THINKING OUTSIDE THE PANDORA'S BOX: WHY THE DMCA IS UNCONSTITUTIONAL UNDER ARTICLE I §8 OF THE U.S. CONSTITUTION

By Joshua Schwartz[1]

I. INTRODUCTION

A. The Sky Is Not Falling

In 1998 Congress passed the Digital Millennium Copyright Act[2] (DMCA) in response to perceived evils unleashed upon copyright holders by the advent of affordable digital technology which allowed consumers to make perfect serial copies of works encoded in digital media with little difficulty and little cost. A panicked entertainment industry convinced[3] Congress that unlessa new law was passed to prevent this sort of copying, it would be the end of the entertainment industry as we know it. Industry members claimed that without broad protection outlawing new copying technologies, illegal copies would be freely traded with little to no control. They painted a picture of a world where digital copying technology was the evil inside Pandora's Box thatwas starting to get out , and had to be stopped before it was fully unleashed and could never be stopped.

In response to these concerns Congress passed the overly comprehensive DMCA to decisively close the lid on that box, and keep all digital copying technologies locked up, so that new technology would never foster its evil upon the poor and innocent copyright holders. However, in doing so, Congress unleashed a far greater evil, the DMCA itself. The DMCA is an unconstitutional law that violates Article I § 8 of the U.S. Constitution[4],[5] in that (1.) The DMCA

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[2] 17 U.S.C. §1201 et seq. (West 2003).
[3] Witness testimony from the hearings before the U.S. House, *at* http://thomas.loc.gov/cgi-bin/bdquery/z?d105:HR02281:@@@M (April 12, 2004).
[4] U.S. CONST. art. I, §8 cl. 8.
[5] Commonly known as the copyright clause.

allows copyright holders to prevent the public from ever copying a work, which is in direct contravention of the Limited Times[6] provision of that article, and (2.) Hinders the progress of the sciences and useful arts of copying and storage technology which is also in direct contravention of the same section. The DMCA also has the additional effect of shrinking and practically eliminating fair use which is a hallmark of Copyright law, by eliminating many of the innovative technological means by which fair use Copies may be made.

This is not to say that the DMCA goal of stopping infringement should not be strived for. Infringement is wrong; and Congress should take reasonable means to prevent it. However the current version of the DMCA is not the answer to that problem. While this statute has a reasonable stated purpose, the extreme overbroadness of the rule is simply a knee jerk reaction. Because rather than target the small subsection of copying that is infringement, it targets all copying.

Make no mistake about it. Infringement is wrong, and Congress should take reasonable means to prevent it. However the current version of the DMCA is not the answer. While this statute has a reasonable stated purpose, the extreme overbroadness of the rule is simply a knee jerk reaction. The law is overkill.

The DMCA rolls back advancements in fair use that have arisen over the past century. Congress chose to focus on the problems that come with new technology, rather than embrace the fact that new technology also comes with many advantages such as giving citizens access to make fair use copies in a way they never could before. The legislation's attitude reads like 'out with the new, in with the old.' The DMCA takes the mistaken notion that by prohibiting all practical digital copying it puts Pandora's evils back into the box. Opponents of this invidious

[6] Article I § 8 states that 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."

legislation should turn to the courts to strike down this law, since Congress does not appear to be repealing it any time soon. However, when considering legal action, opponents of the DMCA should bear in mind that all previous constitutional challenges to the DMCA have be unsuccessful.

In order to attack the DMCA successfully, future lawsuits should frame the issue clearly and convincingly with the proper litigants.

Litigants must remind the court, that while a less comprehensive statutory system than the DMCA may not perfect, the alternative of trying to stop all copying is not realistic. New innovative copying technologies do have the potential for abuse. If the DMCA is struck down or revised and fair use copying in digital media is restored, some people will find a way to abuse that fair use. However, this does not mean that encouraging innovation in the new technologies, and fair use copying with those technologies are not worthy goals.

There will always be some members of society who will engage in infringing uses. Nonetheless infringers represent a small segment of society. That segment does not justify the sort of panic legislation under which we now live. There is and old adage "if you build a better mousetrap, they will beat a path to your door." There is a variation of that adage if you build a better mousetrap they will build a better mouse", i.e. no matter how good the digital protection, someone will be circumventing it.

Even with the DMCA, and the technological protections that it breathes legal life into, many of those same infringers will still get away with their illicit behavior. The DMCA hinders the development of innovative copying technologies, and digital media storage units (e.g. larger multimedia hard drives, and MP3 and computer video players to name a few), which can be used in a fair use capacity, without succeeding in stopping all infringement.

This paper will address the foregoing issues with respect to the DMCA, primarily in the context of the copyrights of digital media that the act affects now, DVDs[7], and the digital media that it will affect in the near future[8]. With fewer and fewer movies and CDs being released in non digital format each year, where can consumers get audio visual works that do not fall under the DMCA? Except for the most ardent Luddites all will be affected by the overreaching powers of this act.

For the purposes of this paper I have chosen to use the term "Entertainment Producers" to describe copyright holders as well as those actors in the market that actually produce the physical copy of the entertainment product with the two groups often being one and the same.

B. Breakdown of DMCA

The individual sections of the DMCA do not state that they prohibit the act of infringement. Nowhere in the list of "violations" or "additional violations" is something akin to 'If a person without fair use rights in a particular work circumvents technological protections on *that work* and in doing so makes an infringing copy of the work." In fact the act does not require that the work whose protection you circumvented is a work that in and of itself is entitled to copyright protection.

[7] CSS which stands for Content Scrambling System is "... an encryption scheme that employs an algorithm configured by a set of "keys" to encrypt a DVDs contents. The algorithm is a type of mathematical formula for transforming the contents of the movie file into gibberish; the "keys" are in actuality strings of 0's and 1's that serve as values for the mathematical formula. Decryption in the case of CSS requires a set of "player keys" contained in compliant DVD players, as well as an understanding of the CSS encryption algorithm. Without the player keys and the algorithm, a DVD player cannot access the contents of a DVD. With the player keys and the algorithm, a DVD player can display the movie on a television or a computer screen, but does not give a viewer the ability to use the copy function of the computer to copy the movie or to manipulate the digital content of the DVD. …" *Universal City Studios, Inc v. Corley*, 273 F. 3d 429 (2nd Cir. 201), at 436.

[8] Some Compact Discs are already being encoded with copy protection, discussed supra.

As long as a movie studio protects a public domain work with the same technology that they use to protect copyrighted works, then any technology which would allow someone to make a copy of that particular public domain work (from its digital format) would be illegal under the DMCA because that same technology also has the capability to make a copy of "a[9]" work protected by copyright.

This creates a huge incentive for Entertainment Producers to use complex technological safeguards to lock up all of their movies within the public domain. In fact it behooves a studio to re-press movies and CDs with the latest protection just prior to that work's entrance into the public domain. If Entertainment Producers play their cards right, they can actually use the provisions within the DMCA to lock up works that are in the public domain regardless of lower federal court rulings and a statement by the register of copyrights that such locking up cannot occur.

At first glance §1201 reads as if it only covers copying technologies applied to works that are under a copyright, i.e. it seems that you would not be violating the statute if you circumvented the technology used to lock up access to or copying of a work well within the public domain. However, this would be incorrect. The statute is actually much more powerful than that, and *in practice* is neutral with regard to whether the specificwork whose access and copying are locked up, is protected by copyright or not. The language in §1201 actually extends DMCA protection to works unprotected by copyright. Works unprotected by copyright become protected when the technology used to protect them is being used to protect at least one other work that is copyrighted.

[9] 17 U.S.C. §1201(a) Violations Regarding Circumvention of Technological Measures.
(1)(A) No person shall circumvent a technological measure that effectively controls access to **a** work protected under this title…" (West 2000) Emphasis added.

The DMCA uses language that allows a broad interpretation as to what constitutes a banned technology, and a broad interpretation as to all the means in which it is banned from entering the stream of commerce. All three key sections of the DMCA[10][11] addressing this point circumvention technology echo the same basic language. They state that "No person shall [sell or other related entry in the stream of commerce]…any technology that circumvents[ing]**a** technology (or "technological measure") that protects a work (or controls access to a work) protected under this title." The sections use the phrase "a work", not "the work", which connotes that as long as the technological protection is being used to protect at least one work that is copyrightable you cannot traffic in circumvention means that attack that protection.

It is in this regard that the DMCA is out of place with the rest of Title 17. Before now violations of a copyright existed in the form of infringement[12], i.e. you could only violate someone's copyright by infringing upon it. The DMCA adds a completely new class of violation that seems at odds with copyright as a legal principle. You can have a copyright violation even though there is no infringement. The leading DMCA cases did not turn on issues of actual

[10] 17 U.S.C. §§ 1201(a)-(a)(1)(A), (1201)(a)(2)-(a)(2)(A), and 1201(b) et seq.

[11] §1201 in relevant part states: 1201(a) Violations Regarding Circumvention of Technological Measures.
(1)(A) No person shall circumvent a technological measure that effectively controls access to **a** work protected under this title. The prohibition contained in the preceding sentence shall take effect at the end of the 2-year period beginningon the date of the enactment of this chapter.

1201(a)(2) No person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that –
(A) is primarily designed or produced for the purpose of circumventing a technological measure that effectively controls access to a work protected under this title;
(B) has only limited commercially significant purpose or use other than to circumvent a technological measure that effectively controls access to a work protected under this title; or

1201(b) Additional Violations. - (1) No person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that -
(A) is primarily designed or produced for the purpose of circumventing protection afforded by a technological measure that effectively protects a right of a copyright owner under this title in a work or a portion thereof;
(B) has only limited commercially significant purpose or use other than to circumvent protection afforded by a technological measure that effectively protects a right of a copyright owner under this title in a work or a portion thereof; or. (West 2003)

[12] 17 U.S.C. § 501 (West 2003)

infringement at all, rather they tended to be actions for declaratory judgment under the trafficking provisions of the act.

A copyright by its very nature invests its own with some measure of legal right to control the who, what, when, why, and how of copying of their work takes place. The DMCA creates a new type of copyright, without calling this right a copyright. The DMCA creates a pseudo-copyright for works whose original type of copyright (a true copyright under §106, 106A) may not even exist (discussed infra). The DMCA does this by controlling *the means* to make copies. The DMCA prevents trafficking in the technology, the means by which access and copying is achieved to reach *the end*, i.e. a copy. While the end may still be legal, without the means to get there the end becomes meaningless.

By controlling access to the means of copying, the producer of the work in its digital format completely controls whether or not the consumer can actually make a copy. Thus the producer now has the final say as to whether the consumer can exercise their fair use legal rights. The producer completely controls a consumer's ability to use the copyrighted work. The DMCA creates a practically unlimited de facto copyright for Entertainment Producers (DF-Copyright). This *de facto copyright* thatallows them to control copying of the work even though (1) there is no legal infringement of the true copyright that applies to the work, or (2) when the work is not even eligible for a true copyright.

II. CONSTITUTIONALITY OF THE DMCA

A. History of the Constitutional Issues Raised in Copyright Cases

The Supreme Court of the United States has yet to address a case where the legal question at issue implicates the Constitutionality of the DMCA. However the unconstitutionality of the DMCA has been argued unsuccessfully both in the federal district courts and federal

appellate courts[13]. The majority of the constitutional arguments focused on the First Amendments and argued that the DMCA unfairly restrains free speech. As of this date there is no split among the circuits regarding the constitutionality of the act. The lower courts ruled in favor of the Entertainment Producers.

i. Constitutional Issues Raised in the Lower Courts

The charge to convince a federal court of the DMCA's unconstitutionality under First Amendment grounds has been woefully unsuccessful. A likely reason for the lack of success is that, in the past, federal courts, including the Supreme Court have managed to strike a careful balance between Copyright and the First Amendment, ruling whenever possible that copyright statutes do not trample on the First Amendment[14].

Constitutional argument regarding the Limited Times provision with respect to copyright argument has recently been brought before the Supreme Court[15] in a non-DMCA case and also before the lower courts in DMCA cases. In all of those cases, the courts favored constitutionality, and held for the Entertainment Producers.

Luckily for similarly situated future litigants the cases upholding the constitutionality of the DMCA are lower appellate court cases. The Supreme Court has yet to rule on the constitutional validity of the statute.

However, since there doesn't seem to be a split among the circuits as to the First Amendment Constitutionality of the DMCA, and since the First Amendment arguments aren't working in favor of the fair user, it is unlikely that the Supreme Court would grant certiorari in any of those types of cases, and rule against the lower courts on the First Amendment issues. It

[13] *Corley*, and *U.S. v. Elcom Ltd.*, 203 F.Supp.2d 1111, (N.D.Cal., 2002).
[14] *Campbell v. Acuff Rose Music, Inc.* 510 U.S. 576,114 S. Ct 1164 (1994).
[15] *Eldred v. Ashcroft*, 537 U.S. 186, 123 S.Ct. 769 (2003).

is unlikely that any new attacks along these First Amendment lines would meet with any greater success than they have so far.

Therefore, a litigant who wants to get the Supreme Court to take an interest in their case and hopefully hold the DMCA unconstitutional in whole or part must give the Court a new constitutional issue to discern. They must frame a constitutional issue the Supreme Court has not seen or addressed before in the realm of copyright.

For the last 125 years the Supreme Court hasnot declared a federal intellectual property statute unconstitutional. No such ruling has come forth since the time of the time of the Trademark Cases[16]. However, that is not to say that this cannot change or that the federal intellectual property statutes should be held inviolate above all. The Supreme Court exists to interpret the laws and by that very nature discern the constitutional limits of the law.

A logical place to start framing this argument is to look at the patent and copyright clause which sets forth the constitutional mandate for the intellectual property laws, and then contend that the DMCA is unconstitutional because Congress exceeded its authority under thatclause when it enacted the DMCA.

