

Comments On Circumvention of Technological Measures That Limit Access to Uncopyrighted Materials in Copyrighted Works

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1 Introduction

I am a Professor of Law at Case Western Reserve University and among the courses that I teach is one in Computing and the Law where the major emphasis is on Intellectual Property issues involving computing. I am especially concerned with the interplay between legislative and technological means of limiting the public's access to information that is available in digital form.¹

I am submitting these comments to the Copyright Office of the Library of Congress in response to that Office's "Notice of inquiry" that was published in the Federal Register on November 24, 1999 (Volume 64, Number 226) as amended February 8, 2000.

That Notice requests comments as part of a rulemaking proceeding mandated

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¹There are no significant technological measures limiting access to traditional "hard-copy" books and journals.

by 17 U.S.C. § 1201(a)(1)(C) to determine which users of a copyrighted work should be exempted pursuant to the provisions of 17 U.S.C. § 1201(a)(1)(B)² from the restrictions of 17 U.S.C. § 1201(a)(1)(A), which provides: “No person shall circumvent a technological measure that effectively controls access to a work protected under this title.”³

1.1 Scope of My Comments

I shall not address my comments to all cases where technological measures effectively control access to a work protected under Title 17 of the United States Code, but only to those where the work in question contains materials that are not protected by copyright under that title or where the same technological measure protects both copyrighted and uncopyrighted works.⁴

I shall also limit most of my specific comments to two types of works: (i) collections of legal materials such as law reports, statutes, and administrative regulations and (ii) computer programs as defined in 17 U.S.C. § 101.⁵

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The prohibition contained in subparagraph (A) shall not apply to persons who are users of a copyrighted work which is in a particular class of works, if such persons are, or are likely to be in the succeeding 3-year period, adversely affected by virtue of such prohibition in their ability to make noninfringing uses of that particular class of works under this title, as determined under subparagraph (C).

17 U.S.C. § 1201(a)(1)(B).

³17 U.S.C. § 1201(a)(1)(A).

The provisions 17 U.S.C. §,1201 were enacted as part of the “Digital Millennium Copyright Act.”

⁴One of the anomalous features of § 1201(a)(1)(A) is that it appears to forbid the circumvention of a technological measure that controls access to a copyrighted work even in those cases where the “circumvention” is undertaken in order for one to be able to read a work that is not protected by copyright. Thus, for example, the publisher of a series of CDrom’s may use the same technological measures to control access to a CDrom containing a copyrighted version of a modern mystery novel and another CDrom containing a public domain version of Shakespear’s *Sonnets*.

⁵“A set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result,” 17 U.S.C. § 101.

1.2 Background Considerations

It should be noted that while the Copyright Act itself regulates the *copying* of works protected by copyright, the technological measures that are not to be circumvented according to the provisions of 17 U.S.C. § 1201(a)(1)(A) regulate *access* to works that are protected by copyright. Now “access” clearly does not mean “copying,” but rather refers to “reading” copyrighted works.⁶ Thus, what that section really says is that no one shall circumvent a technological measure that effectively controls the ability to read a copyrighted work. And this in turn could lead to some rather strange situations. Suppose, for example, that a publisher prints a book in very small print so that it is quite unreadable and furnishes a magnifying glass with each copy of the book sold, together with a “license” that says that only the purchaser of the book is authorized to read it using the magnifying glass. Is not the small type a technical measure that effectively controls access to the book?⁷

It would seem, considering the fact that § 1201(a)(1) is part of the Digital Millennium Copyright Act, that that section should be construed as applying only to works in digital form so as to exclude claims that using very small type, or putting a lock on a book, constitute technological measures of controlling access to a copyrighted work. But that would not totally solve the problem, for what if the the technological measures of controlling access to a work in digital form consisted of using some well known and trivial encryption scheme?⁸

⁶It is true, of course, that one must in most cases be able to read a work in order to copy it. The important point though is that nothing in the Copyright Act itself, as opposed to the Digital Millennium Copyright Act, regulates the ability to read materials that are subject to a copyright.

⁷The key terms of 17 U.S.C. § 1201(a)(1)(A) are defined, but the definitions are not of much help in resolving this problem:

[T]o “circumvent a technological measure” means to descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner; and (B) a technological measure “effectively controls access to a work” if the measure, in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work.

