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Technological Self-Help: Its Status under European Law and Implications for U.K. Law

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I. Introduction

That authors, publishers and other rightsholders are increasingly depending on technology to enforce their perceived rights cannot be doubted. The growth of such technological "self-help" remedies has arisen partly in response to consumer's use of technology arguably to interfere with such rights. However, the growing reliance of corporations and conglomerates on such means ultimately may limit consumer choice, privacy and traditional consumer rights, and expand intellectual property rights well beyond their traditional bounds.

Presently, legal norms are more concerned with protecting such self-help remedies against attack or circumvention than protecting consumers. The new "Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society" (hereinafter the "Information Society Directive" or "Directive") explicitly requires Member States to provide such protection. Article 6 of the Directive ("Obligations as to technological measures") requires Member States to provide "adequate legal protection" against circumvention of "effective technological measures" designed to prevent or restrict acts not authorized by the copyright holder, including the trafficking in devices, products or services which may be used to circumvent such technology. Article 7 of the Directive imposes similar obligations with respect to electronic rights-management information. While the Directive generally has a broad (but closed) list of exceptions for fair use or fair dealing, the exceptions applicable with regards to technological protection measures are severely limited. Although echoing the language used in Articles 11 and 12 of the WIPO Copyright Treaty, the Directive may actually expand the scope of protection previously provided in favor of authors and publishers.

The UK has not yet implemented the Directive but will be required to do so by the end of this year. Section 296 of the Copyright, Designs and Patents Act 1988 in general terms already prohibits the knowing circumvention of any "copy-protection" system. However, technologies which may incidentally allow private copying seem to be permitted. *E.g.*, *CBS Songs v. Amstrad*, [1988] R.P.C. 567 (sale of twin deck tape recorder not contributory infringement). The Directive goes further than Section 296, since the technological measures protected by the Directive are more than just "copy-protection" systems. Given the need to adopt implementing legislation, now is the time to think about the implications of unleashing carte blanche protection for any and all "technological measures" which rightsholders may choose to adopt.

As noted by one thinker regarding the intersection of copyright and technology: "We are not entering a time when copyright is more threatened than it is in real space. We are instead entering a time when copyright is more effectively protected than at any time since Guttenberg. The power to regulate access to and use of copyrighted materials is about to become perfected."^[2] In this brave

new world of potentially perfect control, issues of privacy, free speech and consumer protection must also be considered. Allowed to proceed unchecked, technological "self-help" may dry up much of the common well of information and knowledge which copyright was originally created to protect.

II. Technological Protection Measures: An Overview

Examples of the rise of technological protection measures (hereinafter "TPM") are rife. For instance, Sony released Michael Jackson's latest CD in a format which is (or should be) unplayable in the CD-ROM drives of personal computers, to prevent customers from ripping a copy into an MP3 format, or copying it onto a recordable CD.[3] While this is one of the more publicized examples, it is estimated that hundreds of thousands of CDs with similar anti-copying and anti-ripping technology have been quietly released into the United States and Europe during 2001, and the numbers are expected to zoom into the millions this year.[4] However, content producers and manufacturers are using technology to do more than merely prevent unauthorized copying. For instance, Intel's latest Trusted Computing Platform Architecture (TCPA) is designed to report to participating third parties whether a computer has software installed which may enable MP3 copying, or which could be used to circumvent copy-protection systems - regardless of whether such software may be used for legitimate purposes.[5] (Intel has also been pushing other measures--such as Content Protection for Recordable Media--which might make it impossible to record *any* media files to a computer which do not contain the proper digital watermarks and encryption keys.)[6] Recently, the Recording Industry Association of America indicated its desire to take self-help a step further when it tried to push a law through the United States Congress which would immunize it against liability for breaking into computer systems to remove or corrupt allegedly infringing content.[7] Arguably, such invasive measures could be deemed a technological "protection process" designed to "restrict" infringement, and thereby fall within the protection of the Information Society Directive.[8] As most people already know, DVDs are currently sold with embedded technology containing a regional specification which renders them unplayable by any DVD player sold outside that region, which technology has little, if anything, to do with traditional copyright concepts.[9]

As with any technology, TPM itself is a neutral - our judgment of it only forms in relation to its use and our perception of whether that use is good or bad. With TPM, however, the same use can be perceived as both. The same technology that may allow Sony or the RIAA to monitor your use of a digital product may also allow a recording artist to circumvent completely any need to deal with Sony or the RIAA, and instead contract directly with its listening public or other willing exploiters, at a lower cost to the public, and a higher reward to the artist.[10] By way of example, consider the story of British musician John Anthony. In 1973, he penned and recorded a song called "Now Time for Romance." Although it initially earned him some royalties, the song, and his career, faded into obscurity. Unbeknownst to him, the song was eventually used in the most successful British film of all time - "The Full Monty" - and went on to also be used in a Quentin Tarantino film ("Jackie Brown"). Upon accidentally discovering this, Anthony checked with the Performing Rights Society, upon whom he has to depend to administer his rights. The Society's records showed only that he was due £2.29 for some radio airplay years ago, because it had been paying the film royalties to a different artist who had penned a different song with the same name![11] Had rights management information been embedded in all copies of the song, it would have been simple for the respective film producers to contact Anthony directly, or perhaps even automatically enter into a digital license contained along with the rights management information.[12] Using technology, the occurrence of misdirected or unpaid royalties to authors or artists could be substantially reduced.

Most legislation protecting TPM divides protective technology into two broad categories.[13] One type of technology is used to control access to, and use or reproduction of, material. Such measures essentially act as digital "locks". This is TPM in its most straightforward sense. The second type is designed to convey, record and transmit information regarding the license, authenticity and payment of or for use of works - broadly, rights management systems. Although also a form of TPM, this category may provide information alone, rather than protection against misuse. Despite the

legislative bifurcation, these two categories are not hermetic, and within these loose categories are a plethora of sometimes overlapping technologies and approaches. Although some of the major technologies are described below, the list is by no means exhaustive.

A. Digital Watermarking and Copy-Bots

Digital watermarking is a technology whereby information about the work is digitally appended to the work itself. Although portions of the watermark may be made obvious to the user, it more commonly consists of encrypted information which is not inherently visible or audible.^[14] However, that information can be read by compliant devices to verify whether the content is authentic, where it originated, the terms of any license, and even copy control information and instructions.^[15] Rightsholders can also utilize electronic agents - i.e., copy-bots^[16]-- to trawl the Web looking for their watermark and then determine whether the use is authorized or not. While watermarking generally will not prevent access to a work, it is a useful device for monitoring usage.

B. Secure Digital Music Initiative

One of the most well known technologies is the Secure Digital Music Initiative (SDMI), which was developed in collaboration by the major recording companies and trade associations. The SDMI, developed in response to the growth of MP3 technologies, "consists of a file format for downloading music that prevents non-authorized reproduction and distribution . . ."^[17] A major part of the technology uses a digital watermark which, in theory, cannot be removed without corrupting the file. So certain was the industry that SDMI was a secure system, it offered a prize of up to \$10,000 to anyone who could "remove the watermark or defeat the other technology" in SDMI.^[18] However, when Princeton University research Edward Felten not only picked this digital lock, but also stated that he was going to publish his results at an academic conference, the SDMI Foundation (which owns the technology) warned him in writing that publishing those details "could subject [him] and [his] research team to actions under the Digital Millennium Copyright Act."^[19] Because of these security flaws, it is believed that SDMI has not been commercially deployed.