The clause's mandate requires that any laws passed under it promote the sciences. The DMCA is unconstitutional because it is inconsistent with that very mandate. For that matter any statute contrary to that purpose would be unconstitutional. The Patent and Copyright laws share there genesis in that same constitutional clause. That clause makes the same requirements of the laws which stem from it, regardless of whether they are patent or copyright based. In *Festo Corporation, v. Shoketsu Kinzoku Kogyo Kabushiki Co., LTD, et al*[17], Justice Kennedy writing for a unanimous court in interpreting the purpose of the patent laws, stated:

[16] *In re Trade-Mark Cases*, 100 U.S. 82, 10 Otto 82, 25 L.Ed. 550 (U.S.N.Y. Oct Term 1879).
[17] 535 U.S. 722 (2002).

> "The patent laws "promote the Progress of Science and useful Arts" by rewarding innovation with a temporary monopoly. U.S. Const., Art. I, §8, cl. 8. The monopoly is a property right; and like any property right, its boundaries should be clear. This clarity is essential to promote progress, because it enables efficient investment in innovation."

This requires that the laws passed by Congress must "promote the progress of science." The DMCA does not further this purpose. It fails to promote the progress of science and the arts by hindering the development and innovation in digital copying technology, as well as digital storage technology, thus slowing down a particular area of science, in direct contravention of the Patent and Copyright Clause's 'promotion requirement'.

The act further runs afoul of that same Constitutional provision by proscribing and eliminating the means of fair use copying the DMCA which prevents the actual copying of works that are in the public domain. This is unconstitutional because material in the public domain, is by its nature material that is past its "limited times" and cannot be protected. By preventing works from being accessible for fair use once in the public domain Congress has in effect granted an indefinite copyright.

B. Limited Monopoly

The purpose of the limited times provision of Article I §8 and the federal intellectual property laws that stem from it is to strike a perfect balance between the privatization of ideas and their availability to the public. The government grants creators a *limited* monopoly over their idea or invention to encourage them to develop such ideas, with the understanding that the idea will eventually pass into the public domain. Any scheme that frustrates such passage runs contrary to the purpose of the intellectual property scheme[18].

[18] "The monopoly privileges that Congress may authorize are neither unlimited nor primarily designed to provide a special private benefit. Rather, the limited grant is a means by which an important public purpose may be achieved. It is intended to motivate the creative activity of authors and inventors by the provision of a special reward, and to

Under the current scheme perpetrated by the DMCA, the notion of the public domain for works that exist in a protected digital format is a legal fiction. While the work technically may on paper become part of that which belongs to the public the public unfortunately lacks any real means in which to harness the reality of that work being in the public domain, i.e. the work may be public domain, but there are no means by which to access and make a copy of that work.

A scheme which only permits access to lesser technology that only makes an inexact[19], imperfect, and therefore flawed copy of a digital work, is akin to saying that because all photocopiers have the ability to make a clean perfect copy of a copyrighted book, photocopiers could only be manufactured if those photocopiers made grainy low grade qualities or inserted a prominent watermark saying "this is a copy" on all copies made, because photocopiers possess the ability to make a copy of a copyrighted work.

As all media move towards digital formats, the DMCA allows Entertainment Producers to use technology to turn fair use into a legal fiction, by either completely prohibiting copying, or at best imposing low grade copies that may be 'fair' to make but that no one can or would want to practically 'use'. This alone may get the Supreme Court to take a special interest, because drastically restricting fair use this would render all of their opinion in the area of fair use, practically null and void. The Supreme Court will likely have a strong desire to preserve what is some of their strongest jurisprudence in the area of copyright law.

C. Other Constitutional Challenges in Intellectual Property Law

Outside of the First Amendment challenges to the Intellectual Property Laws, the other main areas of challenges to the constitutionality of intellectual property statutes has primarily

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allow the public access to the products of their genius after the limited period of exclusive control has expired." *Sony* at 429.

[19] *321 Studios v. Metro Goldwyn Mayer Studios, Inc., et al.*, Case no C 02-1955 SI, in the United States District Court for the Northern District of California, decided February 19, 2004, at 20.

been addressed in the context of the Supremacy Clause with respect to State Intellectual property rights[20]. This is an area that has been well covered by the courts, and this type of constitutional challenge is inapplicable in a DMCA context at the moment.

D. Who Would be an Ideal Litigant for Challenging the Constitutionality of the DMCA

An ideal litigant or group of litigants would be those parties who develop the science of copying technology, specifically someone who makes legitimate technology that needs to circumvent digital protections so consumers can use that manufacturer's legitimate product. These litigants would be hardware manufacturers, and their related components suppliers, who specialize in developing high capacity storage units[21] for multimedia that is converted from its original format, e.g. Compact Discs (CDs) and Digital Versatile Discs[22] (DVDs). It has long been hypothesized that in the end the major battles regarding the constitutionality of the DMCA would pit the entertainment industry against hardware and software manufacturers because hardware and software manufacturers have the deep pockets to take on the entertainment industry, and they have an incentive to wage this war because it is their pocketbooks that are being hurt by the DMCA. They must make the case that innovation in their industry is being hurt by the DMCA, because the threat of having a technology declared illegal under the act, after millions of dollars are invested in technology, turns the DMCA into the proverbial Sword of Damocles just waiting to fall from their standpoint. They need to argue that the act lowers demand for their products, and that there are not willing to invest as much money in research and development of multimedia technologies in the post DMCA world.

[20] *Bonito Boats, Inc.* v. *Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989).
[21] Devices such as MP3 players with storage capacities in excess of 5 gigabytes.
[22] aka Digital Video Discs.

The Court needs to hear from a new type of disaffected plaintiff. A past history of recent litigation under the DMCA, discussed supra, shows that the major plaintiffs in the litigation to this point have been Entertainment Producers.

E. Whom to target in a litigation campaign[23]

A litigation campaign of this nature with deep pockets on both sides is likely to be fought all the way up to the highest court, so litigants must tailor their strategy with that end goal in mind. They must figure out how to get at least 5 justices on their side, and develop strategies designed to appeal to the Supreme Court justices.

There must be at least one justice who is champing at the bit for the opportunity to write the definitive case setting forth the modern Supreme Court stance on the constitutionality of the federal intellectual property scheme. American Jurisprudence teaches us that no right is absolute and that there are constitutional limits to all areas of the law. Striking down the DMCA provides a unique opportunity for a justice to make his or her mark by defining exactly what those limits are in this area of the law and to be the first justice in over 125 years to write an opinion that there are constitutional limits in this area of the law. A good place to look for that justice is at recent Supreme Court copyright decisions, discussed supra, and make arguments tailored to specific justices likely to be sympathetic to the notion that the DMCA is unconstitutional in its overbreadth. Dissenting Justice's opinions provide good insight into the types of challenges to laws that were discussed during consideration of the case. A good place to look is at the relevant recent case law, such as the dissents of Justices Stevens and Breyer in *Eldred v. Ashcroft*, discussed below.

[23] i.e. which Justices.

III. CURRENT STATUS OF THE LAW

A. The DMCA Threatens to Overturn WellE stablished Case law in *Sony*

If the recent trend[24] of interpreting cases under the DMCA in favor of Entertainment Producers continues this may serve to eventually overturn the landmark ruling in *Sony Corp. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984).

Sony dealt with issues of fair use copying of home of television broadcasts onto video tape cassettes. Sony specifically addressed the technologicalmeans to engage in this fair use. This technology manifested itself in the form of a video tape recorder (VTR)[25], more commonly referred to today as a VCR. The *Sony* opinion states that it is only effective in the *absence of legislative intent* with respect to copying means.

> "In a case like this, in which Congress has not plainly marked our course, we must be circumspect in construing the scope of rights created by a legislative enactment which never contemplated such a calculus of interests"[26]

With the words the "In a case like this, in which Congress has not plainly marked out course"[27] and then the S*ony* court left the door open for Congress to legislatively overrule it. The DMCA is a 'plain marking'. On its face the DMCA seems to specifically address *Sony* since it addresses the copying capabilities of "analog videocassette recorders[28]", mandating that Macrovision®[29] copy protection be integrated into them to deal with illegal copying issues including those relating to digital TV broadcasts.

Even without the above exception, the DMCA is a legislative act, and should theoretically trump the ruling in *Sony*, especially since the DMCA was drafted well after the

[24] Supra.
[25] While *Sony* involved a Betamax machine, Sony referred to both Betamax and VHS machines as VTRs.
[26] *Sony* at 432.
[27] *Sony* at 431.
[28] 17 U.S.C. §1201(k)(1)(A)(i) (West 2003).
[29] Macrovision is a copy guard technology that scrambles a video signal when connected to a recording device.

Sony ruling, and thus likely contemplated *Sony* while it was being drafted. The *Sony* opinion does not claim that its fair use exceptions are constitutionally protected, therefore it would seem that they can be legislated around.

Sony set up certain fair use exceptions which the entertainment industry most likely simply viewed as inconvenient loopholes. The DMCA closes up those loopholes while paying lip service to the fair use relief that was provided by *Sony*.

1. Fair Use Exceptions Under *Sony*

Sony carved out certain exceptions, i.e. loopholes, for fair use, and the DMCA then came along and seems to have carved out *Sony* entirely. *Sony*'s specific elaboration of each exception under the fair use doctrine provided a blueprint to Congress to eliminate those exceptions, when they drafted the DMCA. As a result today's court will be hard pressed to claim Congress has not expressly spoken on this issue.

a. First Exception: Congressional intent did not favor banning copying

The *Sony* court discerned that when Congress addressed the issue of new technology in existence at the time the Sound Recording Act of 1971[30], Congress still did not choose to outlaw home copying. Congress has addressed the issue of piracy with the then existing technology, and did not proscribe home audio or video taping of broadcasts.

The DMCA can be read to close this loophole, in that the DMCA was specifically passed to prevent digital piracy, and that Congress explicitly chose to proscribe entire types of technology. Congress had a chance to speak on the issue of piracy by new technology and unlike the previous act addressed in *Sony*, Congress was not silent on this point.

[30] Sound Recording Act of 1971, 85 Stat. 391 (1971 Amendment).

The Court noted in *Sony*:

> "The judiciary's reluctance to expand the protections afforded by the copyright without explicit legislative intent is a *recurring* theme"[31] (emphasis added)

With the DMCA there is no murky issue of trying to discern Congressional intent. Congressional intent is quite clear in the DMCA.

b. The Key *Sony* Exception: Substantial Non Infringing Use

The *Sony* court then went on to establish the key part of its ruling, which was that as long as a piece of technology had a "substantial non-infringing use"[32] the technology would not be considered to be technology that made the manufacturer a contributory infringer. Allowing this loophole for types of technology protected the ability of manufacturers to scientifically develop new technology that could increase fair use.

The DMCA closes that loophole by eliminating anytrafficking any copying technology that is primarily designed to circumvent a copy protection control for "a" protected work. The DMCA seems to imply that in theory since the technological protection's only true purpose is to stop infringement, technology designed to circumvent that infringement protection could not have a substantial non-infringing purpose. The DMCA makes no exception is made with respect to whether or not the technology would be put to substantially non-infringing uses, or even if it was used exclusively for non-infringing use. This particular loophole closing seems at odds with the rest of the copyright scheme. Even if someone were to traffic in a technology that was careful not to infringe a copyright it would still be illegal under the copyright laws.

Therefore you can be found not liable of infringement under *Sony*, i.e. that there is no copyright infringement by your product, but trafficking it is still illegal. The *Sony*

[31] *Sony* at 431.
[32] *Sony* at 440.

court stated that they need not look at "all of an article's [technology's]"[33] uses. With the DMCA they need not even look at a single one.

The *Sony* court decidedly points out, that the Copyright Act itself (pre DMCA) still gives the copyright owner an "arsenal of remedies" against infringers such as injunctive relief and destruction of infringing copies[34]. The DMCA is a knee jerk reaction that looks right past the available arsenal.

d. Timeshifting

Sony carves out an exception for the timeshifting of TV broadcasts. The DMCA even seems to eliminate this. The DMCA addresses copy controls for broadcast TV and only proscribes two types of copy control. However, the entertainment industry can still use other types of controls (discussed supra) which can eliminate any time shifting at all. While the DMCA does not prohibit timeshifting, itselfit does proscribe circumventing all but two copy controls that would prevent timeshifting of a protected broadcast.

2. Sony can cut both ways

There are some dangers in relying on *Sony's* basic principles to fight the DMCA. Not only did *Sony* leave the door open for later legislative direction in this area, but *Sony* in dicta, also states

> "Repeatedly as new developments have occurred in this country, it has been the Congress that has fashioned the new rules that new technology made necessary."[35]

This unequivocally implies that the Court *then* was willing to defer to Congress with regards to restricting new technologies. How today's court would address that point is uncertain.

[33] *Sony* at 442.
[34] *Sony* at 433.
[35] *Sony* at 430-431.

B. Universal City Studios v. Corley

In *Universal City Studios v. Corley*[36] , a suit brought by eight motion picture studios plaintiffs (and not even one private citizen copyright holder) plaintiffs sued a consumer who cracked the Content Scrambling System for DVDs, and reverse engineered a program that would allow users to play DVDs on systems using the Linux operating system. The Defendant argued that he was specifically exempted by the DMCA exception that allows reverse engineering for computer system interoperability. However the Second Circuit held that this defense was not good enough, because the same technology could be used by a non Linux user to circumvent technological copyright protections. The technology had the *possibility* of being misused with respect to a protected work, so the court held that the technology was proscribed.

The *Corley*'s court's bottom line was that even if technology exists thatmay fall under a DMCA exception but also has the added effect of circumventing a technological measure, then two provisions of the DMCA are in conflict, and preventing the violation under §1201(a) takes priority. If the possibility of a violation always trumps and exception then in reality this nullifies the purpose of the exception existing in the first place. Exceptions in statutes only exist for what would otherwise be a violation of the statute. There should not be any balancing test engaged in by the courts, as to whether the exception is justified. Clearly exceptions are presumptively justified in statutes, or Congress wouldn't insert them in the first place.