17 U.S.C. 1201(a)(3).

⁸For example, access to a copyrighted work might be controlled by encrypting the text of the work using the “ROT13” algorithm, which consists of assigning the numbers

Now it may seem that the requirement that the technical measures of controlling access be “effective” would rule out cases where the those measures are easily defeated. Unfortunately though, the definition of the phrase “effectively controls access to a work” does not require that a measure that “effectively controls access to a work” actually be effective,⁹ but only that the measure, “in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work.”¹⁰

Despite that definition, it seems that the statute should be construed as applying only to technological measures that really do effectively control access to the copyrighted work. But that raises additional problems, for what happens when the technical measures become ineffective, as they inevitably will? In this context one might consider the case of *Universal City Studios, Inc. v. Reimerdes*,¹¹ where a technological measure controlling access to copyrighted works (movies) fixed on a DVD disk was based on a weak encryption scheme that was quickly broken and a program implementing the decryption algorithm was distributed widely on World Wide Web sites throughout the world. It is hard not to conclude that if a technological measure does actually effectively controls access to copyrighted works, then it will not be circumvented and there will be no need for exceptions under § 1021(a)(1)(B), while

1 through 26 to the twenty-six letters of the alphabet from A to Z, and then taking the numerical value of each letter in the work to be encrypted, adding 13 to it (and if the result is greater than 26, subtracting 16 from it), and then translating that encrypted number back into a letter. Thus the text “HELLO” would first be written as “8 5 12 12 15” and then encrypted as “21 18 25 25 2” and those numbers would correspond to the letters “URYYB.” Now the nice thing about ROT13 encryption is that if one goes through the same process a second time, adding 13 to each of numbers “21 18 25 25 2” and subtracting 26 from the result if the result is greater than 26, one gets back the original set of numbers corresponding to the letters “hello”: “8 5 12 12 15”. In this case the process of decryption is the same as that of encryption.

Clearly it is trivially simple to decrypt a text that is encrypted using the ROT13 algorithm and there are many programs available, including almost all Usenet news readers, that are able to decrypt texts encrypted using that algorithm.

⁹See the definition *supra* in Note 7.

¹⁰*Id.*

Although this definition clearly does not require that the technological measure be “effective” in the ordinary sense of that word, it is difficult to understand what it does mean. In what sense does a work that has been encrypted with an encryption program require the authority of the owner to decrypt it, if a decryption program is available from some other source than the owner?

¹¹__ FED. F. SUPP. 2D __, 2000 U.S. Dist. LEXIS 906 (2000).

if it can be circumvented then it does not effectively control such access, then § 1021(a)(1)(A) does not apply, and so, once again, no exception is needed. This confusion should not, however, be taken as a reason for not exempting classes of works that would otherwise be entitled to an exemption.

1.3 Constitutional Considerations

More important are the constitutional issues raised by the provisions of 17 U.S.C. § 1201(a)(1)(A), issues that necessitate exemptions of the type provided in § 1201(a)(1)(B).¹²

The Supreme Court has held in *Feist Publications, Inc. v. Rural Telephone Service Co.*¹³ that “[o]riginality is a constitutional requirement”¹⁴ if a work is to be copyrighted, and that the white pages of the plaintiff’s telephone directory lacked such originality.¹⁵ Thus compilations of data, like the white pages of a telephone book, that are lacking in originality and thus are not protected by copyright, are also not protected by the anti-circumvention provisions of § 1021(a)(1)(A) that apply only to works protected by copyright.¹⁶

¹²The exemptions of § 1201(a)(1)(B) may not, however, prove sufficient to overcome a constitutional challenge to the provisions of § 1201(a)(1)(A).

It should be noted that 17 U.S.C. § 1201(a)(2), to the extent that it is construed as providing that no person shall write or publish a computer program that circumvents a technological measure controlling access to a copyrighted work, is even more susceptible to constitutional challenge.

¹³499 U.S. 340 (1991).

¹⁴*Id.* at 346.

¹⁵

In preparing its white pages, Rural simply takes the data provided by its subscribers and lists it alphabetically by surname. The end product is a garden-variety white pages directory, devoid of even the slightest trace of creativity.