C. Serial Copy Management System

One of the oldest forms of TPM is the Serial Copy Management System (SCMS). This system allows unlimited copies to be made from original media, but prevents copies of copies (i.e., second generation copying).^[20] This system can allow for most fair uses, but prevents wholesale reproduction. It uses "copy control flags"^[21] which are embedded in the digital content, and inform compatible devices whether copying is permissible.^[22] In content in which copying is limited, the flag is switched to "on", whereas for materials for which the provider is not limiting copies, the flag is switched off. Any copy made of SCMS material in which a flag was turned "on" will itself have a slightly altered flag which indicates to compatible machines that no further copies can be made from that copy.^[23] Of course, use of this system requires hardware capable of searching for and reading these flags. Although the United States requires that all consumer digital audio recording devices conform to, and incorporate SCMS or a similar system,^[24] the hardware industry - and especially the computer industry -- has been reluctant to include such capability except in pure consumer recording devices, such as Digital Audio Tape recorders.^[25]

D. Encryption

Various forms of encryption are also used by rightsholders to prevent unauthorized access, although encryption will not prevent unauthorized copying once the materials are decrypted. Encryption is widely used already in satellite broadcasting and cable transmissions, and is now rapidly migrating to other mediums.^[26] The most famous example of digital encryption in consumer products is the Content Scramble System ("CSS") used on pre-recorded digital video discs ("DVDs"). CSS represents the best pure example of various industries - consumer electronics, computer companies

and content providers - coming together to lock in a fairly secure digital format before the format became widely available. Because of its seeming success, this is an example likely to be followed by other industries, especially when introducing new products and formats. Its history is worth examining in some detail.

i. Content Scramble System for DVDs

By early 1996, DVD technology was a proven media, and both computer companies and consumer electronics companies were eager to begin producing DVD players commercially.^[27] Film studios, however, were reluctant to allow their product to be produced in this format because of the perceived danger of unauthorized copying and distribution.^[28] Initially, the consumer electronics and media companies sought a legislative solution, which would have required all devices to respond to certain copy protection information, whether contained in a physical format or in a transmission. However, computer companies balked at having any legislative solution imposed upon them. Ultimately, the three industries agreed to form the Copy Protection Technical Working Group ("CPTWG"). As Marks and Turnbull describe:

From the first week of May through the middle of July 1996, the CPTWG and its DVD task force met nearly weekly, drawing participants from the United States, Japan, and Europe to nearly every meeting. The computer industry insisted that content be encrypted as the starting point for any copy protection structure. The consumer electronics industry initially resisted this approach, out of a concern that encryption would be very taxing to its devices, adding complexity and cost. After several meetings, however, two companies - Matsushita Electric Industrial Co. Ltd. ("MEI," manufacturer and distributor of products under the Panasonic, Quasar, and National brands) and Toshiba Corporation - stepped forward with a proposal for a copy protection method that (1) was designed specifically for the DVD format; (2) met the design needs of the consumer electronics industry; (3) met the computer industry's basic criterion for encryption of the content to be protected; and (4) would impose legally enforceable rules against unauthorized copying and transmission at a level acceptable to the motion picture industry through a private commercial licensing agreement.^[29]

This technology was first presented to the DVD Consortium, who developed the DVD format, to obtain its cooperation and approval. The computer companies then tweaked the initial version of CSS to make it less resource-draining on computer processing capability. With all three industries now on board, the lawyers thrashed out a license.^[30] The license is offered on a royalty-free basis (subject to administrative charges), and is administered by an inter-industry consortium. In addition to utilizing CSS encryption, licensees must use TPM to ensure the following:

- That consumers are forbidden from accessing the decrypted content while it is playing (so they cannot copy video or audio feeds). This is generally accomplished by keeping MPEG-encoded content off of user-accessible buses within the player or accompanying peripherals.
- That connections between players and other products are limited, such that digital connections are generally prohibited, and any analogue connection incorporates specified copy protection technologies (generally the Macrovision SCMS system)
- That regional playback controls are implemented, such that DVDs released in one region will only play on players manufactured or configured for that region
- That CSS decryption cannot be performed on any content contained on any recordable media
- That CSS decrypted content cannot be recorded onto recordable media (usually accomplished by using digital flags and watermarks, to which players are required to respond)

According to Marks and Turnbull, "[t]he stated goal of the multi-industry efforts has been to come up with legal and technical means of 'keeping honest people honest'".^[31] While the industries know that technologically-savvy users may be able to circumvent their systems, they hope that the

combination of encryption, copy protection and strict licensing terms will make it difficult for ordinary consumers to make unauthorized copies or transmissions of CSS-protected material. With TPM and licenses in place, the industries began wide-scale commercial release of both players and DVDs onto the market in 1997.[32]

The denouement of this project should be familiar to most. In September 1999, European programmers allegedly reverse-engineered a licensed Windows DVD player in order to develop a Linux DVD player - a platform not yet supported by the industry.[33] To do so, they wrote a CSS decryption program which ran on a Microsoft Windows system. That program--which quickly found its way to near-universal availability on the Internet--is called "DeCSS". It has provoked a storm of controversy and lawsuits.[34] Most recently, the Second Circuit Court of Appeals in the United States upheld an injunction against an online magazine which forbids that magazine from posting or providing links to the DeCSS source or object code in conjunction with its reporting on the DeCSS phenomenon.[35]

ii. Digital Transmission Copy Protection

Based on the successful adoption of CSS for DVD video, the same industry groups are working on a number of other technologies to be used with other media. For instance, Digital Transmission Copy Protection ("DTCP") has now been developed to protect content during digital transmission between consumer devices.[36] This technology combines a system of authentication (communication between the devices to ensure that each is a DTCP-approved device) with encryption during transmission.[37] The encryption system itself can also include copy protection information regarding the circumstances, if any, under which the content can be copied.[38] Primarily, this appears to be a technology to deal with digital broadcasting. The technology has not yet been widely adopted because of lingering disputes over the rights of consumers to record and "time shift" otherwise free television broadcasts.[39] Abdicating its traditional lawmaking and policy role, the United States Federal Communications Commission's Commissioner Kevin Martin recently announced that the F.C.C. was relying on the industries it regulates to decide "how digital content will be protected, and what rights consumers will retain to make personal recordings"[40] before full-scale rollout of digital high-definition television.

III. The Information Society Directive

Legal protection for TPM is not new. Rightsholders have always pushed to have the law protect their technological measures used to prevent diversion or misuse of copyrighted materials. One of the earliest examples of this phenomenon is the protection enshrined for cable and satellite television broadcast scrambling technologies.

As the Internet began to be recognized and exploited as a quasi-broadcast medium, rightsholders turned their attention to addressing the danger of piracy in that medium.[41] Probably as a result of their fear of the Internet as a haven for unlimited piracy, rightsholders successfully lobbied to have explicit protection for TPM included in both the 1996 WIPO Copyright Treaty, as well as the concurrently-adopted 1996 WIPO Performances and Phonograms Treaty (hereinafter collectively the "WIPO Treaties"). The EU's Information Society Directive (as well as the United States' Digital Millennium Copyright Act) grew directly out of the WIPO Treaties. Even before those treaties, however, there was much legislative movement regarding legal protection for TPM.

A. Early studies of TPM.

The EU was an early proponent of providing legal protection for TPM. In 1988, the Commission of the European Communities published a "Green Paper on copyright and the Challenge of Technology - Copyright Issues Requiring Immediate Action" ("1988 Green Paper"). Much of the report was dedicated to the question of home copying, generally by analog means, of audio and video material.