The Second Circuit construed the DMCA in a manner consistent with thePandora's Box thinking that led to the DMCA in the first place. The Court wanted to close the box so quickly they even prevented Corley from telling other people how to circumvent, as if knowledge is the word that cannot be spoken, like Rumplestiltskin's name.

[36] 273 F. 3d 429.

Judicial interpretation of this type creates a minimum burden of proof on the part of the entertainment industry, when bringing an action under the DMCA. All substantial uses of the technology, even non-infringing, no matter how beneficial to society can be defeated if there is but one copyrighted work being protected by the measure being circumvented.

C. *321 Studios v. Metro Goldwyn Mayer Studios, Inc., et al*

In *321 Studios v. Metro Goldwyn Mayer Studios, Inc., et al.*[37], a software manufacturer of a product called DVD X-Copy sued for a declaratory judgment that its product did not violate the DMCA. The court in this case held that the product violated the DMCA. The Court quoted the DMCA, specifically 17 U.S.C. §1201(a)(2) and emphasized the word "part". In the Court's estimation, this expansive reading meant that if a much larger piece of technology contains *any* aspect that may be designed for copy protection circumvention then the entire piece of technology is proscribed.

The court then went on to agree with the extreme reasoning from *Corley*, that somehow the right to copy does not guarantee the right to make a good quality copy[38]. The Court quoted that there was no right to make and "optimum copy"[39]. This reasoning in and of itself is flawed because nowhere in Title 17 does it restrict fair use to lesser quality copies, nor logically would a consumer want to make an imperfect copy of their legitimately owned work.

The court also stated that fair use was not hindered by the DMCA because non digital copying means were available. Here it seemed that the Court misunderstood the reality of non-digital copies. Not only are non digital copies of DVDs not "optimum" they are downright awful. The only non digital methods available are either:

[37] Case no C 02-1955 SI, in the United States District Court for the Northern District of California, decided February 19, 2004.
[38] The Court at 19, citing *Corley* at 459.
[39] Id.

(1) making a copy which is automatically altered by the automatic gain copy control on a DVDs which causes a constant brightness fluctuation in the picture, much like someone sitting in front of an older television, and moving the knob from one extreme to the other non stop. Or

(2) place a video camera in front of the TV and tape what is being broadcast. That creates a copy with a great deal of glare and distortion in the final product.

Another hypothetical option for fair use according to the Court was for consumers to acquire non-CSS encrypted DVD versions of a movie or non digital versions of the work, such as videotapes. However, the reality is that most new movies are not being released on VHS, because DVD players enjoy a great deal of market penetration, and DVD sales are in far higher demand. DVDs made up almost ½ of the 800 million units of entertainment recordings shipped last year alone[40]. The comment about consumers acquiring access to non-CSS encrypted DVDs of movies conjures up memories of the movie "My Cousin Vinny", when Joe Pesci (Vinny) is questioning Maury Chaykin about his grits which based on his testimony must have cooked at an alarming rate[41].

With all due respect to the 321 court such unencrypted copies of DVDs are not available to the average consumer, nor should a consumer be required to pay foranother copy of the work.

How does that solution allow you to make a fair use copy of the work you've *already bought?* Fair use means that you have a right to make a copy of what you already paid for, not the right to copy something else for a fee. In theory there exist non-CSS encrypted versions,

[40] *The Recording Industry Association of America's 2003 Yearend Statistics, at* http://www.riaa.com/news/newsletter/pdf/2003yearEnd.pdf (March 15, 2004).
[41] "[Would I] get this [Non-CSS encrypted DVD] from the same guy who sold Jack his Magic Beans?"

such as Master recording copies, but they are held by the Entertainment Producers, and it is unlikely that they will provide a copy on request to everyone who wants to make a fair use copy.

Judge Illston, much like Judge Whyte in *Remeirdes*, and the Second Circuit reviewing Judge Whyte in *Corley*, clings to the legal fiction that somehow the DMCA struck a balance with the public by protecting fair use.

D. *Eldred v. Ashcroft*,

On January 15, 2003, the Supreme Court of the United States decided the case of *Eldred v. Ashcroft*, which addressed the Bono Amendment to title 17, also known as the 1998 Copyright Term Extension Act (CTEA) which extended by 20 yearscopyright term s for existing copyrights. Opponents attacked the amendment on the grounds it was unconstitutional because it exceeded Congress's authority under the limited times provision of Article I §8 of the Constitution. This case, the first major copyright case heard by the Supreme Court since the enactment of the DMCA, shed light on how the High Court might interpret the fair use issue in the post DMCA world. In *Eldred*, the high court deferred to recent legislative changes to the scheme of copyright law that were specifically designed to address the changing technologies at play. Justice Ginsburg writing for a 7-2 majority stated:

> "In addition to international concerns, Congress passed the CTEA in light of demographic, economic, and technological changes, Brief for Respondent 25–26, 33, and nn. 23 and 24,14 and rationally credited projections that longer terms would encourage copyright holders to invest in the restoration and public distribution of their works, *id.*, at 34–37; see H. R. Rep. No. 105–452, p. 4 (1998) (term extension "provide[s] copyright owners generally with the incentive to restore older works and further disseminate them to the public"). In sum, we find that the CTEA is a rational enactment; we are not at liberty to second-guess Congressional determinations and policy judgments of this order, *however debatable or arguably unwise they may be*. Accordingly, we cannot conclude that the CTEA which continues the unbroken Congressional practice of treating future

> and existing copyrights in parity for term extension purposes is an impermissible exercise of Congress' power under the Copyright Clause."[42] (Emphasis added)

1. Justice Stevens's Dissent

Justice Stevens and Breyer dissented. Justice Stevens dissented on the grounds that Congress could not create a statute that gave creators a greater right without quid pro quo giving something back to the public in exchange[43]. He further stated that copyright fair use has always been a balancing between competing private and public interests, and in the case of the CTEA (and the DMCA) more weight was given to the private side, without giving something of equal value to the public in return, in order to maintain the balance. Justice Stevens's dissent quoted *Graham* v. *John Deere*[44],[45] for the principle that Congress may not grant patents which would take away creative material properly in the public domain. As patents and copyrights share their genesis in the same constitutional clause, this reasoning should apply to copyright as well, and thus the DMCA would be unconstitutional under this reasoning as it restricts copy of public domain works.

Justice Stevens's reasoning should be looked at for any litigation campaign because the majority does not so much disagree with his general statements about intellectual property law, so much as they simply do not believe that the situation Stevens decries, occurred in Eldred. The majority, inter quoted from Graham v. John Deere.

2. Justice Breyer's Dissent

Justice Breyer set forth a blueprint for what he would consider a proper litigation campaign to challenge the constitutionality of a copyright statute.

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[42] *Eldred* at 778.
[43] *Eldred* at 795.
[44] Eldred at 14.
[45] *Graham v. John Deere Co.*,383 U.S. 1 (1966).

> Thus, I would find that the statute lacks the constitution-ally necessary rational support (1) if the significant benefits that it bestows are private, not public; (2) if it threatens seriously to undermine the expressive values that the Copyright Clause embodies; and (3) if it cannot find justification in any significant Clause-related objective. Where, after examination of the statute, it becomes diffi-cult, if not impossible, even to dispute these characterizations, Congress' "choice is clearly wrong." *Helvering* v. *Davis,* 301 U. S. 619, 640 (1937).[46]

He felt that in the context of the DMCA, movie studios would seem hard pressed to explain any publicbenefits of the DMCA, and that the balance is not heavily shifted in favor of private interests. Locking up fair use means runs afoul of the second prong of his test. Taking away all copying means for a medium doesn't seem to serve the purposes of the clause.

E. *Dastar*

Some hope can be found in the Supreme Court's holding in the recent *Dastar Corp. v. Twentieth Century Fox Film*[47], decision. In *Dastar* the Court addressed the issue of what is the legal effect of using one intellectual property statute to prevent copying of a work, which has passed into the public domain pursuant to another statute, and a copy is made? A unanimous[48] Court stated that "A statutory interpretation that renders another statute superfluous is of course to be avoided", i.e. if copying is allowed under one statute, another statute cannot be used to prevent the logical application of the first statute. This case seems to bolster the idea that the sections of the DMCA that prevent fair use copying, and the copying of public domain works are working to render §§106 and 107 superfluous.

F. *RIAA v. Diamond Multimedia Systems Inc.*[49]

In *Diamond* the Recoding Industry Association of America (RIAA) sued for a preliminary injunction to enjoin sales of the Diamond Rio MP3 player on the grounds that sale of

[46] *Eldred* at 802.
[47] 539 U.S. 23,123 S.Ct. 2041 (2003).
[48] The vote was 8-0. "Justice Breyer took no part in the consideration or decision of the case." *Dastar* at *2050.*
[49] 180 F. 3d 1072, 9th Cir (1999).

the device was in violation of the Audio Home Recording Act of 1992[50] (AHRA), because the player did not use Serial Copyright Management Technology. The trial court found in favor of Diamond on the grounds that the RIAA was unlikely to prove likelihood of success on the merits in the underlying action. This ruling was upheld on appeal. The Ninth Circuit stated that the player was not a digital recording device within the meaning of the statute[51]. The devices proscribed by the statute were devices that could copy transmissions to multiple copies in a tangible medium form, e.g. a digital audio cassette. The Court further held that the AHRA did not apply because as defined under the statute the player did not record from digital music recordings or transmissions[52]. The Court also focused on exceptions to the definitions that expressly named computer hard drives[53],[54] which in that case was where the player copied music from. Since the hard drives were not covered under the AHRA, copies from them were not within the jurisdiction of the statute either.

The Court also went on to note that the purpose of the AHRA was "to ensure the right of consumers to make analog or digital audio recordings of copyrighted music for their *private noncommercial use."*[55]

This case sets precedent for the defense of "Space Shifting" [56] as a fair use similar to timeshifting from *Sony*. Here the consumer has a fair right use to make a copy to recordings that did not come from transmissions, and are from works that the consumer has a non-infringing copy of to being with.

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[50] 17 U.S.C. §1001 et seq.
[51] originally meant to apply to Digital Audio Tape Recorders, aka DAT's.
[52] *Diamond* at 1076.
[53] Id.
[54] Most of the current higher end MP3 players today are hard drives themselves, though this doesn't give any extra specific protection or exemption from jurisdiction under the DMCA.
[55] *Diamond* at 1079 quoting S. Rep. 102-294 at 86.
[56] (Corrected) Memorandum of Points and Authorities of Amici Curiae [Law Professors], at 11, United States of America v. Elcom, Ltd. (N.D. California. 2002) (No, CR- 01-20138 RMW), Filed February 6,2002.

G. *Lexmark v. Static Control*[57]

Lexmark v. Static Control, however, shows that many (bad faith) hardware manufactures may get more economic benefit out of the abuse of the DMCA, than they lose from it.

This case seemed to closer to the lines of the prophesized showdown between the deep pockets of the hardware and software industry versus the Entertainment Industry, except the Entertainment Industry is not a party to this action.

In, this case, Lexmark[58], a manufacturer of computer printers and computer printer cartridges sued Static Control, an independent reconditioner of printer cartridges for alleged infringement of Lexmark's copyrights as well as DMCA violations of circumvention of Lexmark's access and copying control measures to protect their copyrighted material.

The copyrighted expression at issue is a very small amount of computer code written on a small computer chip that resides within the Lexmark chip. The program at issue was an access control used to facilitate a "handshake"[59] between the printer cartridge and the printer itself. This program served little to no purpose other than to let the printer know that it was using a Lexmark branded cartridge, and prevent the consumer from using a competitor's cartridge. The program itself that performed the handshake between the printer and the cartridge was nothing more than a simple linear equation[60]. When the cartridge is used up its chip burns itself out to prevent the cartridge from being refilled and reused.

Static Control is in the business of reconditioning printer cartridges, and selling them at a lower price than the original equipment manufacturer. They are a direct competitor of Lexmark

[57] 253 F. Supp. 2d. 943, (E.D. Kentucky. 2003).
[58] Formerly and IBM company spun off in he late 1980's.
[59] *Real Networks, Inc. v. Streambox, Inc.*, 2000 WL 127311(W.D. Wash 2000).
[60] y=mx +b format, which itself raised questions about how effective an access control has to be to qualify under the DMCA. The Court also seemed to ignore basic tenets of the function v. expression dichotomy, and held that this simple program was expression.

in cartridge sales. They took apart and reverse engineered Lexmark chips to be able to copy the handshake technology. They then copied the tiny program and placed it on a new chip on the refilled and reconditioned cartridge. They then sold their reconditioned cartridges with a chip that circumvented the unnecessary access control on the chip. Lexmark sued Static Control for a preliminary injunction to stop the sales of those cartridges and prevailed. The case is currently pending on appeal in the Sixth circuit.

Lexmark has so far succeeded in using the DMCA to engage in what would otherwise be an illegal tying of good under the antitrust laws, specifically §3 of the Clayton Act[61]. This is copyright misuse and feels like nothing more than the copyright equivalent of the Morton Salt case.

In theory this line of reasoning could be used to force consumers to by all sorts of tied branded products. A Gateway® computer system, can be designed so that consumers need to buy a Gateway monitor and Gateway printer because they are the only ones who will handshake with the Gateway computer to allow you see the small portion of your computer (outside of your operating system and other software) that is Gateway's expression in the operation of your computer. Consumers would be forced to buy the whole package. In a non computer context it is akin to a consumer buying a *Sony* TV and if they want to watch DVDs having to buy a Sony DVD player because only they will talk to each other.

If *Static Control* stands it will serve as a blow to competition in many fields. Since competition leads to innovation, this means that if this case is upheld on appeal, the DMCA will cut a wide swath across many industries hindering innovation in them. This case highlights how the DMCA can be used and abused beyond even its original incorrect intent. The DMCA will not only eviscerate fair use, but antitrust as well.

