

I wish to respond primarily to question 2, regarding other general areas of concern with respect to the DMCA requirements under consideration, although many of my concerns do relate indirectly to the first set of questions regarding Section 109.

My concern is that the DMCA, and its underlying assumptions, are broadening the definition and scope of copyright to the point that it is a direct threat to the rights of citizens to communicate freely with one another, as guaranteed by the First Amendment of the United States Constitution. More specifically, I will argue that the DMCA is in fact attempting to grant and protect rights to pure information, rather than a specific embodiment thereof, and that such a right or guarantee is both technically impossible, and dangerous to our traditionally protected freedoms.

First, I will address the issue of protecting a specific embodiment of information, or pure information regardless of embodiment. It is my understanding that prior to the computer age, legislation has always prudently confined copyright protection to a specific embodiment of information, recognizing that the number of forms which pure information may assume is practically unlimited, and any attempt to protect all of them would be both futile and counterproductive. Now that computers have given ordinary citizens the power to format shift, transform, duplicate, and communicate pure information quickly and easily, certain traditional markets based on the less widely available means of manufacturing specific embodiments (protected by copyright) are now perceived to be threatened, and recent developments in copyright law, especially the DMCA, appear to be an attempt to protect this traditional market from the perceived "threat" created by this improved capacity of citizens to communicate. One of the ways the DMCA seeks to accomplish this is by making a whole class of technology illegal (the anti-circumvention clause.)

Regardless of tradition and reason, actual practice on the Net even today, and even before the enactment of DMCA was that corporations producing specific embodiments of information are using a liberal interpretation of copyright, combined with effective legal intimidation, to deny individual citizens their cherished right to communicate freely. Even clear cases of fair use, such as quoting or sampling a portion of a larger work for purposes of comment, are being squashed through the simple expedient of sending frivolous cease-and-desist letters to those who attempt to exercise this right. Clearly, something must be done to protect the rights of citizens to make non-commercial use of information from copyrighted sources, much of which has become part of American culture.

I believe the fundamental ambiguity which has created the legal morass which exists today can be traced back to a misunderstanding of the basic reasons for which copyright exists. Copyright does not exist to enrich the holders of copyrights. Copyright does not exist to guaranty a monopoly to a specific industry or distribution format. The purpose of copyright is, in service of the public interest, to encourage more information to be published in forms which are accessible to the public. It was a law conceived at a time when the most effective physical medium for information distribution was a book, which is a medium which required substantial investment to create. Therefore, to encourage the production of books, it was expedient for the People to grant a limited protection to the authors and/or publishers of specific works. Recognizing that copyright, if not carefully limited, presented a danger to the far more important natural right to freedom of expression, the law was subject to a variety of limitations. These limitations to copyright made it possible, among other things, for public libraries to exist.

A library is an important concept, and one which any revisions to copyright law must consider and protect. Libraries have had a fundamental role in our nation's education and entertainment for generations. By using a library, citizens have had the right and the ability to access thousands of copyrighted works at no charge, whether the holders of the copyrights wished them to do so or not. Perhaps the publishers occasionally lamented the fact that the availability of their books in libraries could reduce the bookstore sales of their product, but the ability of the public to freely access information was considered more valuable than increasing the monetary profits of a few specific companies.

Unfortunately, that priority seems to have been lost recently. Since the advent of the personal computer, a dangerous double-shift in the interpretation of copyright seems to have taken place, with many negative consequences for our civilization. First, the emphasis of copyright law and enforcement seems to have shifted away from the public good, and towards the perceived financial interest of publishing companies. And second, in a very unfortunate response to the ability of computers to easily duplicate and transform information from one format into another, copyright law seems to have made the fateful leap from protecting an embodiment, to attempting to protect the underlying information itself.

As evidence of this, I would cite the popular practice of exchanging MP3 sound files over the internet. These files, when traversing the internet, are pure information. When they are stored on someone's hard drive, the format and capacity of the drive, and the location and encoding of the information vary greatly from one user to the next. In fact, even when the MP3 file was created using a copyrighted source embodiment such as a CD, the compression process renders the actual sequence of bits in the file completely different from those of the source material. One can even say that the only practical similarity between the MP3 sequence flying around on the internet, and its original copyrighted source embodiment, is that they produce very similar sound information when played with appropriate decoder technology. And yet the companies which assert copyright over the original CD embodiment tend, almost without exception, to attempt to assert copyright over the underlying information, as well as any and every transformation thereof.

A few simple thought experiments will indicate the futility of attempting to control pure digital information, as opposed to a specific embodiment. First off, every digital file can be mathematically represented by a single finite counting number. One who asserts copyright over a digital file is literally claiming ownership of a number. This in and of itself raises questions, but it gets worse. It is a mathematical fact that any counting number can be transformed into any other counting number by an appropriate sequence of operations. Furthermore, the number of algorithms, or sequences of operations, which can transform any given number into another given number is infinite. Therefore if the law were to seek to protect pure information rather than a specific embodiment, then in order the law to pass the most elementary tests of logic, a single copyright holder must be given rights over ALL counting numbers (since algorithms exist to transform any number into the protected information) or a single copyright holder must be given control of ALL algorithms, since an infinite number of algorithms exist which can transform a non-protected number into a protected one.

At first glance, the reader may be tempted to dismiss this entire line of reasoning as being overly abstract, and bearing little resemblance to practical reality. But these are fundamental facts about digital information, and market economies are very efficient about discovering such fundamentals and exploiting them. In fact, we can already see a foreshadowing of our possible Orwellian future in the DVD player market. The Motion Picture Association of America (MPAA) fully recognized the facts outlined in the previous paragraph, and so insisted upon controlling not only the physical embodiment of their "copyrighted information," but the player used to transform it into intelligible video and audio information as well. Now, when we buy a DVD player, we have to pay for the device, but the device does not work for us, nor does it recognize our interests or rights. Our DVD players work for the MPAA, and have a number of unnecessary features designed to deprive us of our rights to fair use, such as making personal archival VHS copies of movies we own, or buying a DVD from the location of our choosing.

I consider it extremely tragic that the United States Congress, rather than acting against such monopolistic distribution cartels to restore the legitimate rights of U.S. citizens, has on the contrary made it illegal for customers to thwart or circumvent these abusive uses of technology.

The current trend in copyright law may also constitute a threat to our right to privacy as well. Since a digital file may be transformed (or encrypted) into another digital file, recognizing rights over pure information will give copyright holders an incentive to attempt to invade the privacy of citizens, especially those attempting to communicate privately with one another, on the grounds that "violations" or "infringements" may be occurring. It is perfectly foreseeable that they will eventually, if the current trend is allowed to continue, stoop to lobbying the government to routinely monitor and spy upon its own citizens in order to prevent the transmission of "unlicensed" information. These are all terrible and frightening prospects, but the United States, by enacting the DMCA, has already chosen a road which leads directly and inevitably to this outcome. This trend must be reversed immediately if we are to continue to live in a free country.

I believe the following actions would be prudent :

1. Confine copyright protection to specific embodiments, not pure information.
2. Recognize that the internet only transports information, and in order for a significant violation of any reasonable rights to occur, someone must create and sell an embodiment in competition with the original copyright holder.