[42] The Green Paper recognized that migration to digital technology could increase both the instances of home copying and the technologies to prevent it. It explicitly discussed the early growth of TPM, and recognized that "[a]ll technical protection devices raise issues as to their reliability in practice, as to their possible effects on the use of the equipment for playing authorized material, and as to how their use would affect the balance of interests among right holders, equipment producers and consumers." [43] It also noted that right holders were already promoting "ancillary measures to make it illegal to circumvent or to make available devices for circumventing [then-existing TPM]." [44] However, even then, opponents suggested that TPM would "risk stultifying important technological developments and the potential markets for hardware and software associated with them," and that "material would be 'locked up' in an undesirable way." [45] Various alternative schemes were discussed to provide rights holders with some measure of compensation short of preventing access, including surcharges on recording devices and recording media, and "pay at source" approaches where the rate charged initially would be commensurate with the use expected to be made. [46] Regarding TPM, the Commission laid down five principles of an ideal system:

First, it would encourage technological development and conform to the general trend towards fully digitalized systems in the audio-visual field. Second, it would accommodate future developments in telecommunications and information management systems. Third, it would permit the full potential for high quality, flexible, digital sound reproduction of both disc and tape to be developed in parallel. Fourth, it would offer right owners a measure of control over the unauthorized reproduction of their works. Fifth, it would allow the consumer to have access to, and to make fair use of the sound recordings and transmissions for which he has paid. [47]

Curiously, while recognizing that any technical solution could be circumvented, [48] the report did not at that time see any need for explicit legal protection against circumvention.

The United States had also been studying the effect of technology on copyright since at least 1993, when the Clinton administration formed the Information Infrastructure Task Force. [49] Ultimately, that task force, under the direction of Assistant Secretary of Commerce and Commissioner of Patents and Trademarks Bruce Lehman, produced a report entitled "Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights" (the "Lehman Report") [50]. As stated in the Lehman Report's Executive Summary, the United States government concluded that the Internet would "not reach its full potential as a truly global *marketplace*" without more effective copyright protection. [51] The Lehman Report specifically looked at TPM systems and concluded that such systems would "play a significant role" in meeting the needs of rightsholders. [52] However, the Lehman Report concluded that neither the existing law, nor TPM, would be sufficient alone to protect against digital infringement. Therefore, the Lehman Report recommended that the U.S. Copyright Act be amended to include a provision

To prohibit the importation, manufacture or distribution of any device, product or component incorporated into a device or product, or the provision of any service, the primary purpose or effect of which is to avoid, bypass, remove, deactivate, or otherwise circumvent, without authority of the copyright owner or the law, any process, treatment, mechanism or system which prevents or inhibits the violation of any of the [rights holders'] exclusive rights. [53]

The Lehman Report also recommended amending the U.S. Copyright Act to include a similar provision to protect against altering or falsifying copyright management information. Despite the introduction of legislation to amend the Copyright Act to protect TPM explicitly, no changes were then made to U.S. law. [54]

About the same period of time, WIPO was also becoming concerned that greater protection was needed for TPM. By at least 1994, Mihaly Ficsor, the assistant director of WIPO for copyright norm

creation, was starting to believe that the treatment of TPM would be a growing issue in copyright law.[55] He recommended that more effective sanctions were necessary against those who manufactured, imported or distributed devices designed primarily to defeat or circumvent TPM or rights management systems.[56] Bruce Lehman went so far as to suggest that WIPO consider adopting a *sui generis* unfair extraction right.[57]

B. The 1996 WIPO Conference.

Legal protection for TPM was firmly on the WIPO agenda by 1996. However, inclusion of that protection in the 1996 WIPO Treaties was not a foregone conclusion. Reports from the conference in Geneva indicate that the issue of legal protection for TPM turned out to be one of the most divisive issues of the conference.[58]

After much debate, the delegates at Geneva agreed to add Articles 11 and 12 to the 1996 WIPO Copyright Treaty and Articles 18 and 19 to the 1996 WIPO Performances and Phonograms Treaty. By way of example, Article 11 of the Copyright Treaty states:

Contracting parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by the law.

Article 12 provides similar protection for rights management information, and Articles 18 and 19 of the Performance and Phonograms Treaty roughly parallel Articles 11 and 12 of the Copyright Treaty. After three weeks of discussion and debate, the WIPO Treaties were adopted late on the evening of December 20, 1996.[59] Those particular articles led directly to the TPM provisions in the Information Society Directive.

C. The European Information Society Directive.

1. Background

The 1996 WIPO Treaties formed the impetus for the European Parliament and Council to fashion a new directive[60]: "Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society" (the "Information Society Directive" or "Directive"). The Information Society Directive requires all 15 member states of the European Union to enact conforming legislation by 22 December 2002. Before delving into the Directive itself, a little history on its over three year struggle for fruition is in order.

The term "information society" was coined in the European Commission's 1993 White paper on "Growth, Competitiveness, and Employment - the Challenges of Ways Forward Into the 21st Century". Therein, the Commission described the growth of a new "information society" being brought about by the emergence and convergence of new information and communications technologies, leading to a greater emphasis on information as an economic product. Since then, there have been numerous reports, recommendations, Green Papers, White Papers, regulations and directives aimed at developing and enveloping this "information society." [61] The genesis of the Information Society Directive lies in the Commission's 1995 "Green Paper on Copyrights and Related Rights in the Information Society" (hereinafter "1995 Green Paper"). After sufficient consultation and commentary, the Commission produced its 1996 "Follow-up to the Green Paper on Copyright and related Rights in the Information Society" (hereinafter "1996 Green Paper"), wherein the Commission identified four areas within copyright law generally which needed to be harmonized to eliminate potential barriers to the internal market: the reproduction right, the right of

communication to the public, legal protection for TPM and rights management systems, and the distribution right.[62] Not coincidentally, those same issues ended up being addressed in the 1996 WIPO Treaties as well.

Following up on the success of its agenda in Geneva, the Commission set out in earnest to propose harmonization on the four action items identified. By December 1997, the Commission issued its initial "Proposal Harmonizing Copyright and Related Rights in the Information Society" ("1997 Proposal"). Over the next two years, interested parties, including the Parliament, weighed in on the 1997 Proposal. These comments led to changes which were incorporated into the 1999 "Amended Proposal for a European Parliament and Council Directive on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society" (hereinafter "1999 Proposal"). What is striking about both the 1997 and 1999 Proposals is their failure to include explicit exceptions to strict legal protection for TPM - essentially protecting the lock regardless of the value or ownership of the contents protected. Such an approach undoubtedly favoured "the financial and moral rights of rightsholders, to the detriment of users and distributors." [63] Although (or perhaps because) the Information Society Directive was the "most lobbied piece of legislation ever" [64], the Council and Parliament did not agree to tie any exceptions explicitly to TPM protection until extremely late in the process. Indeed, the issue of exceptions generally became one of the most divisive debates to occur. [65]

2. The Recitals

The 61 recitals of the Information Society Directive - which are longer than the Directive itself - evidence a certain amount of confusion regarding the Directive's goals, objectives and rationale. For instance, recital 5 claims that "no new concepts for the protection of intellectual property are needed", yet goes on to claim that the Directive is necessary both because of "new forms of exploitation" [66] and because these new forms have raised the potential for "significant differences in protection" [67] among member states. [68] The Directive itself creates an arguably new (or at least clarified) right of communication to the public. [69] Clearly, some felt that new concepts for protection were indeed needed. The Directive also claims that "[a]ny harmonization of copyright and related rights must take as a basis a high level of protection, since such rights are crucial to intellectual creation." [70] Yet nowhere in the Treaty of Rome, or its various amendments, is the Council or Parliament tasked with encouraging European intellectual creation, and one must question whether providing only a harmonized base level of protection [71] coupled with a "wait and see" attitude might not equally achieve the aims of the internal market, which is undoubtedly a legitimate objective. [72] Regarding its authority, [73] the Council and Parliament claim that Article 151 of the Treaty of Rome, which requires the Community to take cultural aspects into account, helps justify this Directive, [74] but then flatly states that Article 151 must yield to intellectual property rights: "The objective of proper support for the dissemination of culture must not be achieved by sacrificing strict protection of rights or by tolerating illegal forms of distribution of counterfeited or pirated works." [75]

The Directive is unequivocal, however, in its support for TPM: [76]

Technological development will allow rightsholders to make use of technological measures designed to prevent or restrict acts not authorized by the rightsholders of any copyright, rights related to copyright or the *sui generis* right in databases. . . In order to avoid fragmented legal approaches that could potentially hinder the functioning of the internal market, there is a need to provide for harmonized legal protection against circumvention of effective technological measures and against provision of devices and products or services to this effect. [77]

However, in light of the base level of protection required by Berne and its progeny, and in light of the more specific protection required by the 1996 WIPO Treaties, one must question whether there

was indeed sufficient disunity among member states to require this verbose Directive.^[78] Given that all member states would likely accede to the 1996 WIPO Treaties anyway (and remembering the furious debate which there ensued over the issue of TPM), one must also wonder why the Council and Parliament felt it necessary to alter and expand the TPM language from that contained in the Treaties?