[61] 15 U.S.C. §14 (West 2002).

By allowing the DMCA to be used to establish a trust in what would otherwise be technology that would not be protected from competition under the intellectual property laws, Congress has allowed individuals and companies acting in bad faith to restrain the ability of competitors to sell competing technologies. Competition drives competitors to offer better products at lower prices. This leads to innovation so that one competitor can outshine the other. This is the purpose of the antitrust laws. Without the right to compete no one will invest money to make a better product than the original. Without competition, the original becomes the only source, and there is no need to innovate because they dominate that market.

The DMCA provides for proscribing the selling of a better yet similar product, if the bad faith competitor can somehow tie a copyright purpose into the original product, even when such copyright purpose is not needed.

H. Relevant Legislative History

1. The Senate Report

The Committee reports on the DMCA in both the House and Senate help provide insight into how the DMCA is overbroad even in terms of its stated purpose. In the Senate Report the Senate stated that this act's independent purpose and other purpose of implementing terms of the WIPO agreement was to address the serious problem of mass infringement that could be perpetrated by mass distribution of infringing copies across the *internet* and other high speed networks which provided the ability for such mass dissemination. The Senate stated:

> "Due to the ease with which digital works can be copied and distributed worldwide virtually instantaneously, copyright owners will hesitate to make their works readily available on the Internet without reasonable assurance that they will be protected against massive *piracy*. Legislation implementing the treaties provides this protection and creates the legal platform for launching the global digital on-line marketplace for copyrighted works. It will facilitate

> making available quickly and conveniently via the Internet the movies, music, software, and literary works that are the fruit of American creative genius. It will also encourage the continued growth of the existing off-line global marketplace for copyrighted works in digital format by setting strong international copyright standards."[62] (emphasis added)

Yet the DMCA on its face doesn't really speak to preventing copying or distribution at the network level. In fact §1201 is silent as to copying circumvention or access in any network or internet context. It wholesale bans all copying that circumvent access or copy control technology regardless of whether or not the copies are ever distributed via a high speed network, let alone even copied with that intent to begin with. The act is clearly broader than its stated purpose. The Act burdens more copying than just that which the Senate felt was at issue for serious infringement.

Furthermore this theme is repeated in the committee report with regard to the act's implementation of the WIPO treaty.

> "The WIPO treaties contain many important provisions. For example, the Copyright Treaty contains significant provisions such as: (1) explicit recognition that computer programs are covered by the Berne Convention; (2) recognition of a broad right of public distribution; (3) recognition of a broad right of communication to the public that includes the Internet; (4) an official statement that interprets the existing reproduction right of the Berne Convention to ''fully apply in the digital environment''; 16 (5) an obligation to provide ''legal protection and effective legal remedies'' against circumventing technological measures, e.g. encryption and password protection, that are used by copyright owners **to protect their works from *piracy***; 17 and (6) an obligation to provide ''adequate and effective legal remedies'' to preserve the integrity of ''rights management information.'' 18 The Performances and Phonograms Treaty recognizes certain rights of performers over their performances and basically gives the copyright owners of sound recordings the same protection for their works as exist in the Berne Convention for other works."[63] (emphasis added)

[62] Senate Report No. 105-190 (1998) at 8.
[63] Id at 10-11.

Piracy is by its very nature infringement. Black's Law defines "piracy"[64] in the copyright context as "The term is also applied to the illegal reprinting or reproduction of copyrighted matter or to unlawful plagiarism from it; and, similarly, to the unlawful reproduction or distribution of property protected by patent and trademark laws. See also Infringement; Plagiarism."

Since anti-circumvention wasn't illegal in the US at the time of WIPO, how could it fall under the aegis of "piracy"

This Senate record will allow a reviewing court to ask the following rhetorical questions during a Constitutional challenge of the DMCA. Why is the law drafted in a way to prevent more than piracy, if stopping piracy was all that was required by statute? While the DMCA makes circumvention illegal, and therefore after the DMCA circumventing those copying measures would now qualify as piracy, piracy could not have meant that *prior to the DMCA*, so how could the act have been directed at a definition of piracy that didn't exist when the word was negotiated for in the WIPO treaty?

The act states that it wants to prevent "piracy" both as general principle and to comply with WIPO but the act is <u>not</u> crafted in a way directed to piracy as it was understood to be defined at the time the DMCA was enacted. Rather the act broadly prevents whole classes of copying. In fact the word piracy is conspicuously absent from the statute. If the purpose was to curtail internet piracy then the law is overbroad.

<u>2. The House Report</u>

An oft quoted part of the House report that arises in many of the leading cases on the DMCA is:

[64] BLACK'S LAW DICTIONARY 1148 (6th ed. 1990).

> "The act of neutralizing a technological protection measure by a copyright holder to control access to the work is the electronically equivalent of entering unlawfully inside a locked room with the goal to obtain a copy of the book[65]

While this analogy may be on point for circumvention when it is used to infringe, this analogy falls well short of the mark with regard to circumvention to make a fair use copy. Fair use by its very nature means that no one is entering unlawfully. A more appropriate analogy would be: the act of circumventing a copy or access control for a fair use is like removing a padlock that a private citizen has arbitrarily or capriciously put on the entrance to a public park.

In mid September 1996 the House Committee on the Judiciary held hearings on what would become the DMCA, and heard from 23 non government witnesses[66], 15 of whom had interests aligned with the Entertainment Industry's desire to enact 1201(a) and 1201(b).While the House Committee heard from one witness, Christopher Byrne , Director of Intellectual Property for Silicon Graphics, Inc, as to how the Act would hinder innovation in the industry, both parts of the House report are conspicuously silent as to whether the Act will hinder or foster innovation.

Interestingly the Senate report speaks briefly to innovation, but only in the context that the DMCA will likely foster innovation in reverse engineering technology security technology. However, the report is deafly silent as to the act's hindrance of other innovation.

IV. THE DMCA IS BEATING DOWN YOUR DOOR

The DMCA's effects will soon be felt in the home, because within a few years time the DMCA can soon be used to prevent the home recording of television programming. High Definition Television (HDTV), a digital broadcast signal, is a reality in many markets. Gone are

[65] House Report 105-551(1998) at 17.
[66] The government witnesses were Bruce Lehman the Assistant Secretary of Commerce and Commissioner of Patents and Trademarks, and Marybeth Peters, Register of Copyrights.

the analog television signals addressed in *Sony*. Now we are dealing with digital signals being brought into the home, and digital is expressly covered under the DMCA. The American populace doesn't even have the option of clinging to the old technology. Congress is forcing HDTV on them. Even broadcast antenna TV will have to switch to HDTV format before the decade's end. We are also seeing the introduction of home digital recorders such as digital VHS, DVD-R, and TiVo, which allow the user to make perfect digital copies of broadcasts. Once HDTV is in a household with a digital recorder, home consumers will be able to make perfect copies of digital broadcasts. This is problematic because people will want to continue to record television shows and will do so with their digital recorders. However, digital broadcasts are covered under the DMCA, and it can be interpreted to expressly prohibit the time shifted home copying of digital TV broadcasts even when entirely for private use. If this is what the Entertainment Producers fear, and the DMCA is its best weapon to stop that.

The DMCA allows Entertainment Producers to do this in a variety of ways. §1201(k)(2) of the DMCA only prevents two types of copy control from being applied to broadcast television signals, automatic gain control and colorstripe copy control[67]. No other types of copy or access control are prohibited by statute, and under the statutory construction rule of the maxim *expressio unius est exclusio alterius*, that the expression of one thing is the exclusion of the other, aids in determining legislative intent, this means that a Court would have to read into the DMCA that the right to use other types of copy control were authorized by Congress for broadcast digital TV.

Other types of controls that could be used would be to embed the broadcast signal with time expiration so that whatever you copy to a digital recorder expires and erases from the

[67] The technical explanation of how these controls work is described later on in this paper. At this time it is enough to know that these technologies function by allowing the original source or broadcast to be viewed normally, but when copied, emit a distortion signal that severely degrades the picture quality of the copy.

recorder after a certain amount of time, or embed code that locks out the output jacks on the digital recorder, so that the TV broadcast can never be memorialized in another format.

An in depth discussion of what types of technology (that don't exist yet) that can be used simply requires using one's imagination, and I don't doubt that Entertainment Producers will have much trouble coming up with a system to protect their shows.

Using the DMCA to stop this would not even be that difficult. All the networks and studios have to do is place any kind of copying protection on their HDTV broadcasts. The DMCA does not define how good the protection must be, or that it is even be effective, just that there be some copy safeguard means.

How much of a reality is that scenario? We are currently seeing a surge in DVD sales, including box sets of popular television shows, both in rerun syndication as well as shows that are still currently in first run production, e.g. The Simpsons, The Sopranos, Friends, and even American Idol. If home consumers can make digital copies of these shows when they air, there would be no need to ever buy these box sets after the fact. Therefore there is a large incentive for the recording industry to take steps to make sure the average consumer can't make digital copies of the shows at home, thus nullifying the need to ever buy the box set.

This scenario could happen as there is more money involved in the sale of pre-recorded media, than in the sale of the home recording equipment.

Even if the DMCA does not trump *Sony*, as opponents of the DMCA advocate, it can be argued that *Sony* would still have little effect on the DMCA as the DMCA encompasses digital technology used for recording purposes, and *Sony* would still be good case law, but only with respect to VCRs, and that would not matter since the industry is not concerned about non-perfect analog copies.

The question of whether or not the DMCA will prevent VCR copying may very well be academic in that in 5-10 years most VHS VCRs wll likely become obsolete. VHS VCR sales are dwindling.

While it may seem like a stretch to say that courts would interpret the DMCA to ban all home video recording in the wake of HDTV, it is not unrealistic to presume that the entertainment industry will present that case, or that current law would prevent a court from ruling in their favor. The DMCA is currently being used to parties in ways the DMCA was never intended for[68].

V. HINDERING OF TECH

A. Digital is Here to Stay So We Need to Guarantee a Way to Work with the New Media, Not Hinder It.

Make no mistake about it; practically all media are going digital. DVDs are currently taking advantage of the fact that they can not be fair use copied. Similar copy protections are beginning to arise on CDs being sold in Europe[69] and are likely not far behind in the United States. That means that most if not all copyrighted materials[70] will soon be embodied solely in a digital format, and thus will be able to be locked up by technological means. As of March 2002, there were 5 different types of copy controls available for CDs[71]. The DMCA is going to restrict if not totally eliminate all copying of popular entertainment, and as a result restrict and hinder the development of any technologies that would allow any sort of copying including fair use, i.e. the DMCA is going to hinder the progress of science in the art of mass storage and copying technology.

[68] *Static Control*, infra.
[69] Stephen A. Booth, *Access Denied!*, Sound and Vision Magazine, March 2002.
[70] With the likely exception of print media.
[71] Id.

This runs afoul of Article I §8 of the Constitution. It is important to note that the clause says that laws empowered by that section must promote "progress." That means that laws that do not *promote* progress would be unconstitutional under this section. Scientific innovation is clearly progress. Bear in mind that a statute need not stop all innovation, simply hindering innovation hurts progress, and clearly does not promote it. As will be discussed further the DMCA is unconstitutional if for no other reason than it hinders progress and innovation.

B. Overbroadness of the Act

The Act is overly broad in that it even blatantly prevents the development of copying technologies that would not infringe copyrights. No exception is made for technology that has guards against infringement or is incapable of any infringement whatsoever. These technologies are not given a chance to develop in the shadow of the DMCA.

If someone were to develop a technology that enabled a user to copy only up to 40% of a digital work, or sample the audio from a DVD, or better yet make a copying program that had a database of works that had passed into the public domain, accessed the digital ID[72] of the work you wanted to copy, examined the original date of publication of the work, and let you copy the original part of the work itself[73] this technology would still be illegal under the DMCA because the act only looks at circumvention of the technology, not whether the technology has a substantial legitimate purpose for consumers who have a right to copy the underlying work.

This type of Databasing technology is possible, and is becoming a reality. Currently RCA is selling a DVD player that can edit out violence and profanity from DVD movies[74]. The

[72] Much in the same way many Windows based media players access databases when you load an Audio CD to identify the album you are playing and downloads the track information.
[73] In the context of a DVD movie in the public domain you would only have a right to the movie itself and not the menu features or bonus, as these would be new material subject to their own new copyright.
[74] Gary Gentile, *The Good Parts*, Express, April 19, 2004, page 20.

player accesses a database to retrieve the relevant information for a given movie so it knows what to edit. It would not be hard to add basic copyright information about a movie into the other information provided for that movie. The technology could likely be modified to address fair use rights for copyrighted works. This would help to provide a balance of the private versus public rights. However, under the DMCA there is no incentive to even develop a fair use copying technology, because the ability to copy is a fatal flaw, regardless of the technologies other uses. The DMCA should be declared unconstitutional because it hinders the development of more technology than is reasonable, without looking to alternative technological measures that would hinder far less innovation.

As fair use has been looked at as the copyright equivalent of the First Amendment, the Supreme Court needs to read a requirement of fair use inherent in the Patent and Copyright Clause and then engage in a similar analysis similar to that of its First Amendment cases, and strike down as unconstitutional any law that burdens more f air use than necessary, or a copyright statute that burdens more of the public's interest in the copyrighted material than is necessary is unconstitutional.

C. How a law like the DMCA if enacted previously would have hindered development that has benefited society.

While it is not entirely possible to look into the future and discern exactly how it will affect current technology, it is possible to use the 20/20 ability of hindsight to gauge how a law like the DMCA would have affected the development of older copying technologies.

Imagine if at the time of the development of the photocopier, that publishing companies had managed to pass a law that still 'guaranteed'fair use, but outlawed any photocopying technologies.

If that was the case, then photocopying technology would not have developed at as fast a rate as it did, would not have become as economical as fast as it did, and better technologies would have developed more slowly e.g. zoom enlargement and duplexing.

