, almost inevitably, anyone who uses a computer will violate some copyright he or she does not understand (Litman “Revising” 132). One of the original rhetorical deterrents from wide-reaching Internet copyright policy was that grandmothers would be arrested for downloading content unknowingly. Litman theorizes that simplifying these rules would lead to universal understanding and toleration of copyright policy. Unfortunately, her theory for simplifying such a complex issue with a goal for better protection is legally unlikely, and somewhat counterintuitive.

Paul Goldstein says there are two possible tracks for copyright lawyers to take in the future (188). The first assumes that new technology will continue to emerge at a similar rate as it has done in the past years; as these technologies emerge, lawyers will measure them against historical standards and laws in order to resist the temptation to extend restrictions too heavily on the public. This option is traditional in its ideas, and follows a more conservative legal point of view, meaning that mediums would be judged in the online world the same way their “real world” counterparts have been judged in the past. The traditional option would use all of the copyright legislation passed in the last two hundred years to make decisions on new technologies. As outlined in this paper, technological innovations have overhauled the legal system necessarily; therefore this

option would likely prove to be less effective, and create more problems in the future as new, more confusing technologies arise in the marketplace.

Goldstein's second option would force lawmakers to be more proactive in extending copyright to encompass private uses and copying. Under current copyright law, private and educational uses of copyrighted materials are considered appropriate; public, or for-profit, use of works without getting the author's permission is copyright infringement. This option would fly in the face of "fair use" provisions set up in the 1970s with photocopying trials. It would protect against future copyright infringement. This would upset many who access content without the intention of stealing content. Goldstein does mention that the courts would have to establish exceptions to this rule because Congress would never pass a law which would deny access to all information at all times. However, as Goldstein puts it, "rights delayed are usually rights denied," so these exceptions would be established while the laws were being created and before the laws were passed.

Though copyright theorists have many different viewpoints on how these issues should be attacked, it seems inevitable that international regulations will work in tandem with American copyright regulations. Transportation made the world close, but the Internet has made the world even closer. Ideas from every corner of the world converge online, calling into question the same issues faced when transportation brought translated texts, questions of reprinting abroad and foreign copyright regulations to the bargaining table. The Internet is forcing many of these issues once again, and the only way to solve many of these questions would be through a Berne Convention-like treaty making

Internet regulations universal. International regulations will make the protection of copyrights a worldwide priority. With a platform as complex as the internet, it will also offer all countries the opportunity to propose solutions for protecting their citizens' works abroad.

Conclusion

Needless to say, the future path of copyright is uncertain but changes to the law have been unclear in the past. From the Statute of Anne, which was the first copyright extended to the authors of works, to the Digital Millennium Copyright Act, which protects copyrights online, technology has challenged copyright law consistently into adapting to innovation. Throughout history, developments in the areas of creation, transportation and dissemination of ideas has driven intellectual property. Law makers will need to address some of the current issues in copyright law to ensure this law will continue to protect "progress of science and useful arts" in the years to come.

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