3. Chapter III of the Directive: protection for TPM.

(a) The Rights.

Chapter III of the Directive, consisting of Articles 6, 7, and 8, are the portions of the Directive directly applicable to TPM. Article 6 begins with a recitation reminiscent of Article 11 of the 1996 WIPO Copyright Treaty:

Member States shall provide adequate legal protection against the circumvention of any effective technological measures, which the person concerned carries out in the knowledge, or with reasonable grounds to know, that he or she is pursuing that objective.^[79]

"Technological measures" is defined as "any technology, device or component" that is designed to prevent or restrict acts not authorized by a copyright, related rights, or database rights holder "as provided for by law."^[80] The term "effective" - seemingly as superfluous in the Directive as it was in the 1996 WIPO Treaties - is circularly defined as "an access control or protection process" which "achieves the protection objective."^[81] Although the Directive identifies access control and protection processes, the list is certainly only meant as example and does not exhaust the category.

In addition to imposing direct protection against the act of circumvention, the Directive also mandates that member states protect against "the manufacture, import, distribution, sale, rental, advertisement for sale or rental, or possession for commercial purposes of devices, products or components or the provision of services" which are intended to facilitate circumvention.^[82] Technologies, devices or services should be deemed to be an unlawful means of circumvention when they:

- (a) are promoted, advertised or marketed for the purpose of circumvention of, or
- (b) have only a limited commercially significant purpose or use other than to circumvent, or
- (c) are primarily designed, produced, adapted or performed for the purpose of enabling or facilitating the circumvention of,

any effective technological measures.^[83]

Finally, the Directive also makes clear that legal protection for TPM must extend to all TPM used by rightsholders, whether implemented via voluntary agreements or in conformance with national legislation. The Directive also forbids member states from permitting exceptions to legal protection for TPM for works "made available to the public on agreed contractual terms in such a way that members of the public may access them from a place and at a time individually chosen by them."^[84]

The most important phrase in Article 6 is the term "as provided by law." Read properly, this means that the circumvention of even the most effective and efficient TPM should be permitted if the underlying material is not otherwise protected by law, i.e., not protected by copyright, a related right, or the database right. Hence, the public should have the legal right to circumvent TPM to obtain access to material otherwise in the public domain, even if commercial or governmental interests attempt to "lock" it away digitally.^[85] Unfortunately, the Directive itself undermines this

straightforward and logical reading through its convoluted approach to exceptions, as explained further below.

Article 7 of the Directive provides similar protection for rights management systems. Broadly, member states must provide adequate legal protection against anyone "knowingly" tampering with electronic rights-management information.^[86] "Rights-management information" is defined as any information (or numbers or codes representing that information) "which identifies the work or other subject-matter . . . , the author or any other rightsholder, or information about the terms and conditions of use of the work or other subject matter . . ."^[87] Article 7(1)(a) prohibits the removal or alteration of such information. Article 7(1)(b) broadly prohibits making available any work or subject matter from which the rights-management information has been removed or altered without authority if by doing so the person "knows or has reasonable grounds to know, that . . . he is inducing, enabling, facilitating or concealing an infringement" of copyright, related rights or the database right. Again, because this provision is tied directly to the existence of a valid underlying right, national laws should allow for removal or alteration of such rights-management information when the legal protection for the underlying work is lapsed or non-existent.

(b) The Exceptions

So far, Articles 6 and 7 of the Information Society Directive are simply more specific iterations of the TPM provisions of the 1996 WIPO Treaties.^[88] Brussels seemingly could have saved itself over 3 years of work by simply adopting the language used in the 1996 WIPO Treaties. Instead, it got more ambitious. For in addition to adding detail to the rights management and TPM protection provisions of the WIPO Treaties, the Directive also attempts to close the universe of permissible "exceptions" to copyright, related rights and the database right.^[89] Although an exhaustive analysis of the closed list of exceptions contained in Article 5 of the Directive is beyond the scope of this article, there are 8 exceptions which have direct applicability to any national legislation dealing with TPM protection, and so must be examined in more detail.

Article 6(4) regulates permissible exceptions to strict TPM protection. In relevant and abbreviated part, that portion of the Article states that "Member States *shall* take appropriate measures to ensure that rightsholders make available to the beneficiary [of the exceptions discussed below] the means of benefiting from that exception or limitation, to the extent necessary to benefit from that exception or limitation *and* where that beneficiary has legal access to the protected work or subject-matter concerned."^[90] The exceptions mandated are:

- Art. 5(2)(a): the exception to the reproduction right for paper copies created by photographic techniques or their equivalent, except for sheet music, provided that the rightsholders receive fair compensation (the "photocopying exception");
- Art. 5(2)(c): the exception to the reproduction right for "specific acts of reproduction made by publicly accessible libraries, educational establishments or museums, or by archives, which are not for direct or indirect economic or commercial advantage" (the "archival copying exception")
- Art. 5(2)(d): the exception to the reproduction right for "ephemeral recordings of works made by broadcasting organizations by means of their own facilities and for their own broadcasts" (the "broadcaster's exception")
- Art. 5(2)(e): the exception to the reproduction right for "reproductions of broadcasts made by social institutions pursuing non-commercial purposes, such as hospitals or prisons, on condition that the rightsholders receive fair compensation" (the "non-commercial broadcast exception")
- Art. 5(3)(a): the exception to the rights of reproduction, communication to the public and making available to the public for "the sole purpose of illustration for teaching or scientific research" so long as the source is indicated where possible and only to the extent "justified by the non-commercial purpose to be achieved" (the "teaching and research exception");

- Art. 5(3)(b): the exception to the rights of reproduction, communication to the public and making available to the public for "people with a disability" to the extent required by that disability and when of a non-commercial nature" (the "disability exception");
- Art. 5(3)(e): the exception to the rights of reproduction, communication to the public and making available to the public for purposes of public security or administrative, parliamentary or judicial proceedings (the "government exception").

Although the word "shall" in the Directive appears to make legislation regarding these exceptions mandatory, in actuality, member states may only legislate regarding these exceptions "in the absence of voluntary measures taken by rightsholders, including agreements between rightsholders and other parties concerned"[91] to accommodate these exceptions into their TPM systems.

Further, member states *may*, in the circumstances outlined below, make a limited exception to TPM protection for private, home copying. First, the "home copying" exception:

Art. 5(2)(b): the exception only to the reproduction right for "reproductions on any medium made by a natural person for private use and for ends that are neither directly nor indirectly commercial, on condition that the rightholders receive fair compensation which takes account of the application or non-application of [TPM]"

Again, member states may not enact any such exceptions if "reproduction for private use [on the terms of Art. 5(2)(b)] has already been made possible by rightsholders . . ."[92] Moreover, any exception enacted cannot prevent "rightsholders from adopting adequate measures regarding the number of reproductions . . ."[93] Just for good measure, the paragraph permitting exceptions for home copying also references Article 5(5), which recites the so-called "three-step test" of Article 9 (2) of the Berne Convention[94]; i.e., all exceptions or limitations to copyright, related rights, or the data base right "shall only be applied in certain special cases which do not conflict with a normal exploitation of the work or other subject-matter and do not unreasonably prejudice the legitimate interests of the rightholder."