D. Photocopying would not have become as affordable as it has to this point

The cost of an item is determined by simple supply and demand. The cost of photocopying, as well as the cost of the photocopier itself has dropped in price over time, because the ability (lack of a legal restriction) to make more copiers has guaranteed that there was the ability to make more supply, and that such supply actually existed.

As supply increases, the price per unit drops. As this occurs it encourages manufactures to find ways to make better units at a lower cost to increase their profits. This also leads to manufacturers trying to pack in more features to be competitive, to get consumers to buy their technology instead of one of their competitors. This encourages manufactures to come up with better features and new technologies. Innovation occurs within the industry with trying to find a way to make the staple item cheaper, and making it better.

Personal copiers have been available at office supply stores for over 16 years. In that time the price of these units has dropped from upwards of $500 for a basic one-sheet-at-a-time unit down to $50-$100, and even cheaper if a consumer wants to use the photocopying feature of a cheap fax machine. These cheaper units also have features that were not available on the older units, such as zoom, autofeeders, page duplexing, multiples copies, etc…

It is a reasonable inference that the development of photocopying technology led to the development of related technologies such as computer scanners and its progeny, optical character recognition technology. The absence of any meaningful legal restriction on the development of photocopying technology allowed the progress of the science of photocopying. The lack of

restriction gave an incentive to manufacturers to develop and exploit this technology to its full economic extent and to the benefit of the consumer.

It is safe to say that if such restrictions existed, these technologies would not be available to the public today at their current state of advancement and their low price, if at all.

The availability of these technologies not only allows greater access of the public to make fair use copies of others works, but also allows easier entry into the self publication market.

E. Specific types of Technology hindered by the DMCA

1. High Capacity Multimedia Content Players

The types of technology most directly hindered by the DMCA are obviously the copying technology on its face, and more importantly technology that allows mass storage and archival of entertainment material that a consumer *already owns a legitimate copy of*. These High Capacity (multimedia) Content Players (HCCPs) fall within the realm of MP3 players that utilize a hard drive to increase their capacity, such as the Apple iPod®, which is just one of many such devices available. Devices such as these, allow a consumer to convert their entertainment material to a different format and store it in a *smaller* format.

Shrinking and efficiency has always been a logical product of the progress of science in any technical art form. To paraphrase the Six Million Dollar Man: we can make it faster, stronger, better than it was before" science always wants to improve itself, and economics dictates that it reduce its cost.

Prior to a device like the iPod, a user who wanted to travel and listen to their music had to carry a portable player of some sort, and carry their compact discs with them. The space taken up by a player and some 20 Compact Disc was equivalent to that of a small shoe box. There is no doubt that portable entertainment is a huge industry in this country, and an integral part of the

travel of many consumers. Innovation in HCCPs brought new efficiency in this area. The MP3 computer file led to the development of the basic portable MP3 player, which led to HCCPs.

With the advent of HCCPs, which in one device incorporates both the player and the ability to store music, a user can condense a music collection of some 500 CDs down to the size of a deck of playing cards. HCCPs are a light years advancement for a staple article of commerce, the portable music player. Until you've tried one, you can't truly appreciate what a marvelous innovation this type of technology is. The ability to have your legitimate music on hand at any time is an amazing convenience, much the same way that the instant track access feature of a CD was a vast improvement over the cassette tape.

2. New Formats and their Associated Hardware Drives Innovation

In a sense this technology drives a new format. As LP's gave way to 8-track, which gave way to tapes, which gave way to CDs, then raw computer files of the entertainment. The mass storage device to contain those files is the next format. Mass storage devices are clearly a more efficient way to store and travel with one's music.

The fast paced innovation in this area is reflected by the vast diversity of players available, and the fact that the iPod, one of the most popular players is on its third generation less than two years after hitting the market, and in that time has multiplied its storage capacity tenfold[75]. In July and August of 2003, this innovative new device was the number one selling MP3 player[76].

This sort of fast paced innovation, a tenfold increase in two years, outstrips the normal innovation posited by Moore's law that states that data density due will double approximately

[75]. Rob Walker, *The Guts of a New Machine*, NEW YORK TIMES, NOVEMBER 30, 2003, SECTION 6, PAGE 78. The original iPod held approximately 1,000 songs. The current high capacity unit holds approximately 10,000 songs.
[76] Id.

every 18 months[77]. Moore's law generally speaks more to the data density of integrated circuits. Granted the capacity of HCCPs is more a factor of miniaturization of hard drives than chip capacity, yet still on the average hard drive capacity has not progressed at a ten-fold rate over the last few years. Today's average hard drives in the $150 price range are not close to ten times larger than a similarly priced hard drive two years ago.

The advent of MP3 players drove innovation in the area of the miniaturization of hard drives and mass storage devices, an area that had lain fallow for many years despite the best efforts of industry giants like IOMEGA® to foster sales in that area[78].

We are also seeing MP3 players in the form of standalone stereo components for high end stereophiles, as the MP3 format gives them a chance to collect their entire catalog of music in one home component. Logically as the format continues to grow innovation will likely address some of the MP3 issues, such as retaining more of the sound quality that is lost when audio files are converted to MP3.

HCCPs run into other DMCA problems in that a user, who converts their collection to a format for storage on an HCCP, would want to backup their converted media files the majority of the time. HCCPs work by having the user take an original source music format such as a CD and place that original source in the user's CD-ROM drive on their PC and then copy the music to a hard drive. The user then synchronizes the HCCP with their PC to transfer and update files. Current technology takes about 10 minutes to convert a standard 70 minute CD to MP3 format. For a user with approximately 300 CDs it would take approximately 50 straight hours of conversion work. If the DMCA prevents technology to back up that hard drive and anything were to happen to the hard drive where the converted files reside, the user would have to redo

[77] http://www.webopedia.com/TERM/M/Moores_Law.html.
[78] The IOMEGA Zip Disk, Jaz Drive, and Click Miniature drive never really caught on with consumers to replace floppy drives, or any other drives for that matter.

those 50 hours of work just to get their music back into a format where it can be put back on to the HCCP to resynchronize it. Any user, who had invested this sort of time, would obviously want to take steps to avoid having to repeat their work.

Currently the DMCA does not prevent a consumer from copying their own CDs to an MP3 player for their own enjoyment. However, once CDs are encoded with protection technology that prevents this, then circumventing that technology to put them onto an MP3 player will constitute a violation.

It seems like the next logical progressions in this scientific art would be to make better higher capacity MP3 players at cheaper prices, and to develop some sort of tech that allows users to compress and backup those music files for migration to a variety of devices, such as the user's car stereo, or home playback units.

3. There are current Mass storage devices that exist in derogation of the DMCA

A company called Archos SA[79] currently manufactures a video equivalent of an iPod called the AV100 which allows a consumer to record to the unit a video signal from any number of devices[80], including a DVD player. The player circumvents the CSS copy protection software used to protect DVDs, by essentially ignoring the copy protection code[81].

The Archos unit can store up to about 320 hours of video, which is about 200 or so movies. The unit obviously has the same practical purpose as an iPod in that it can allow a consumer to store their entire catalog of video content in one unit. It can also allow a consumer to travel with some of their movies without having to deal with the cumbersome task of carrying a portable (read expensive) DVD player or a laptop with DVD capability. 6 more units of this

[79] http://www.archos.com/products/av300_series.html (March 29, 2004).
[80] The unit will also take a feed from a video camera, a TV with an output signal, or a personal computer.
[81] *Device for DVD Movie Raises Legal Issue*,(January 7, 2004), *at* http://money.cnn.com/2004/01/07/hand.held_device.dj/index.htm.

type from different manufacturers are supposed to be available by year's end[82]. However if units of this type are found to be proscribed by the DMCA we can expect them to go the way of the eBook reader, one of the first digital dodos.

The unit has plenty of non-infringing usesand tremendous business potential. The possibility of the home user being able to store their entire video collection in one standalone unit would save a tremendous amount of storage space. It allows consumers who put on business presentations to make a video grade backup copy of PowerPoint® presentations in a video format in case they don't have computer access or there is a computer malfunction at the site where they have to make their presentation.

4. Prohibiting the software also prevents fair use and hinders innovation

For those looking for a theoretically cheaper route, you can turn to a laptop if you already own one that has MP3 and/or DVD capability. Users could copy some of their music library or video library to a laptop before traveling. However, with regard to DVD and the eventual progression of protected CDs, the technology, generally software that would allow copying of the underlying material to the hard drive would be banned under the DMCA.

That frustrates progress because this laptop type of usage as it grows would encourage innovation in the field of computers. DVD and MP3 playback, especially DVD playback taxes more of the Laptop's system resources and battery power than most common applications. Music files and DVD files also take up a fair amount of hard drive storage, which on a laptop is already generally too small as it is. As the desire for more DVD and MP3 laptop playback grows, there will be greater demand for better batteries, higher capacity miniature laptop drives, and better CPU's and playback software. While there is already demand for these, increasing the availability of the current technology will drive more demand and by simply economic laws such

[82] Paul Sloan, *The Offer Hollywood Can't Refuse*, BUSINESS 2.0, May 2004, at 94.

as Adam Smith's infamous invisible hand, the industry will direct more of its innovative efforts in terms of making the items that are demanded more, and in theory they will be developed sooner, than if the underlying copying technology was banned by the DMCA.

5. Effects on the progress of science of banning this whole area of technology

By banning this entire area of technology there is less incentive for manufacturers to spend money on miniaturization and mass storage devices for the home consumer. There will still be innovation, but at a lower rate. However, the Patent and Copyright clause is offended when progress is not promoted. The slowing of innovation and growth is not progress. For that matter slowing the progress whose direction you can see is not the only hindrance to innovation. Who knows what new technologies will be born out of research and growth in the digital copying technologies, much like scanners were born out of photocopying technology.

6. Other Technology affected by the DMCA

The advent of the Personal Computer (PC) has allowed more consumers to run businesses out of their homes, and has increased the average consumer's household productivity. There are PCs in 60% of America's households[83].

Obviously many businesses use PCs. One industry in particular that makes extensive use of PCs to accomplish tasks that used to require more sophisticated equipment, is that of the small recording studio. In effect a decent recording studio can start up business for much less money than used to be required. To be a decent recording studio, you need the ability to copy the work you produce. This would logically include copying your masters, and having technology that would allow you copy works in which you had already integrated digital copy protection. However, the DMCA makes no sort of exception for the purchase of commercially necessary

[83] Tom Verducci, *Welcome to the New Age of Information*, SPORTS ILLUSTRATED, April 5, 2004, at 52.

technology by a professional user. In effect the DMCA puts the power of getting around access, in the hands of Entertainment Producers that have developed the technological safeguards, or the producers who manufacture the protection for them. It keeps the power in the hands of major players, the big recording studios, and gives them an even greater competitive advantage against the little guy.

It is worth noting that the DMCA itself, while providing some exceptions for reverse engineering, and computer software interoperability, does not actually even allow the creator of copy protection software to sell technology circumvent their own measures. This seems non-sensical as the right to exploit your own technology has to be implied in the statute.

7. The DMCA is overbroad in that it prohibits the rights of manufacturers to address non computer software based interoperability issues

a. Macrovision

One form of DVD scrambling, present on all DVD players, works by using a system called Macrovision. Macrovision operates by distorting the video signal from the DVD unit, when thatsignal passes between an intermediate unit between the DVD player and the TV set, such as a stereo receiver[84] or as the entertainment industry fears, a recording device. During playback of the movie, Macrovision alters the video signal going into the intermediate unit so that the picture's brightness is constantly in a state of flux, shifting from light to dark, in such a way that is extremely annoying to the viewer. Macrovision proponents believe that no one would want to watch such an annoying copy of the film that prevents consumers from copying DVDs, when the copies would subsequently possess this annoyance.

[84] Commonly, yet mistakenly referred as an amplifier. An amplifier in actuality is only the part of the receiver that powers the speakers.

However, Macrovision technology hampers the fair use as well as general non copying use of both poor and rich alike. It affects the poor in that they have to buy a better TV if they want to use a DVD player. Low cost TVs don't usually have the requisite connections to connect a low cost DVD player, and often the only option to connect such a player inadvertently activates Macrovision.

b. High End Audio/Visual Equipment

Another fair use technology that is soon going to disappear is the next generation equivalent of the translator VCR. A translator VCR is a device that allows families living abroad or who enjoy movies recorded in a different TV format. Different regions used different formats, and they are incompatible. A translator VCR has tuners built in for more than one format. The formats are dependent on Vertical Lines of resolution, a given format will have a set number of lines. Issues of increasing picture quality as discussed (supra) in the high end stereo section is a function of horizontal lines of resolution. The United States and Canada use a format called NTSC, Europe uses a system called PAL, and Asia uses a system called SECAM. A family that moves abroad often buys such a unit because one unit will work both formats with one television.

In theory a DVD connoisseur or someone who immigrates to the U.S. may want to buy a translator DVD player. DVDs in different regions use different access controls. A DVD from the U.S. will not play in a DVD player in Europe that uses different region encoding. There is an industry standard as to what the access is for each Region. In theory Region 2 discs are encoded that way so that they can not be played on DVD players in the U.S. which is Region 1. The original intent was to prevent consumers from buying black market and pirated copies of domestic movies which are encoded for the region in which they are pirated, and then bringing

them back to the home country. This is yet another system born out of Pandora paranoia. Most consumers are not that sophisticated. They aren't generally exposed to the black market for movies. They buy their DVDs at major stores who buy their DVDs from the Entertainment Producers.

There does not seem to be any good reason under the law why one is not entitled to a fair use to watch a legitimate copy of a movie purchased from a different region. Yet in theory because a translator DVD player would circumvent an access control for a work (albeit one that the user owns a legitimate copy of) that the Entertainment Producer doesn't want accessed in the United States, and they could likely get an injunction on the grounds that the unit would be illegal under the DMCA.