Rural’s selection of listings could not be more obvious: It publishes the most basic information—name, town, and telephone number – about each person who applies to it for telephone service. This is “selection” of a sort, but it lacks the modicum of creativity necessary to transform mere selection into copyrightable expression. Rural expended sufficient effort to make the white pages directory useful, but insufficient creativity to make it original.

499 U.S. at 363-63.

¹⁶*See supra* text accompanying Note 3.

Since it is hard to determine whether a work is so lacking in originality that it is not copyrightable, an exemption under § 1021(a)(1)(B) should not be denied on the ground

More important is the fact that the Court in *Feist* made clear that:

It is this bedrock principle of copyright that mandates the law's seemingly disparate treatment of facts and factual compilations. "No one may claim originality as to facts." This is because facts do not owe their origin to an act of authorship. The distinction is one between creation and discovery: The first person to find and report a particular fact has not created the fact; he or she has merely discovered its existence. . . . The same is true of all facts—scientific, historical, biographical, and news of the day. "They may not be copyrighted and are part of the public domain available to every person."¹⁷

Thus works consisting of nothing but facts and other public domain materials are not copyrightable.¹⁸ The Court goes on to say, however, that:

Factual compilations, on the other hand, may possess the requisite originality. The compilation author typically chooses which facts to include, in what order to place them, and how to arrange the collected data so that they may be used effectively by readers. These choices as to selection and arrangement, so long as they are made independently by the compiler and entail a minimal degree of creativity, are sufficiently original that Congress may protect such compilations through the copyright laws. Thus, even a directory that contains absolutely no protectible written expression, only facts, meets the constitutional minimum for copyright protection if it features an original selection or arrangement.

This protection is subject to an important limitation. The mere fact that a work is copyrighted does not mean that every element of the work may be protected. *Originality remains the sine qua non of copyright; accordingly, copyright protection may extend only to those components of a work that are original to the author.* Thus, if the compilation author clothes facts with an

the work in question is not copyrightable and thus not subject to the anticircumvention provisions § 1021(a)(1)(A); on the other hand, the granting of an exemption should not be considered to be a determination that the work in question is copyrightable.

¹⁷499 U.S. at 347-48. [Citations omitted.]

¹⁸And thus not protected either by copyright or by the anti-circumvention provisions of § 1201(a)(1)(a).

original collocation of words, he or she may be able to claim a copyright in this written expression. Others may copy the underlying facts from the publication, but not the precise words used to present them. In *Harper & Row*, for example, we explained that President Ford could not prevent others from copying bare historical facts from his autobiography, but that he could prevent others from copying his “subjective descriptions and portraits of public figures.” Where the compilation author adds no written expression but rather lets the facts speak for themselves, the expressive element is more elusive. The only conceivable expression is the manner in which the compiler has selected and arranged the facts. Thus, if the selection and arrangement are original, these elements of the work are eligible for copyright protection. No matter how original the format, however, the facts themselves do not become original through association.

This inevitably means that the copyright in a factual compilation is thin. Notwithstanding a valid copyright, a subsequent compiler remains free to use the facts contained in another’s publication to aid in preparing a competing work, so long as the competing work does not feature the same selection and arrangement. As one commentator explains it: “No matter how much original authorship the work displays, the facts and ideas it exposes are free for the taking. . . . The very same facts and ideas may be divorced from the context imposed by the author, and restated or reshuffled by second comers, even if the author was the first to discover the facts or to propose the ideas.”

It may seem unfair that much of the fruit of the compiler’s labor may be used by others without compensation. As Justice Brennan has correctly observed, however, this is not “some unforeseen byproduct of a statutory scheme.” It is, rather, “the essence of copyright,” and a constitutional requirement. The primary objective of copyright is not to reward the labor of authors, but “to promote the Progress of Science and useful Arts.” To this end, copyright assures authors the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work. This principle, known as the idea/expression or fact/expression dichotomy, applies to all works of authorship. As applied to a factual compilation, assum-

ing the absence of original written expression, only the compiler's selection and arrangement may be protected; the raw facts may be copied at will. This result is neither unfair nor unfortunate. It is the means by which copyright advances the progress of science and art.¹⁹