Strangely, the Directive contains no such complicated provisions for exceptions from legal protection for "rights-management information." Presumably, member states are free to enact the full panoply of exceptions contained in Article 5, and they will apply in full with respect to alteration or removal of "rights-management information." An argument could be made that the "without authority" language of Article 7(1) refers only to the authority of rightholders, such that the removal or alteration of rights management information must always be illegal unless authorized by the rightholders, regardless of whether the work has entered the public domain or is otherwise within the scope of an Article 5 exception. However, the better reading is that "without authority" means without authority of either the rightholder or the law.[95] Hence, removal of rights-management information when the subject-matter to which it is attached is not otherwise legally protected should be of no concern.

(c) The Problems

There are a number of problems with the exceptions arguably permitted by Article 6. First, the governments (and citizens) of all member states should be concerned when the Council and Parliament feel they have the authority to make the exercise of national lawmaking power contingent upon the acquiescence of corporate and private interests. Bluntly, Article 6(4) does just that. Member states may only apply enacted exception to TPM "in the absence of voluntary measures taken by rightsholders." Hence, whether member states may enact *any* laws enforcing traditional copyright limitations with respect to TPM depends upon whether or not rightsholders voluntarily incorporate means of allowing the exceptions to coexist with their chosen forms of TPM. How member states are to determine when or whether this condition exists is not explained. If member states enact laws requiring exceptions, and the rightsholders subsequently institutionalize that protection in their TPM,

do member states then have to withdraw their laws? What if some rightsholders' TPM permits the exceptions, but others do not? Moreover, does such a requirement implicitly encourage collusive anticompetitive behavior by rightsholders in violation of Articles 81 and 82 E.C. (and if so, is such behavior somehow *sua sponte* exempted by the mandate of the Directive)?^[96] Apparently, rightsholders would like TPM protection without strings, and may use Article 6(4) as a sword of Damocles over the heads of national legislatures, threatening them with challenges to their authority should they have the temerity to insist that the law, rather than rightsholders' goodwill, should govern the scope of copyright and its related rights. Where in the Treaty of Rome have European states agreed to give private corporations veto power over their legislation? Even in the annals of special interest legislation, this provision is startling.

Perhaps as importantly, these optional exceptions do nothing to harmonize European law, which is the alleged impetus behind the Directive. For the most part, member states can choose to accept or not accept the exceptions.^[97] This disunity is amplified with respect to TPM, since it seems that a state which enacts numerous exceptions generally is nonetheless limited with respect to the exceptions it may enforce with regards to protection of TPM. For instance, a member state could (and probably should) enact an exception permitting reproduction of a work by the press without liability (as permitted under Article 5(3)(c)). However, since this is not one of the Article 6(4) exceptions, it seemingly now must punish that reproduction if it is obtained by circumventing TPM. Hence, had the European edition of the Wall Street Journal first published the decrypted files from the computer hard drive purchased in Afghanistan, Al-Queda would arguably have a case against it under Article 6.

Maybe Article 6(4) is meant only to require that, if states enact the specified exceptions generally, they will ensure that the exceptions apply equally with respect to TPM. But if that is the intent, why call out those eight exceptions at all? Without Article 6(4), it would be clear - pursuant to Article 6(3)'s definition of "technological measures" -- that any exceptions adopted would apply equally to TPM circumvention, i.e., circumvention in furtherance of an exception would not fall afoul of the law. By calling out eight specific exceptions which must be applied (at least "in the absence of voluntary measures taken by rightsholders"), the clear implication is that other exceptions do not have to apply with respect to TPM. Although it would certainly make more sense to apply all exceptions equally to TPM, member states will have to struggle this out on their own. Perhaps the UK should take the lead in defining this provision by simply applying all exceptions equally to TPM, regardless of whether they are listed in Article 6(4), to see whether the Council will challenge that decision.

This attempt to categorize and close the list of permitted exceptions exposes at least two ambiguities in the broad field of copyright - one latent, the other blatant. The latent ambiguity is the assumption (inherent in the very term) that "exceptions" are a limitation on rightsholders, rather than a positive right of the public.^[98] The assumption that all "rights" reside with the rightsholder leads lawmakers to believe that they must expand definitions to cover use of copyright material in the electronic arena, because otherwise authors, publishers, and producers would "lose" some rights. Nonetheless, there is no definitional reason why copyright (and its related rights) should not be thought of as an exception itself to the otherwise broad right of the public to access and utilize published materials in order to build on previous knowledge. Thought of this way, the public can be seen as having a broad property right in its access and use of material, to which a limited exception is permitted on behalf of rightsholders.^[99] Seen in this perspective, the goal of the legislature should be to expand the public's right of access and use in a digital age, while allowing only certain useful, but narrowly drawn, exceptions in the form of copyright and its related rights.

The blatant ambiguity (perhaps "irony" would be the better term) is that, in order to address problems presented by new and rapidly changing technologies, the E.U. is apparently trying to ossify the law, at least with respect to exceptions. Rather than giving them flexibility to respond to changing technological situations, the E.U. has put a straight-jacket around its member states.

Although the E.U. recognized that technology may necessitate an expansion of the rights and opportunities presented to authors, publishers and producers, it apparently believes that technology cannot affect a concomittal expansion of the public's rights. The E.U. may have been better off obeying the dictum of the WIPO Treaty, wherein it was recognized that signatories were free "to devise new exceptions and limitations that are appropriate in the digital network environment."[\[100\]](#)

Finally, the Directive's command that most implementation of most "exceptions" be accompanied by "fair compensation" to rightsholders misses the entire premise of such exceptions. The "exceptions" form part of the bundle of rights that is generally copyright - i.e., the public benefit to the monopoly given to rightsholders. Rightsholders should have no right to compensation in these circumstances, any more than the public should have a right to compensation when a rightsholder incorporates portions of public domain works in its copyrighted work. There is little reason for an exception if compensation is congruently required - in such circumstances, the copyright holder can simply exercise and enforce its rights. By requiring compensation for the exercise of "exceptions," the E.U. has simply transferred enforcement costs from private rightsholders to member states.[\[101\]](#)

IV. The Directive's Effect on UK Law

UK law was far ahead of the rest of the world in granting legislative protection to TPM. Sections 296 through 299 of the Copyright, Designs and Patents Act 1988 broadly prohibit unauthorized circumvention of copy-protection devices, descrambling of encrypted transmission or reception of conditional access services, including trafficking in devices or services to aid in such endeavors. Hence, these portions of the CDPA will be the ones most immediately affected by the Directive.

Section 296 applies when authorized "copies of a copyright work are issued to the public . . . in an electronic form which is copy-protected." Copy-protection includes "any device or means intended to prevent or restrict copying of a work or to impair the quality of copies made."[\[102\]](#) The definition of a "copyright work" includes, *inter alia*, databases, which are considered literary works.[\[103\]](#) The rights associated with copyright include the rental right.[\[104\]](#) Thus, all the necessary categories of subject matter protection to meet the Directive are covered in Section 296. One subsection prohibits the knowing manufacture, importation, sale or rental of any "device or means specifically designed or adopted to circumvent the form of copy-protection employed," as well as advertising for the sale or hire of such means.[\[105\]](#) Another subsection prohibits the publication of information "intended to enable or assist" the circumvention of copy protection devices.[\[106\]](#)

The UK statute makes a special distinction for computer programs by also prohibiting possession of devices used to circumvent copy protection in computer programs "in the course of a business".[\[107\]](#) By implication, the mere possession of such devices for personal use appears not to be covered. This is congruent with the Directive, which also limits its scope to "possession for commercial purposes."[\[108\]](#) However, Section 296 covers only the manufacture and distribution of circumvention devices, not their actual use.[\[109\]](#) The Directive requires member states to provide "adequate legal protection" against knowing act of circumvention, independent of the use of any prohibited devices. The already extant definitions of acts of infringement may be sufficient to cover such circumvention.[\[110\]](#) However, one could imagine a situation in which a person circumvents a TPM, but then only views (without copying, broadcasting or distributing) the protected information. That situation does not presently seem to be covered by the CDPA, and should perhaps be addressed.[\[111\]](#)

Section 296 only covers "copy-protection" mechanisms in works in "electronic form." Additionally, sections 297 and 297A broadly prohibit trafficking in decoders for conditional access broadcasts or cable casts, and section 298 extends that protection to encrypted transmissions and conditional access services originating in any member state. The Directive, on the other hand, is even broader. It covers "any effective technological measures," which means anything designed to prevent or restrict unauthorized acts.[\[112\]](#) Moreover, the Directive's "technological measures" are not restricted to

those applied to works in electronic form. (However, the Directive's prohibitions on interfering with rights management information in Article 7 are limited to those in electronic form.) Thus, the definitions and language of Section 296 *et seq* should be expanded to incorporate the terms of the Directive.