A company called Yamakawa[85] currently markets a translator DVD player. However considering how vigorously the Entertainment Producers attacked legitimate DVD players that could bypass protection.

4 years ago a company called APEX sold a DVD player that had a design 'flaw' that allowed users to bypass various digital protections built into DVD's[86]. The 'flaw" was that information circulated via the internet about how to press a combination of buttons that would allow the consumer to access the higher menu functions of the DVD player and disable the copying and access controls. The device was not designed to circumvent protections. It simply had a design 'flaw' that allowed users to bypass various digital protections built into DVD's. The 'flaw" was that the menus were not accessed with special equipment at the time of manufacturer but were instead programmable directly from the built in controls on the unit. This information was not supposed to leave the manufacturer.

[85] Product details available at http://www.yamakawadvd.com (April 29, 2004).
[86] Andy Patrizio, *Apex Player Banned by Ebay*, Jun 20, 2000. *at* http://www.wired.com/news/business/0,1367,37072,00.html.

However, information circulated via the internet about how to press a combination of buttons that would allow the consumer to access the higher menu functions of the DVD player and disable the copying and access controls. While there was no technology primarily designed to circumvent a technological measure, there was know how. Apparently even know how could not be tolerated. Macrovision complained to eBay that the device infringed their rights under the DMCA and eBay banned all sales of the device[87]. APEX recalled its units even though the device was not designed to circumvent digital; protections[88].

With a variety of connector jacks, and new standards and proprietary jacks coming out each year some hookups of equipment will get interference from copying control measures even though all that the user wants is interoperability of their (non computer based) equipment. I have outlined some of the common types of connectors below.

There are 4 types of standard video signal connector. The most obviously recognized is the coaxial cable connector. This is the type of connector that is on the backs of all televisions sold in the United States. This is the same connector as the one that is on the cable jack in the walls of residential homes, and commonly uses a threaded on connector. In the case of Coaxial cable, one cable does it all, picture and sound.

The next step up is “RCA” connectors. These cables and there jacks look like those of standard stereo cables. Yellow is for video, and Red and White are for the Right and left Channels of Stereo, respectively. The next step above substitutes what is known as a super video aka S-Video jack for the RCA video jack, while still using the Red and White for sound. This jack looks similar to a keyboard jack on a computer. This jack provides better resolution than the RCA jack in that is separates the chrominance and luminance in the video signal to provide a

[87] Id.
[88] Id.

better picture. A prime example of this is the herringbone jacket Johnny Carson used to wear on the Tonight Show. On TV it seemed to shimmer. In real life the jacket did not shimmer like that. It only did so on TV because the color and brightness signals were so interwoven. On TV sets with a supervideo signal the jacket looked normal.

Last is component video. Component video is sharper that S-Video in that it separates out the chrominance signal into the component colors of Red, Green, and Blue, using connectors that look like RCA cables.

In terms of picture quality, the resolution[89] of each jack from highest to lowest is: Coaxial, RCA Jacks, S-Video, and Component Video. Coaxial cable is about 240 lines of resolution. RCA cables are about 330+, S-Video is about 425, and Component video is higher than that. Note VCR's record at about 200 lines of resolution. That is why videotaped shows always look to be lower quality than when the show is being broadcast. DVDs tend to have a picture quality of approximately 425 lines of horizontal resolution.

Cheaper TV sets have only coaxial cable jacks. Cheaper DVD players have only RCA jack and S-Video jacks. Market forces tend to dictate that in fact most DVD players don't have low coaxial jacks, as there is simply little to no demand for one on a DVD player which is a high resolution unit. Most owners would not want to take a picture with 425 lines of resolution and cut the picture quality in half by running it through the lower resolution jack. However VCR's all have RCA jacks, and practically everyone owns a VCR. For someone who cannot afford a better TV yet already owns a cheap VCR which is connected to that TV, and wants to watch that DVD player on their TV, they can connect the DVD player to the VCR using the RCA jacks on both the DVD player and the VCR. This set up runs the DVD signal through the VCR.

[89] When video signals are described in terms of resolution this refers to the lines of *horizontal* resolution in the signal. A line of resolution is a column of RGB (Red Green Blue) pixels.

However, because the VCR is an intermediate unit the Macrovision will then distort the picture. Thus Macrovision prevents low income families from truly enjoying DVD playback.

At the other end of the spectrum Macrovision complicates connecting high end video equipment. Stereophile and videophile enthusiasts, tend to own separate components, including some from of Audio/Video receiver, or separate preamplifier, and amplifier, hereafter collectively referred to "A/V component". Better systems have on screen menus and picture enhancing technology. These systems are designed that all of your components connect to the receiver or preamplifier, and then go straight into the television. The A/V component in addition to providing better audio and video processing, also acts as a switch box. However, with the advent of Macrovision, the switching feature of a $3,000 A/V component just became worthless.

Computer code is speech. Computer code is used by the A/V component to help render a better picture. The output of that picture signal is one of expression on the part of the A/V component manufacturer. Macrovision distorts that expression. One protection is being used to stifle someone else's expression and copyrighted material. In theory sometimes the copy control used by an Entertainment Producerwill interfere with the hardware manufacturer's expression [90]. The copy protection interferes with the integrity rights of the hardware manufacturer's expression. This creates a conflict as to whose copyright needs take precedence, or more importantly does one party's copyright trump another party's? While gut instinct might incline one to say that the consumer wants the underlying entertainment product, the law makes no such distinction that one type of copyrightable subject matter is better than another.

[90] For example, Sony televisions are known for their Trinitron® technology which enhances the green and black hues on a television screen giving Sony televisions a distinctive and crisp feel. Mitsubishi has their "DiamondVision" picture technology. Panasonic Televisions burn Blue and Green hues brighter. High end components have their own distinct feel for how their express content that they process.

What if the A/V component manufacturer wanted to make a device that eliminated the copy controls interference with their system and simply restored their original picture quality, yet in doing so they are obviously circumventing the measure itself, even though no copying purpose is intended? It is possible that someone would want to design a box that would simply allow a consumer to connect all of their equipment in such a way that they can enjoy the equipment that they already own.

VI. HINDERING TECHNOLOGY WILL THE DEVELOPMENT OF ENHANCEMENT PRODUCTS, ADD ONS, AND OTHER FAIR USE AFTER MARKET MODIFICATIONS AND THUS HARM FAIR USE

A. The DMCA Allows Unwanted Goods and Services to be Forced Upon Consumers

Static Control shows us that the DMCA can be used to force consumers to buy products ancillary to other hardware they already own simply in the name of copyright. What is next? Recalling the concerns about digital TV recorders, it is possible the DMCA could be used to make users pay for services ancillary to hardware in perpetuity.

In the context of a Digital Video Recorder (DVR) such as a TiVo® a DMCA violating device could be as simple as a mechanism that lets you bypass the clock feature on a TiVo. A TiVo is designed to store some information, some recorded programs, and TV Guide time information only for a finite time. The TiVo updates itself on a regular basis by connecting to TiVo servers via a standard RJ-11 phone jack late at night. At this time information is exchanged between the units. This service is contracted for near the beginning of the TiVo "experience". When you buy your TiVo and take it home you call TiVo or go online to set up an account. You pay a monthly service fee or a lifetime fee for programming information. Some DVRswill not function if it has not called in after a given time.

Unfortunately the DVR will not work without receiving the TV Guide information from which you select which shows to record. Many DVRs cannot be programmed like a traditional VCR where you enter the start and stop time for a given channel. Instead you have to use the on screen TV Guide and then click on the show you want. Enter now, the Hypothetical home consumer, who no longer wants to pay for the subscription service[91], doesn't plan on using any proprietary program guides, but still want to use the unit as a standalone TV signal recorder, just like a VCR, except that DVR uses a hard drive.

Fortunately for that hypothetical consumer there is a hypothetical company that will sell a small box that will plug into the consumer's DVR via the RJ-11 jack and allow them to trick their DVR into still working. Any such device would have to be able to set the clock on the DVR unit. However, any such device could theoretically use the machine to alter the clock so that the consumer could bypass any time expiration embedded in a program. Now the machine would not recognize a copy protection, and thus that technological fix that the consumer bought, for a fair use purpose was trafficked in violation of the DMCA. The consumer is stuck having to pay for the programming service ad infinitem if they want their DVR to work.

As a result the DMCA allows manufacturers to tie up <u>needless</u> service fees in perpetuity if you want to be able to still use a machine *they already own.*

What about the fact that competition for other TV guide programming is hindered. TiVo has competitors, such as Sonic Blue and ReplayTV. What if one company offers better TV guide programming software for their units, and design it to interface with the other machines? In order to work with the TiVo hardware that software needs to handshake with the dialing in

[91] The TiVo unit also relays back to TiVo information about what you watch. TiVo makes this information available (presumably for a fee) in ways similar to Nielsen data. Two days after Janet Jackson's infamous Superbowl stunt, TiVo stated it was the most replayed moment ever on TiVo devices. *TiVo: Jackson stunt most replayed moment ever, at* http://www.cnn.com/2004/TECH/ptech/02/03/television.tivo.reut/ (April 02, 2004).

process in the TiVo machine. Even though in the end the fair use at issue is home recording of TV broadcasts and the quality of the TV guide is ancillary to the final purpose, keeping services tied to hardware will hinder the development of competing technologies. While the competitors will still innovate in their software to make their product better, they will not spend as much on R&D of the software, because the demand for their product will be constrained by the fact that owners of other hardware won't be in a position to demand their product because of the DMCA.

Entertainment Producers don't just target technology primarily designed to circumvent copying controls, they threaten to sue manufacturers of any technology that can be used to circumvent, and to sue anyone who provides just information about how to circumvent

B. The DMCA Condones Big Brother Type Acts, Including Practices That Would Otherwise be Wiretapping

Under § 1201(h) the Entertainment Producer can require as part of its protection technology that the consumer provide *any* personal information[92], or maintain constant broadband connection to the producer in order to view the work. If the producer requires as part of their protection technology that you leave your "cookies" turned on in your internet browser, and the consumer who wishes to protect their privacy by buying some sort of filtering software that blocks the personal information stored in those cookies, then circumvents this cookie requirement, they can't buy that software because it violates the DMCA[93].

In theory, every time a consumer goes to a website like www.tvguide.com and uses a Google type toolbar that automatically enters a fake email address when registering for the site in order to cut down on the excess email that comes from such a registration, the consumer may be

[92] §1201(h) only requires that if such information is collected that "conspicuous notice" be given to the consumer.
[93] DAVID NIMMER, SACRED TEXT, TECHNOLOGY AND THE DMCA, 334 (2002).

establishing that even technology which performs that sort of action is in derogation of the DMCA. Will the Entertainment Producers take on Google?

This means that the DMCA legally, could hinder the development of pop up blockers, and firewall technology. The DMCA gives Entertainment Producers the ability to tell the public how and when they will view works they have already paid for. Theoretically a producer could even develop a protection technology under § 1201(a) that requires consumer to initially register themselves to use the work, and then every subsequent time the user tries to access the work, this technology verifies the identity of the consumer and charges the user a small fee to maintain that system. Such a system would seem to run afoul of the first sale doctrine, by making users pay to see a work they already paid for. It would seem to be the province of a savvy user to develop and share with others a way to get around this[94], but such circumvention technology would be a DMCA violation.

C. The Entertainment Industry is Given to Engage in all Types of Bad Faith Business Practices all in the Name of Protecting "Access to" and "Copying" of Works

In a day and age where Corporate America seems to advertise on everything it can, do we want to hand over so much power to corporations? It has been hypothesized that the next generation of cellular phones will inundate the user with advertising directed to the cellular phone owner, with the cellular service provider reaping a fee from the advertiser. Many users will obviously find this annoying, and will likely seek a way to avoid this.

However, the ads themselves will be entitled to copyright protection. The software that runs the phone and provides the ads is entitled to copyright protection. Cellular phone providers *currently* use technological measures to *control access* to the higher functions of the cellular

[94] Such "hacks" are frequently available via the world wide web.

phones. Currently Verizon® customers who own "Third Generation Phones" have no choice but to accept the Verizon splash screen when their phone starts up. That splash screen is eligible for copyright protection. Verizon uses technology to make sure that consumers cannot access the splash screen and change it. It is likely that the same type of technology will be used to control access to advertising on cellular phones in the future.

What about the consumer, and there will likely be many, who does not want to accept the advertising[95], and buys third party software to customize their phone, and disables any incoming advertisements. The technology that allows the consumer to access and customize their own phone, would technically violate the DMCA, because that technology controls access to copyrighted material, even though the consumer should have some say so on *restricting* content on their own phone.

Do we want to take away so much freedom from the public? Do we doubt that such a misuse of the DMCA could come about? It's already here.

VII. FAIR USE IS QUICKLY BEING ERADICATED BY THE DMCA

A. The DMCA *effectively* eradicates fair use

There are two types of public domain at issue. There is the period at which a work fully 100%passes into the public domain, and the more esoteric less quantifiable public domain that is composed of fair use.

The legal questions surrounding fair use pit the copyright holder against individual consumers is only made more evident by recent legislation contemporaneous with the DMCA, such as the Bono Amendment (CTEA mentioned infra), that also shifts the balance of power

[95] However, it is likely that Cellular phone contracts of the future will require the user to accept advertising., and thus contract around any fair use issues.

back to the copyright holder. There is no doubt that there is a general legislative intent of moving fair use away from the consumer.

Fair use revolves around the notion that some protection must be afforded to the public for acts of copying before the work finally enters the public domain. It is an extension of the basic intellectual property law precept, that in order to encourage creativity we grant a creator a limited monopoly on their intellectual property in exchange for disclosing that creative work to the public[96], with the understanding that after an appropriate time the intellectual property will go into the public domain permanently.

While fair use is a concept that is enumerated in § 107 of Title 17, its numbered provisions do little to clearly specify examples ofexactly what is fair use and what is not. Rather, § 107 offers a four prong test for determining what uses are fair use, placing that determination in the hands of the courts. Interpretation of what is fair use has developed almost entirely under the common law on a case by case basis.