This constitutional requirement that copyright protection not prevent even a competitor from accessing and copying facts, ideas, and other unoriginal portions of a copyrighted work is mandated not only by the Patent and Copyright clause of the constitution, but also by the First Amendment.²⁰

2 Works Containing Unprotected Materials

Considering the constitutional mandates declared by the Supreme Court in *Feist*, it seems clear that works protected by copyright pursuant to Title 17 of the United States Code, but that contain matter that is not protected by that copyright, should be one of the classes of works whose users are not subject to the anti-circumvention provisions of 17 U.S.C. § 1201(a)(1)(A). Certainly users of those works should be exempt when they are the owners of the copy, as defined in 17 U.S.C. § 101,²¹ of the work that they are using. If you purchase a CDrom containing a collection of law cases and statutes, all of which are in the public domain, you should not be treated as a law breaker because you access that disk in order to read—or even to copy—the public domain materials that it contains.

I shall, however, limit my remaining comments to two smaller classes of works that are included within the class of works containing unprotected materials: (i) collections of legal materials and (ii) computer programs.

¹⁹499 U.S. at 349-50. [Citations omitted; emphasis supplied.]

²⁰For a discussion of this point, see NIMMER ON COPYRIGHT § 1.10.

²¹

“Copies” are material objects, other than phonorecords, in which a work is fixed by any method now known, or later developed, and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. The term “copies” includes the material object, other than a phono record, in which the work is first fixed.

17 U.S.C. § 101.

Thus copies include books, CDrom's, floppy disks, hard drives, punched cards, DVD drives, magnetic tapes, and all the other tangible devices in which a work may be embodied.

2.1 Collections of Legal Materials

Collections of legal materials are classic examples of compilations containing materials that are not protected by copyright.²² There has been considerable litigation about the extent to which the copyright in such compilations can prevent others from copying the unprotected materials that they contain.²³

The contents of the law, both statutory and decisional, are matters to which every citizen should have access, and yet they are not generally available in most public, university, and college libraries, although it is true that more and more case law and statutory material are becoming available, without restriction, on line at sites such as that of the Legal Information Institute at Cornell Law School.²⁴ These freely available materials do not, however, normally contain older materials (except for the opinions of the United States Supreme Court) and at the same time law libraries are replacing traditional law reports and statute books with on-line services and collections on CDrom's that are usually subject to contractual restrictions that make them unavailable for the general public.²⁵

These digitized legal compilations would not be a satisfactory substitute for traditional law books, even if they were more available to the general public.²⁶ In the case of online services, when the subscription to the services terminates, no copies of the works remain. In the case of CDrom's, the situation is nearly as bad, though for other reasons. At the present time,

²²Or, in some cases, where the materials are protected by copyright, but that copyright is not held by the compiler.

Another anomalous consequence of the anti-circumvention provisions of § 1201(a)(1)(A) is that they could keep the author and copyright holder of material included within a compilation from accessing that author's own works.

²³*See, e.g.*, *Matthew Bender & Co. v. West Publ. Co.*, 158 F.3d 693 (2d Cir. 1988), *cert. denied* 22 U.S. 3732; *Matthew Bender & Co. v. West Publ. Co.*, 158 F.3d 674 (2d Cir. 1988), *cert. denied* 22 U.S. 19 S. Ct. 2039; *see also* Amended Complaint in *Jurisline.Com LLC, v. Reed Elsevier, Inc.*, U.S. District Court, S.D.N.Y, No. 99 Civ. 11860 (JSR) <http://www.llrx.com/features/jurisline_ac.txt>.

²⁴<<http://www.law.cornell.edu/>>.

²⁵Lexis and Westlaw, the major vendors of electronic law reports and statutes over the Internet and the World Wide Web supply free accounts to law students and law faculty members, much the way dope dealers supply free samples to high school students, but their services are prohibitively expensive for students and scholars who are not affiliated with law schools, and to the general public.

²⁶One problem is that they are not authoritative, and another, more serious one, is that they tend to contain a much larger number of errors than do legal materials in the form of "hard copy."