With regard to adoption of the exception, certainly consideration should be given to adopting all 21 exceptions. However, as regards TPM, it is vital that the UK adopt at least all eight of the clearly permissible exceptions identified in Article 6(4). There are at least 42 public right exceptions to the general rights afforded copyright holders under the CDPA.^[113] To some extent, these cover much of the exceptions permitted by the Directive. However, where the Directive permits it, further expansion should be considered. Moreover, given the detailed piecemeal approach of both the CDPA and the Directive with respect to public rights/exceptions, it may be more beneficial to eliminate the sections of the CDPA covering such subjects and replace it whole cloth with Article 5 of the Directive. To the extent possible, the eight Directive exceptions discussed above are analyzed below.

A. The Photocopying Exception (Art. 5(2)(a))

This provision has no direct analogue in the CDPA. Although various sections permit photocopying by certain actors, and for certain purposes, ^[114] there does not seem to be a generalized exception to the reproduction right as permitted under Art. 5(2)(a) of the Directive. However, the Directive requires that to enact this exception, the rightsholder must receive "fair compensation", which term is not actually defined in the Directive. Recital 35 gives some idea of what the Commission and Parliament had in mind:

When determining the form, detailed arrangements and possible level of such fair compensation, account should be taken of the particular circumstances of each case. When evaluating these circumstances, a valuable criterion would be the possible harm to the rightsholders resulting from the act in question. In cases where rightsholders have already received payment in some other form . . . no specific or separate payment may be due. The level of fair compensation should take full account of the degree of use of technological protection measures referred to in this Directive. In certain situations where the prejudice to the rightholder would be minimal, no obligation for payment may arise.

In enacting a generalized exception for photocopying, it seems the least administratively burdensome compensation procedure may be to exclude a right to further payment in all but the most egregious cases, and leave policing of the right to rightsholders.

B. The Archival Copy Exception (Art. 5(2)(c)).

The general contours of this right appear to be already encased in Sections 32 through 44 of the CDPA covering educational institutions, libraries and archives. Given the detailed nature of those provisions, they should adequately fulfill the Directive's instruction to limit such exception to "specific acts" by libraries, educational establishments, museums and archives. In all likelihood, the only change necessary is to add a provision stating that circumventing TPM to accomplish these goals is permissible.

C. The Broadcasting Exception (Art. 5(2)(d)).

The CDPA seems to contain this exact exception. In Section 68, broadcasters and cable-casters are permitted to make copies or recordings of works which they have licensed so long as they are only used for the purpose of broadcasting or for inclusion in a cable programme, and so long as they are destroyed within 28 days of first being used. Laddie himself describes these as "ephemeral records", ^[115] as does the Directive. Again, the only change necessary would be to add that circumvention of

TPM is permitted for such purposes.

D. The Non-Commercial Broadcast Exception (Art. 5(2)(e)).

Although not as directly on-point as the above example, this exception also appears to be contained in the CDPA. Section 72 permits free showing or playing in public of a broadcast or cable programme so long as the audience has not paid admission, which includes prisoners and residents. However, the Directive now requires that the rightsholder receive fair compensation for such showings. Given that rightsholders have lived without such "fair compensation" for at least the last decade, it would be rational to conclude that the fair compensation for such incidental use is already included in the price of the initial broadcast license. Of course, the EU has already threatened the UK with an ECJ action regarding this exception, as it contends that the exception violates Article 8 of the Cable and Satellite Directive.[\[116\]](#)

E. The Teaching and Research Exception (Art. 5(3)(a)).

Although no section of the CDPA contains the exact language of the Directive, its spirit resides in a number of provisions. For instance, Section 29 exempts use for research and private study and Sections 32 through 36A carve out broad exceptions for educational uses. Although perhaps more detailed than the general language of Art. 5(3)(a) of the Directive, these provisions seem to capture its intent. Other than making explicit that circumvention of TPM for those purposes is permissible, it is likely few other changes need to be made.

F. The Disability Exception (Art. 5(3)(b)).

The Directive's mandate actually appears to be broader than that contained in the CDPA. Section 74 permits designated bodies (currently the National Subtitling Library for Deaf People) to produce copies of broadcasts or cable programmes modified for the special needs of the handicapped. The exception appears to permit reproduction and availability in this way for all works, not just broadcasts. This exception should be expanded to the full remit of the Directive.

G. The Governmental Exception (Art. 5(3)(e)).

As would be expected, the CDPA already contains - in Sections 45 through 50 --broad exceptions for the purpose of government function. The only suggested change is to make clear that circumvention of TPM for these purposes is permitted.

H. The Home Copying Exception (Art. 5(2)(b)).

Limited though it may be, it is the home copying (e.g., recording) right which generally garners the most headlines, and which consumers consider to be a right, while rightsholders consider it to be theft. Section 70 of the CDPA explicitly permits "time-shifting" of broadcasts and cablecasts, and Section 71 permits photographs to be taken from such broadcasts. Moreover, Section 29 provides an exception for research and private study of literary works, excepting databases, or dramatic, musical or artistic works. Nonetheless, the Directive seems to give a broader and more generalized right. This brings to mind the observations of Lord Templeman in the *Amstrad* case (which allowed the sale of dual cassette recorders over the objections of rightsholders):

From the point of view of society the present position is lamentable. Millions of breaches of the law must be committed by home copiers every year. Some home copiers may break the law in ignorance, despite extensive publicity and warning notices on records, tapes and films. Some home copiers may break the law because they estimate that the chances of detection are non-existent. Some home copiers may consider that the entertainment and recording industry already exhibit all the characteristics of

undesirable monopoly - lavish expenses, extravagant earnings and exorbitant profits - and that the blank tape is the only restraint on further increases in the prices of records. Whatever the reason for home copying, the beat of Sergeant Pepper and the sousing sounds of the Miserere from unlawful copies are more powerful than law-abiding instincts or twinges of conscience. A law which is treated with such contempt should be amended or repealed. [117]

This exception, meager though it is, should also be adopted.

V. Conclusion

That rightsholders should use technology to protect their works is unremarkable. Technological protection measures have the ability to lower transaction and enforcement costs, and may eventually lead to a diminution in the role of (and need for) publishers and assorted other non-creatives to disseminate works. While dangers exist - of invasion of privacy, of locking up public domain and public use works, of industry monopolization, and generally of a diminution of public rights - TPM still generally can be a benefit to all. With or without legislative encouragement, rightsholders will increasingly rely on technology to monitor and enforce their rights. After all, a strong lock is worth a hundred policemen.

However, that legislative bodies should rush to heap legal protection upon such technology, rather than seeking only to protect the public's rights, is remarkable. As demonstrated by Article III of the Information Society Directive, such attempts are also fraught with unintended consequences. When dealing with technology, legislatures would be wise to reference the Hippocratic Oath: "First, do no harm." In trying to use the crude bludgeon of the law, the EU may have done little to stop piracy, but much to engender resentment and confusion amongst the non-rightsholder populace.