While past case law, prior to the enactment of the DMCA seemed to strike an equitable balance between rights holders and individual consumer on the issue of fair use, recent case law seems to indicate a shift away from the individual consumer.

While Judges in cases ruling on the DMCA tend to justify the locking up of a work in the public domain, this does not address the fact that the technology that would allow copying of the work is still illegal to traffic in. For that matter, even if the technological locking up of a public domain is improper. What individual consumer is going to take on a rich movie studio to argue that specific works are in the public domain and should be unlocked, when the DMCA does not provide monetary relief for that scenario? There is no provision in the DMCA where the consumer could get attorney's fees for that legal challenge. The only relief that the court would

[96] *Sony, Eldred, Dastar, and Festo*, among many others.

have jurisdiction to grant would be to make the specific Entertainment Producer turn over an unlocked copy of the work. What litigant would fund expensive litigation for such a monetarily insignificant award?

This still would not help any issues of fair use. For the most part fair use is asserted as a defense to infringement. Even if one could sue for the right to a fair use copy, do we want litigants going to court to justify each and every time they need to make a fair use copy? How would the court force a studio to grant them limited copying access if a fair use need was found? The better answer is to relax the technological guards in the first place.

B. Fair Use is a Legal Fiction

The DMCA in effect has been aimed at cutting back on what was previously fair use. The legislation in effect has limited previous fair use, even though the act on its face says that it should not be construed to limit or abrogate fair use[97]

However, it is a legal fiction to say that the act does not affect or impinge upon fair use. While the act does not proscribe the use of copies it does proscribe the means to make the copies. The ends are not proscribed but that is irrelevant since the means are. It is akin to passing an "Entry into the Public Lakes Act", declaring it is legal to use public waterways, but that the entrance into the water itself is illegal.

Since trespass against a copyright only exists in terms of infringement it is antithetical to say that a device that is non-infringing of the copyright runs afoul of copyright law[98]. You can only infringe a copyright. You can only infringe a patent. Prior to the DMCA this was the case. However, the DMCA adds a new type of violation without any actual infringement.

[97] DMCA chapter 12 (West 2003).
[98] infra.

The most obvious type of copyright infringement is when a member of the public intends to and copies the work knowingly in violation of the previously established fair use doctrine. These are the users intending to infringe to make a profit.

The DMCA has created a second type of violator or pseudo infringer under Title 17. This second type of violator tends to be professionals and corporate entities who make a product that could be used to infringe, but is also commercially used for legitimate non-infringing purposes. A prime example is the DeCSS software and related codecs that allow Linux users to utilize DVD-ROM players on personal computers, which can also be used to wholesale copy DVD movies[99]. The rabidly litigious entertainment industry has even gone after the publication of articles that address weaknesses in current copying safeguards, claiming that such publication is a violation of the DMCA in that it would allow a savvy reader the ability to access means to circumvent technological safeguard protected by the DMCA. The RIAA even threatened to sue a Princeton student who didn't even develop or traffic in a technology primarily designed to circumvent a technology. He simply published the fact that there was a flaw, or loophole in an existing piece of technology, namely that one could hold down the shift key in windows to circumvent access controls. He didn't develop the technology and it was pre-existing. There was no credible DMCA violation, but a lawsuit was threatened.[100]

As recently as late April of this year the RIAA filed a new lawsuit against 477 computer users[101].

In theory the next few sentences may subject the publication of this paper to a DMCA lawsuit. At some point we have all visited a website where one could not right click on a

[99] *Universal City Studios, Inc., et al., v. Reimerdes*, 111 F. Supp. 2d 294 (S.D.N.Y. 2000) at 319.
[100] http://www.eff.org/news/breaking/archives/2003_10.php.
[101] *Music Industry Sues 477 More Computer Users, at* http://www.cnn.com/2004/TECH/internet/04/28/downloading.music.ap/index.html (April 28, 2004).

scanned picture or other graphic in order access the menu to copy it to our hard drive[102]. The site owner uses technology to prevent the browser software from copying. Right clicking on the desired picture prompts a warning message along the lines of 'sorry you don't have access to that'. This gives you a few options. The first is to simply select view source from a pull down menu and find within the HTML code the file location of the picture, text, or sound that want. The details of how to save the file are not worth getting into.

Another example of easily circumventable protection in popular software is the built in protection in Adobe Acrobat Reader. The author of an Adobe Acrobat file can select what sort of access and copying they want to place on their document, including preventing the viewer from cutting and pasting text from the document, as well as preventing the reader from being able to print the document. However, the tools for bypassing being locked out of printing the document are available to most consumers. There exists within more than the past few builds of Microsoft Windows a way to circumvent the Adobe copyright protections[103]. All you have to do is have the document visible within an active window and press "Control-Alt-Print Screen" to copy the entire active window as a picture, which you can then paste into a graphic program such as Microsoft Paint. You could also simply hit the "Print Screen" button to get a snapshot of the entire contents of the screen as it is visible to you (including the windows bar at the bottom), and paste this into a graphic program as described above. While this technique could be used to copy an entire paper, it would not be worth the time. You are not copying the text like in a word

[102] In my case this came up when a friend of mine had just had her fourth child, and wanted to download the picture of her newborn from the hospital's web site, but the website wouldn't allow you to copy the picture. She called me to ask me how to get the photo.

[103] The local freely distributed newspaper, The Post Express, a publication of The Washington Post is available online in Adobe format, and for some reason this newspaper which you can pick up for free on the street, cannot be reprinted from the online version. However the following tip will allow you to copy the crossword section every day.

processing program, it's more akin to someone using a camera and taking a photo of every page of a book, and then stapling the photos together to avoid buying the book.

In theory you could use the technique to make screen captures of DVD movies you are watching on a computer. If you were fast enough to make copies of each of the 30 frames per second in a movie, you could paste them together into a slide show and watch a really mediocre copy of the movie[104].

However, under the theory advanced by the RIAA in the Princeton situation, and *Corley*, the very fact that I have made this knowledge (albeit unlikely to really affect the market) available as "part"[105],[106] of my paper could be problematic.

This has a chilling effect on free speech. There are obviously there are many primary infringers who cloak themselves in the guise of these unintentional secondary infringers, but that is not the focus of this paper.

With the way the DMCA stands on its face the entertainment industry would have to do very little to threaten innocent home users with liability for infringement under the DMCA as the home entertainment industry continues its progression towards the full integration of digital media.

C. The DMCA can be abused by copyright holders to use technology to prevent copying access to works just before they enter the public domain.

A fair use of any copyrighted work is *theoretically* always available to the public as a legal right. However, the DMCA, by eliminating the means to make a copy of a work, takes this right away. If the means to make any copy are proscribed than there is no way to make a fair use copy. Thus material that is in the public domain is taken away.

[104] It would only take 162000 frames for a 90 minute movie.
[105] Less than one page in a 70+ page paper.
[106] *321 Studios.*

The DMCA makes no attempt to strike a perfect balance to protect what is in the public domain. It takes it away indiscriminately and returns all realistic rights and access to the work in the hand of the private copyright owners. This is at odds with traditional notions of Copyright.

> "Copyright owners, however, have never been entitled to control all uses of their works. Instead, Congress has accorded copyright owners some exclusive rights, and reserved other rights to the general public."[107]

D. The DMCA Allows Copyright Holders to Dictate What the Fair Use of Their Product Will Be

This is the reality of the situation, but it is so antithetical to the notion of fair use that is almost laughable.

Fair use was born out of the reality that copyright holders didn't want their works copied at all. The very nature of a fair use suit is that the copyright holder sued a fair user because they didn't like the copying of their work. For the most part, if left to the copyright holder they would never allow any fair use copying.

By eradicating fair use parody and satire and sampling become non existent. Those who wage litigation campaign should focus on the fact that the Supreme Court will unlikely be pleased that this new unconstitutional law has taken all the teeth out their landmark holding in *Campbell v. Acuff Rose Music.* Once all music is locked up in digital format, the Entertainment Producers can use access and copy controls to prevent any sampling. The controls block all copying. They are neutral as to the amount you may want to take. If you can't copy you can't make a quality sampling of the music, and sampling has little to no effect if you have to use a significantly degraded copy of the music.

What's even worse is that the DMCA allows some copyright holders to prevent

[107] JESSICA LITMAN, DIGITAL COPYRIGHT at 174 (2001).

other copyright holders from granting access to their works. Even though §106 grants copyright holders 6 distinctive copyrights[108], the DMCA allows other copyright owners to prevent a copyright owner from allowing others to copy his work.

The *Sony* court recognized that there were a substantial number of non greedy even neighborly benevolent copyright holders[109] who wanted their works to be available to be copied[110] and that a holding preventing their right to authorize copying would violate their copyright rights.

E. The DMCA makes no sort of Mr. Rogers Exception

The DMCA allows some copyright owners to use their rights under §1201 et seq. to stymie the rights of others. They are able to dictate to that copyright owner when they can grant access to copying and when they can't. For example if Steven Spielberg were to suddenly decide that he was going to contact the copyright office and let "Saving Private Ryan[111]" pass into the public domain, then even the holder of a copyright who in the end may only own a copy of their movie in a format that the studio recorded it in, would be blocked from the access to make copies of their own work. Spielberg would be precluded from buying technology that

[108] §106 states: Subject to sections 107 through 122, the owner of copyright under this title has the exclusive rights to do and to authorize any of the following:
(1) to reproduce the copyrighted work in copies or phonorecords;
(2) to prepare derivative works based upon the copyrighted work;
(3) to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
(4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly;
(5) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly; and
(6) in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.

[109] Including in that case, Mr. Rogers.
[110] For lack of a better term.
[111] Assuming of course that he holds the copyright on it.

would allow him to copy a DVD of his own movie in which he owns the copyright. In theory this gives a great deal of power to smaller recording studios that smaller bands pay to make a master tape for them[112]. The recording studio can lock up that master with technological protections, forcing the band to work with them indefinitely. The band can't even take their own master tape somewhere else to get it copied, because they would be violating the DMCA in copying their own work. The DMCA simply eviscerates the rights of copyright holders under §106.

Currently David Bowie, who owns the copyrights in his music, is offering software directly to the public that would allow consumers to mix and alter his music[113]. He has done this to foster creativity and development of the arts. Even though Bowie is providing it for a legitimate purpose in accordance with his own copyright, if that software can circumvent protection in someone else's work there will be a problem under the DMCA.

The DMCA on its face stifles fair use. By prohibiting the sale of technology that can safeguard a technological measure, the DMCA explicitly prohibits trafficking in technology that not only controls access to protected works but also unprotected works because *the DMCA only speaks to the technology itself.* If the same type of technology is used to control access to a copyrighted work as well as control access to a non copyrighted work (which a member of the public has a right to copy in any way shape or form), then technology which allows the public to circumvent the *protective measure* is in violation of the DMCA.

If a protective measure such as CSS for DVDs currently affords protection to a new movie like "Terminator 3" which is still under copyright is also the same technology used to protect the DVD content of a movie definitely in the public domain like Lumiere's "Shot to The

[112] Fortunately Spielberg owns a large part of the studio (Dreamworks) that produces his work.
[113] *David Bowie: Please Remix My Songs, at* http://www.cnn.com/2004/SHOWBIZ/Music/04/26/britain.bowie.ap/index.html (April 26, 2004).

Moon", then the technology which allows a consumer to copy "Shot to The Moon" is illegal under the DMCA because it also allows the copying of protected movies. Even if that practice is questionable at the very least there is a strong incentive for Entertainment Producers to be sure to rerecord a work just prior to its passing into the public domain and using the later copy and access controls on it.[114]

The primary purpose of the technology that a fair user utilizes need not even be to assist copying just that the technology circumvents the technology used to protect a work.

The DMCA allows the copyright owner to tell you how you are going to watch the work. It's quite the megalomaniacal statute.

F. The Commercially Significant Exception Rings Hollow

§1201(a)(2)(B) prohibits the sale importation of technology that "has only limited commercially significant purpose or use other than to circumvent a technological measure that effectively controls access to a work protected under this title";

However considering that the protection is digital in nature, any circumvention will be digital as well. What are the odds that someone will find a piece of technology that performs some other commercially useful function, but for some reason also has the added benefit of circumventing a technological protection measure? This is not like George Washington Carver tolling around in his lab finding new uses for peanuts. No such item exists.

The only conceivable type of device would be a machine that might even work, would be some sort of mass decryption machine that breaks down any encryption sequence, but the only legitimate market for this would seem to be people who enjoy cryptoquotes and such similar

[114] JESSICA LITMAN, DIGITAL COPYRIGHT, 178 (2001), "…control over reproduction could potentially allow copyright owners control over every use of digital technology in connection with their protected works. This is not what the Congresses in 1790, 1870, 1909, and 1976 meant to accomplish when the awarded copyright owners exclusive reproduction rights."

word games. The odds of such a piece of technology that could copy an entire DVD existing in another market seem slim.

This closes up the "otherwise substantially non fringing use" loophole in that the infringement issue falls to the wayside, as the issue becomes one of circumvention even though the technology may have commercial significance and the act of copying may be non-infringing from a fair use standpoint, the means of getting there, the circumvention itself is proscribed. In this context the DMCA still allows the ends, just not the means. In that sense, fair use starts to become meaningless.

While engineers in labs may have access to specialized equipment that has other uses and may also circumvent some protection means, these tend to be expensive pieces of equipment that are not going to be trafficked to the average consumer.

At this point the best bet for finding a copying means would be to turn to the arcane arts, as the DMCA only prohibits technological means, not sorcerous ones.