CDrom's come in so many different incompatible formats, that law libraries have great difficulty in making them available through standard terminals. This latter problem can to some extent be solved by using technical measures to make the various systems inter-operable, but that solution is threatened by the anti-circumvention provisions of § 1201(a)(1)(A).

Experience has shown that technical measures for preventing access to (or even just copying of) digital materials are normally circumventable and that, where there is competition among vendors of those materials, the technological restrictions are strongly resisted by purchasers. But in the case of legal materials, where only two vendors have comprehensive databases, customer resistance is not feasible.²⁷

Although the law may tolerate technological measures that prevent the public from accessing compilations of the law,²⁸ it certainly should not forbid owners of copies of the compilations from circumventing those measures.

2.2 Computer Programs

Computer programs are protected by copyright pursuant to Title 17 of the United States Code as literary works,²⁹ and not because they are computer programs³⁰ and, of course, only to the extent that they are original works of

²⁷ Compare the Amended Complaint in *Jurisline.Com LLC, v. Reed Elsevier, Inc.*, *supra* Note 23.

²⁸ Though, in certain cases, the creation of such purprestures on the Information Super Highway may be an anti-trust violation.

²⁹ The leading case is probably *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240 (3rd Cir., 1983).

The basic definition of what works are copyrightable is given in 17 U.S.C. § 102(a):

Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.

while the definition of “literary works” is given in § 101:

“Literary works” are works, other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied.

³⁰ “Computer programs”, though that term is also defined in § 101, is not one of the statutorily recognized categories of copyrightable works.

authorship.³¹

The courts have come to recognize that large portions of most computer programs are not protectible by copyright and have in copyright infringement actions either come up with complicated schemes with which to filter out ideas and facts and other unprotectible elements³² or have taken the simpler approach of simply treating certain parts of the program as not being protectible by copyright at all. An example of the latter type of case is *Lotus Development Corp. v. Borland International, Inc.*,³³ which held that the “menu command hierarchy” of the plaintiff’s program was a “method of operation” and thus was not protectible by copyright because of the express provisions of 17 U.S.C. § 102(b), which provides:

In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.³⁴

Since major portions of computer programs are not protected by copyright under the express terms of 17 U.S.C. 102(b) as well as the Supreme Court’s holding in *Feist*, access to those programs should not be denied, even if the holder of the copyright in those programs attempts to protect them by ineffective technological means³⁵ and computer programs should thus be a class of works exempted from the anti-circumvention proceedings under 17 U.S.C. § 1201(a)(1)(B).

Computer programs are one area in which there have actually been technological schemes limiting access to digital works, although they usually have been used primarily to protect against copying rather than reading. These

³¹The *Apple* case, which was decided long before the Supreme Court handed down its decision in *Feist*, only held that the operating system programs involved there were copyrightable as literary works and that the plaintiff would probably prevail in the suit, but it did not consider whether the programs were original works of authorship.

³²*See, e.g.*, *Computer Associates International, Inc. v. Altai, Inc.*, 982 F.2d 693 (2d Cir., 1992).

³³49 F.3d 807 (1995), *aff’d by an equally divided court* 516 U.S. 233 (1996), *cf.* *Sony Computer Entertainment, Inc. v. Connectix Corp.*, ___ F.3d ___ (9th Cir., Case No. 99-15852, 2000).

³⁴17 U.S.C. § 102(b).

³⁵If the technological means are actually effective then there is no need to be concerned with the anti-circumvention provisions of 17 U.S.C. § 1201(a)(1)(a).

schemes have not however been popular with consumers, who tend to find them a nuisance, or worse, and in many cases in the past they have been circumvented by other programs.³⁶

In no other area is public access to data contained in copyrighted works more important than computer programming, where open source software that is freely available has made possible such programs as the Linux operating system, the Apache web server, and the Free Software Foundation's utilities. Since interoperability is a critical factor in the development and marketing of computer systems, technological measures that limit access to the ideas, methods of operation, and systems contained in computer programs impede the development of this most important area of the world's economy. It certainly is not in the public interest to make it illegal for software authors to circumvent such anticompetitive technologies.

³⁶*See, e.g.* Vault Corp. v. Quaid Software Ltd., 47 F.2d 255 (5th Cir., 1988).