[1] B.A. 1987, University of Pennsylvania; J.D. 1992, Georgetown University Law Center. This draft paper forms part of the author's ongoing research into the intersection of technological protection measures and the law for his dissertation topic in the L.L.M. programme at the London School of Economics. Special thanks go to Andrew Murray of the L.S.E. for his wisdom, advice and support in that endeavor. Comments, criticisms and corrections are appreciated.

[2] Lawrence Lessig, *CODE AND OTHER LAWS OF CYBERSPACE* 127 (1999).

[3] Wendy McAuliffe, "Michael Jackson rocks the copy-protection world", available at <http://news.zdnet.co.uk/story/0,,t269-s2095931,00.html> (last visited on Dec. 7, 2001). It is believed that Sony used a variant of Macrovision's SafeAudio protection

[4] Frank Thorsberg and Tom Spring, "New Shackles on Your CD, Video Copying", available at <http://www.pcworld.com/resource/printable/article/0,aid,68799,00.asp> (last visited on Feb. 2, 2002). These attempts to include copy protection in CDs surreptitiously have led to fraud lawsuits in the U.S., the first of which was recently settled favorably to the plaintiff. The complaint and settlement document are both available at <http://www.techfirm.com> (last visited on February 27, 2002).

[5] John Gilmore, "What's Wrong with Copy Protection", available at <http://www.toad.com/gnu/whatswrong.html> (last visited on Dec. 7, 2001).

[6] Gilmore, *supra* n. 5

[7] Declan McCullagh, "RIAA Wants to Hack Your PC", available at <http://wired.com/news/print/0,1294,47552,00.html>. As reported there, the text of the proposed bill

would prevent actions being brought "arising out of any impairment of the availability of data, a program, a system or information, resulting from measures taken by an owner of copyright in a work of authorship, or any person authorized by such owner to act on its behalf, that are intended to impede or prevent the infringement of copyright in such work by wire or electronic communication."

[8] See Information Society Directive, Art. 6. See also Lee A. Bygrave, "The Technologisation of Copyright: Implications for Privacy and Related Interests," E.I.P.R. 2002, 24(2), 51, 54-55 (suggesting that such monitoring technologies may be covered by Article 6).

[9] Under an expansive "first use" doctrine, the rightsholder's rights would be exhausted upon first sale, hence rendering reuse or resale outside of the designated region a concern outside the realm of traditional copyright law. However, Article 4 of the Directive now mandates only community-wide exhaustion, effectively validating this previously questionable practice.

[10] See, e.g., Jane C. Ginsburg, "Copyright and Control over New Technologies of Dissemination", 101 Col. L. Rev. 1613, 1646-47 (2001); Note, "Exploitative Publishers, Untrustworthy Systems, and the Dream of A Digital Revolution for Artists", 114 Harvard L. Rev. 2438, 2446-48 (2001).

[11] Eugene Henderson, "Cheek! That's my tune in The Full Monty", Daily Express, Feb. 6, 2002, at 5. Ultimately, the mix-up was sorted, and Anthony is now receiving "a flood of royalty payments from home and abroad that could eventually hit £500,000."

[12] This very outcome was predicted in Charles Clark's seminal article, "The Answer to the Machine is the Machine", in THE FUTURE OF COPYRIGHT IN A DIGITAL ENVIRONMENT (P. Bernt Hugenholtz ed., 1996).

[13] Others have broken the same technologies down into three or four categories. E.g., Kamiel J. Koelman and Natali Helberger, "Protection of Technological Measures" in COPYRIGHT AND ELECTRONIC COMMERCE (2000) (four categories); E. Schlacter, "The Intellectual Property Renaissance in Cyberspace: Why Copyright Law Could Be Unimportant on the Internet", 1997 Berkeley Tech. L. J. 15 (three categories). However, the 1996 WIPO Treaties, the Digital Millennium Copyright Act (17 U.S.C. § 1201 *et seq.*) and the Information Society Directive use only two categories - technological protection and rights management systems.

[14] Charlotte Waelde, "The Quest for Access in the Digital Era: Copyright and the Internet," 2001 (1) JILT, at 3-4, available at <http://elj.warwick.ac.uk/jilt/01-1/waelde.html> (last visited on Feb. 5, 2002).

[15] Dean S. Marks and Bruce H. Turnbull, "Technical Protection Measures: The Intersection of Technology, Law and Commercial Licenses", 22 E.I.P.R. 198, 212 (2000). A virtually identical article by Marks and Turnbull is also available on the WIPO website.

[16] Copy-bots are "robots" or "spiders" which search, analyze and categorize the content of the Web. Waelde, *supra* n. 14, at 4; see also Lawrence Lessig, THE FUTURE OF IDEAS (2001), at 169 (explaining the functions of "bots" and "spiders")

[17] Patricia Akester, "Survey of Technological Measures for Protection of Copyright", Ent. L.R. 2001, 12(1), 36, 37.

[18] Declan McCullagh, "SDMI Code-Breaker Speaks Freely", available at [(last visited Dec. 10, 2001).

[19] McCullagh, *supra* n. 19. Felten responded by filing his own suit, asking the court to declare that

he was free to disclose his work without liability. The district court dismissed that suit for lack of standing, and it is presently on appeal.

[20] Akester, *supra* n. 17, at 37. This is also sometimes referred to as the Macrovision system.

[21] "Digital bits which immediately precede or are embedded in the content that indicate whether copying is authorized. These flags can become elaborate in defining numbers of copies or length of time for viewing, etc." Marks and Turnbull, *supra* n. 15, at 212.

[22] Akester, *supra* n. 17, at 37.

[23] Akester, *supra* n. 17, at 37.

[24] 17 U.S.C. § 1002.

[25] Marks and Turnbull, *supra* n. 15, at 212.

[26] Marks and Turnbull, *supra* n. 15, at 212.

[27] Most of this narrative is condensed from Marks & Turnbull's article, *supra* n. 15. Further citation to the article will only be given for direct quotations. As Marks and Turnbull were apparently both players in this drama - Marks as representative for Time Warner and Turnbull as representative of Matsushita Electric Industrial Company Ltd. - they are uniquely positioned to give the history of CSS.

[28] This is an age-old struggle. As observed by Lord Templeman in the *Amstrad* decision: "Although the two industries [electronic equipment industry and entertainment industry] are interdependent and flourish to their mutual satisfaction there is one area in which their interests conflict. It is in the interests of the electronic equipment industry to put on the market every facility which is likely to induce customers to purchase new machines made by the industry. It is in the interests of the entertainment industry to maintain a monopoly in the reproduction of entertainment. Facilities for recording and reproducing incorporated in machines sold to the public by the electronic equipment industry are capable of being utilized by members of the public to copy the published works of the entertainment industry, thus reducing the public demand for original works and recordings of the entertainment industry itself." *C.B.S. Songs Ltd. v. Amstrad Consumer Elect. Plc.*, [1988] A.C. 1013, 1045-46.

[29] Marks & Turnbull, *supra* n. 15, at 205.

[30] "[A]ny party that wants to use the CSS technology - either to encrypt content or decrypt content--must obtain a license. The license not only gives the party the right to use the technology, but also provides the party with the relevant necessary technical "locks" and "keys". Because a license is necessary to use the CSS technology, this license can impose obligations as to how the technology is used and how content should be treated once it is decrypted." Marks & Turnbull, *supra* n. 15, at 206.

[31] Marks & Turnbull, *supra* n. 15, at 208.

[32] The same type of system, albeit with a different encryption system, is also being developed by the same industry groups for a new music format called DVD audio. Marks & Turnbull, *supra* n. ___, at 209-10.