VIII. BUILDING THE PERFECT LITIGANT OR THE SEARCH FOR THE HOLY DIGITAL GRAIL.

A litigation campaign to strike down the DMCA should be waged much in the same way that civil rights activists were finally able to get the Supreme Court to begin striking down discrimination laws by presenting the Court with a perfect litigant. In the case of *Brown v. Board of Education* the real parties in issue were a large class that the Court could not say no to, children. In that case, the Court could not condone the overwhelming detrimental effects that would come about from denying an equal education to minority children.

While a litigation campaign to strike down the DMCA will be hard pressed to find a Plaintiff that can pull at the Court's heart strings the same way that children can, a litigation

campaign can learn from *Brown* that the Plaintiffs in this case must unite and file a declaratory action together, where they can show the Court how other *substantial* industries are being effected by the DMCA and its unconstitutional effects.

The DMCA implicates many types of technology: HCCPs, hard drive backup software, interoperability parts for high end and low end stereo and video equipment. Manufacturers of all of these types of technologies are potential litigants who could challenge the DMCA.

The perfect litigants would be those whose technological innovations are hindered by the DMCA and hardware manufacturers who want to ensure interoperability of parts, but can't meet the 1201 (f) exception because their product is not primarily computer software. The manufactures of MP3 players, and related video content mass storage device providers, and the manufacturers, like Toshiba, who make the subcomponents of their units, namely small hard drives.

Manufacturers of technologies associated with hard drives should also join in as litigants. Data recovery and restoration is a growing industry. Even in the world of lawyers, and the development of electronic discovery, the ability to get a copy of an opposing party's hard drive during document production can be invaluable. There are many software manufacturers who make products that allow the quick mirroring of the *entire* contents of a hard drive quickly and easily. These products work at a basic level by copying an entire hard drive bit by bit. In theory if a user has protected or encrypted files, and these copying technologies ignore and bypass those safeguards, the trafficking of that technology would be a DMCA violation, even thought there is obviously no intent whatsoever in that situation to copy the underlying source material in order to avoid paying for it, or to infringe a copyright holder's rights.

These hard drive copying technologies have substantial non-infringing uses. When consumers want to upgrade their computers, they often want to migrate their documents and multimedia files from the old unit to the new. However, certain *legitimately* downloaded files may be protected by digital rights management software that prevents the copying of the computer file. The copying and restoration technology can be used to retrieve files lost in the event of a system or hard drive crash, which is a common occurrence among personal computers. In all of those situations the consumer is simply trying to make sure that they have continued access to a work that they paid for, and want to enjoy legitimately.

The best litigants whose technology is hindered by the DMCA are the manufacturers of HCCPs and the manufacturers who supply them the component parts to make the units. HCCPs are simply the latest in innovation in what has become a staple article of commerce[115] over the last 25 years, the portable personal music player.

In 1979 Sony developed the first Walkman[116], which was a radio and tape player in one unit. Since 1979 we have seen the improvement in the tape player, as well as the innovation of new technologies to this staple article. We have seen the introduction of the personal compact disc players in the late 1980s and their rise in the 1990s, MiniDisc technology developed in the mid 1990s, and today we have HCCPs. Each unit's format was an improvement over the last in that it allowed the consumer to carry more music than the previous format.

An HCCP litigant should argue that they have invested a great deal of their money, in developing technologies for this staple article of commerce. They would argue that any copying technology associated with the HCCP is simply designed to allow a fair use copying by a consumer who simply wants to take the music they paid for and convert it to a portable format.

[115] *Sony* at 426.
[116] http://history.acusd.edu/gen/recording/notes.html.

These same litigants should be able to provide proof that after the DMCA they spent less money than before on research and development of their technology, because of fear that they did not want to spend too much money on a technology and subsequently find out it was proscribed under the DMCA. It would be important to have a device that had some sufficient safeguards built into their technology to prevent rampant serial copying and distribution.

They should develop a variety of solutions that would allow usage of their technology in its intended fair use purpose while still preventing infringement. The more options they offer a court to prevent rampant infringement, the harder it will be for a court to rule against them. A variety of solutions are discussed in section IX below.

The adoption of standard for their software that would allow copying to a PC and the HCCPs, but would do so in a format that prevented internet distribution of the file, or used a basic encryption that locked the file so that it could only play on the consumer's HCCPs. Another workable system would be some sort of plug in component similar to a credit card, or USB thumb drive, that would identify and associate a particular user with his or her hardware. The consumer would have to use the access card, key, or code to sync up all of their devices and they would pay a per use fee every time they added another device to the code.

The genius of current technology is that it is possible to use unique digital serial numbers that are encoded on the computer chips of all devices. This is how your cellular phone provider knows it is your phone accessing the network when you make a call. They maintain a database that says that a specific serial number on a chip on your phone is assigned to you. Manufacturers can take advantage of that type or serial number system to develop a system that utilizes those unique numbers to make sure that copy is limited to the unique consumer who owns their device, and cannot be unfairly distributed to anyone else.

The system they pick does not have to be perfect. Any of the foregoing systems should work. What is important is that the hardware manufacturer must step into court with copying technology that is well thought out in the technological way that it balances fair use, against rampant distribution.

The manufacturer must show that there is no way to make their staple items work in fair use manner, i.e. there is no way to transfer the entertainment data to a HCCP without circumvention.

That same manufacturer would be well served to make a home non-portable unit that stored video and music files. The manufacturer would argue that the goal of science and the development of the staple articles of home entertainment has been to improve the product. For home entertainment the progress has always been to make a better fidelity, higher capacity format.

The staple articles have also developed with an eye for allowing the consumer to fix his legitimately owned music in a medium that they prefer, e.g. mix tapes or CDs. Wholly proscribing any technology that serves that purpose discourages the natural progress of technology with respect to those staple goods in this particular area of science, and thus is at cross purposes with the Constitution.

The DMCA unfairly pits copyright against patents, i.e. technological innovation, and the Constitution cannot abide by allowing one aspect of the Constitution to trample on another when there is no such need.

However, innovation in science is not like innovation in entertainment. While an entertainer may still be driven to create and will create in the face of no protection for their work, the same cannot be said for technological innovation. While inventors may still have the drive to

create, even in the face of the DMCA, it takes millions of dollars to bring most technology to bear. If the company funding the inventor feels that the DMCA increases their risk of having a product they cannot sell, then as risk increases, companies will simply invest less in that specific area of technology. Less investment in R&D means slower development of the technology.

The weaknesses in their case would pale in comparison to the strengths they enjoy. At best the Entertainment Producers could argue that an unchecked system would allow consumers to copy their entertainment files to a computer where they could be used and shared by everyone. However, a manufacturer who uses a copying technology that relies on some sort of access code or access hardware key on the consumer's part, and that would only allow the file to go to a device that the consumer and no one else owns, and prevents widespread internet distribution of the underlying content, would be able to argue that they are meeting the goals of the DMCA, without eradicating the fair use the DMCA claims it protects.

IX. SOLUTIONS

A. We Can Build a Better Box

The technology exists to solve the underlying problems and protect fair use, the bigger problem is that the Entertainment Producers don't want the public to have that power. They want to control access to the ability to copy, so that the public always has to buy their copies from them. I will discuss below some possible solutions that can be incorporated into the DMCA, to make sure that Entertainment Producers must guarantee some real access to fair use, while at the same time protect their interests.

B. ROM vs. RAM

Switch to a RAM format. CDs and DVDs are currently released in a ROM format. ROM stands for Read Only Memory, which means that no content can be written to the medium after it is initially recorded. An alternative to this is a RAM, Random Access Memory, format, which allows recording to the medium after the original recording is made. Instead of CD-ROMs and DVD-ROMs, the content would be released in CD-RAM and DVD-RAM. In a DVD context the original movie would still be recorded on the DVD. Elsewhere on the DVD would be an access and copy control system that would allow a set number of copies, as well as a set number of partial[117] copies[118]. Each time a copy is made the copy control will update a section of the RAM medium to account for that copy. The technology could encode the copy so that only one copy of that could be made in the case of a partial copy or a mix DVD, so that you would not have recreate a lot of work. Once the maximum number of copies is reached on the original no more copies could be made.

A system similar to this is in use currently by Apple Computer's iTunes. iTunes allows music to be downloaded on a pay as you go system. Strong copy controls are built into the downloaded file. Downloaded songs can be burned to a CD ten times[119], and then no more.

RAM capability for CDs and DVDs currently exists in the CD-RW[120] and DVD-RW formats. In fact RW technology has been around for years. This is likely the best solution because the technology exists today to make this happen. It should not be too difficult to implement a software control that would control the number of copies made. Similar DRM technology is being used now for computer files.

[117] The exact formula to determine what is a fair number of copies and what is a fair amount to be a partial copy and how many the consumer can make is something that can be determined by the legislature.

[119] Ten is an arbitrary number but it does allow a reasonable amount of fair use. It's better than the number zero normally afforded under the DMCA.

[120] RW stands for Rewritable.

C. Clearinghouses and Fees

Another option is to set a statutory rate for making copies, akin to the statutory rate for radio play of music and set up clearinghouse like ASCAP and BMI. The legitimate copy would still be locked up with access and copy controls. However, the copying technology could charge your account or credit card when you make the copy, and that same technology would contact the appropriate clearinghouse entity and using the digital ID from what you are copying, get a pay per use authorized circumvention from the clearinghouse which allows you to make the copy, and then the recording technology system used pays the fee to the clearinghouse for what you copied.

Another clearinghouse option is for the clearinghouses to maintain online servers of the works in various digital formats. The consumer would place their legitimate copy into their recorder. The digital ID from the legitimate copy would be verified and then the clearinghouse copy would then send the copy to you for download.

Another option is to charge a fee on copying technology at the time of sale, as was done under the AHRA for the sale of DAT recorders, and distribute that money in a manner akin to how the AHRA money is doled out.

D. Internet Copy Solutions

Since the purpose of the DMCA was to prevent mass network dissemination, copy and access controls could be tailored specifically to the internet problem. Legislation could be put in place to watermark files that have digital rights management (DRM) feature built in. The DRM could be designed to prevent the emailing or FTPing or Peer to Peering, or other file sharing of the files without an explicit authorization or the payment of a fee.

Lastly, legislation could simply enforce stricter penalties for actual infringement. In theory that should still serve as a deterrent.

There are a variety of other options. There were options that were available to protect fair use when the DMCA was enacted. Luckily, they are still available. It's likely no coincidence that the Entertainment Industry pushed for a system like the DMCA that allowed for no copies.

Currently Congress is considering in committee H.R. 107, which in its current form would call the final version of this bill "The Digital Media Consumers' Rights Act" which proposed to amend among other titles of the US Code, title 17to restore some degree of fair use. Section 5 of the bill states:

> b) FAIR USE RESTORATION- Section 1201(c) of title 17, United States Code, is amended--
>
> (1) in paragraph (1), by inserting before the period at the end the following: `and it is not a violation of this section to circumvent a technological measure in connection with access to, or the use of, a work if such circumvention does not result in an infringement of the copyright in the work'; and
> (2) by adding at the end the following new paragraph:
> `(5) It shall not be a violation of this title to manufacture, distribute, or make noninfringing use of a hardware or software product capable of enabling significant noninfringing use of a copyrighted work.'.

This bill if it passes, specifically §5, would reestablish some of the protections afforded under *Sony*, and would restore much of the incentive for innovation that was stolen by the DMCA. This measure, by lowering the threshold to "significant", would allow manufacturers to invest in R&D with less risk in HCCPs, and in technological areas where there is clearly more than significant demand for such innovation.

CONCLUSION

Digital is here to stay whether we like it or not. However, we need the courts to realize that digital is a boon, not an evil, and that the DMCA was the evil that escaped from the box. We must get courts to think outside of their preconceived notion of what the actual Pandora's box is. Regardless of the Entertainment Industry's fears, the Congress can no more pass a statute that effectively though not expressly on its face renders a Constitutional clause ineffective in terms of Copyright, than Congress could outlaw the sale of bullets, and claim that such a statute does not offend the Second Amendment because one can still buy guns. The DMCA hinders fair use, and hinders the progress of legitimate copying and storage technologies plain and simple. In essence the DMCA is punishing consumers who want to embrace new technology.

The RIAA, and the MPAA, as well as other Entertainment Producers and their related groups, tend to look past the words "primarily designed" in the DMCA, words that seem to indicate an intent requirement. These groups home in on the ability to circumvent as being the sine qua non of a DMCA violation. Even providing know how is attacked, as in the APEX situation. Such a heavy handed attack has consequences.

It is hindering the development of technology in basic staples of commerce. There exist many other better options today, and even at the time the DMCA was enacted, which would have hindered no more innovation of technology than was necessary. However, these options were not part of the statute.

It is important to bear in mind that the judges should not be blamed. When looking at the leading cases it is important not to blame the judges for what may appear to be a lack of understanding of the underlying technologies at issue. Judges are not expected to be technical masters of all subjects that come before them. We should no more expect a judge to understand the intricacies of binary chip design and machine code, than we should expect them to

automatically and completely understand how lasers affect vitreous fluid in a medical malpractice case dealing with an operation to correct a detached retina. It is the responsibility of the parties, and be default the lawyers handling the cases to educate the judges as to technical issues, via expert testimony and demonstrative evidence.

Lawyers who hope to prevail on a claim of DMCA constitutionality where others have failed must be prepared to thoroughly train the judge in the technical issues underlying their case. At the very least, the attorneys should introduce into evidence for the judge, the quality or lack thereof of copies made from DVD's and CD's with digital protection, so that the judges can see that these copies are severely substandard, and would not constitute the type of fair copy use anticipated by section 106.

The perfect litigant to challenge the DMCA should demonstrate how innovation in their field, is being unduly restricted by the DMCA, how there is a demand for their product, that it primarily would be used for fair uses, that the fair use can only be accomplished through circumvention, and that they have built in safeguards to minimize as much infringement as possible.

That litigant should also point out that the Entertainment Producers possess options that they could use to guarantee fair use, while still protecting their works, but that the statute does not require them to use this less restrictive technology.

Hopefully the perfect litigant will be able to convince the Court to put the true evil back into its box.