[33] *Universal City v. Reimerdes*, ___ F.3d ___, Docket No. 00-9185 (2nd Cir. 2001), available at

<http://laws.lp.findlaw.com/2nd/009185.html> (last visited on December 3, 2001). After extreme pressure was brought to bear on Norwegian authorities, one of the alleged programmers (or publishers) – Jon Johansen -- was indicted under Norwegian Criminal Code Section 145.2, which outlaws circumventing another's security measures to access data without authorization. EFFector, 15(5), Feb. 14, 2002. Oddly, Johansen only circumvented alleged security measures embedded on a DVD which he legally owned, and to which he presumably had legal access. If he is successfully prosecuted, it would seem possible that lending someone else a DVD in Norway, or even watching a rental DVD which is overdue, could result in criminal prosecution.

[34] "Within six weeks [of the release of DeCSS], four lawsuits had been filed in four separate jurisdictions, seeking under many legal theories the quashing the code. Within three weeks of the filing of the suits, two injunctions had been entered against people who posted DeCSS code and even against journalists who linked to DeCSS." Lessig, *supra* n. 16, at 189-90.

[35] *Reimerdes*, *supra* n. 33. According to one of the litigants' web site (<http://www.2600.com/news/display.shtml?id=953>, last visited Feb. 16, 2002), the on-line magazine has now sought *en banc* review of the panel's decision. For a comprehensive overview of the various iterations

[36] Marks & Turnbull, *supra* n. 15, at 208

[37] Marks & Turnbull, *supra* n. 15, at 208.

[38] Marks & Turnbull, *supra* n. 15, at 209.

[39] Marks & Turnbull, *supra* n. 15, at 208-09.

[40] EFFector, 15(5), Feb. 14, 2002.

[41] Rightsholders have a tattered history of "crying wolf" over the detrimental impact of new technologies on their rights (and income stream). For instance, in 1982, Jack Valenti, then chief of the Motion Picture Association of America, colorfully predicted under oath that the VCR would toll the death knell on America's film industry: "I say to you that the VCR is to the American film producer and the American public as the Boston Strangler [a serial rapist and murderer] is to the woman home alone." *Home Recordings of Copyrighted Works: Hearings on H.R. 4783 et al. Before the Subcommittee on Courts of the House Comm. on the Judiciary*, 97th Cong. 8 (1982). Despite those dire predictions, VCR technology turned out to be a boon to the film industry.

[42] At that time, the Netherlands, Denmark, Germany, Spain, France and Portugal all explicitly permitted home copying of audio and video material for private use. 1988 Green Paper, at 104-105. Most often, that right was balanced with potential compensation for most rights-holders through a levy on blank recording media and recording equipment. 1988 Green Paper, at 105-07. Although the report also looked at a number of studies investigating the effect of home recording on audio and video markets, it concluded that the effects were "far from clear." 1988 Green Paper, at 113.

[43] 1988 Green Paper, at 119. The Green Paper also noted that, at that time, rightsholders were resigned to the inevitability of home copying, and therefore were promoting "legal provisions which recognized the practice as legitimate but ensured a reasonable return to right holders as the most solid basis for a solution." 1988 Green Paper, at 121.

[44] 1988 Green Paper, at 121.

[45] 1988 Green Paper, at 124.

[46] 1988 Green Paper, at 108-09, 125.

[47] 1988 Green Paper, at 131. Throughout the report, the Commission used the term "audio-visual" as shorthand for both audio and video works.

[48] 1988 Green Paper, at 131.

[49] Michael P. Ryan, KNOWLEDGE DIPLOMACY: GLOBAL COMPETITION AND THE POLITICS OF INTELLECTUAL PROPERTY, at 162 (1998).

[50] Available at <http://www.uspto.gov/web/offices/com/doc/ipnii> (last visited on January 31, 2002).

[51] Lehman Report, Executive Summary at 2 (emphasis added). Hence, from its earliest stages of grappling with the profound changes being wrought by the Internet and related technologies, the predilection of the United States government has been to view cyberspace as a vast commercial space. By viewing this space through the lens of commerce, it was inevitable that non-commercial interests - including free speech and fair use - would receive less governmental attention.

[52] Lehman Report, at 177.

[53] Lehman Report, at 230.

[54] Those bills, which eventually lead to the Digital Millennium Copyright Act, read as follows: "No person shall import, manufacture, or distribute any device, product or component incorporated into a device or product, or offer or perform any service, the primary purpose or effect of which is to avoid, bypass, remove, deactivate, or otherwise circumvent, without authority of the copyright owner or the law, any process, treatment, mechanism or system which prevents or inhibits the violation of any of the exclusive rights of the copyright owner under section 106 [of the Copyright Act]." HR 2441, 104th Cong., 1st Sess. (1995); S. 1284, 104th Cong., 1st Sess. (1995) ("1995 U.S. Bills").

[55] Ryan, *supra* n. 49, at 176.

[56] Ryan, *supra* n. 49, at 176-77.

[57] Ryan, *supra* n. 49, at 177.

[58] Thomas C. Vinje, "The New WIPO Copyright Treaty: A Happy Result in Geneva," [1997] E.I.P.R. 230.

[59] Vinje, *supra* n. 58.

[60] Indeed, recital 15 of the Directive makes this link explicit.

[61] *See generally* Marc Bonofacio, "The Information Society and the Harmonization of Copyright and Related Rights: (Over)Stretching the Legal Basis of Article 95(100A)", L.I.E.I. 1999/1+2, 1, 27-33 (describing many of the documents and regulations dealing with "information society" issues).

[62] 1996 Green Paper, at 9-19.

[63] Bonofacio, *supra* n. 61, at 49.

[64] Rico Calleja, "Copyright Directive Adopted - and About Time Too!", 3 Elect. Bus. L. 1 (June 2001).

[65] Herman Cohen Jehoram, "European Copyright Law - Ever More Horizontal", 32 *Int. Rev. of Ind. Prop. & Copyright L.* 532, 539 (2001).

[66] Information Society Directive, recital 5. At least one commentator described the "making available to the public" right contained in Article 3 as "the new on-line right." Adolf Dietz, "The Protection of Intellectual Property in the Information Age - The Draft E.U. Copyright Directive of November 1997," *I.P.Q.* 1998, 4, 335, 348. *See also* J.A.L. Sterling, *WORLD COPYRIGHT LAW*, at 568 (1999) (describing the same right in the 1996 WIPO Copyright Treaty as "in effect both an extension and clarification of the rights accorded in this area by the Berne Convention.").

[67] Information Society Directive, recital 6.

[68] This concern had been expressed by the Commission as early as 1996. Bonofacio, *supra* n. 61, at 30. Given that early warning by the Commission, the European member states' agreement on the language of the 1996 WIPO Treaties, and the absence of any concrete examples of such divergence, it is again questionable whether such differences were ever likely to appear.

[69] Information Society Directive, Art. 3.

[70] Information Society Directive, Recital 9. A similar canard has been repeated in other directives. *E.g.*, Council Directive 93/98/EEC (the "Term Directive"), Recital 10.

[71] Commentators have already noted that very high level of protection may actually stifle competition and innovation: "If the 'high level' of protection is too high, creation and innovation may be impeded rather than promoted. This may occur where more aspects of a work receive protection and/or receive stronger, more effective protection. As a result, re-using already created material to create new works may become more difficult." Thomas Heide, "The Approach to Innovation Under the Proposed Copyright Directive: Time for Mandatory Exceptions", *I.P.Q.* 2000, 3, 215, 218.

[72] Some commentators have already questioned whether the Directive might actually be ultra vires, and perhaps in danger of annulment through a legal challenge. *E.g.*, W.R. Cornish, *INTELLECTUAL PROPERTY: PATENTS, COPYRIGHTS, TRADEMARKS AND ALLIED RIGHTS* (4th ed. 2001), at 545 (hereinafter "Cornish"); P. Bernt Hugenholtz, "Why the Copyright Directive is Unimportant, and Possibly Invalid", *E.I.P.R.* 2000, 22(11), 449-505. *See also* Bonofacio, *supra* n. 61 (questioning whether protection of the internal market is the proper basis for the Directive). Unfortunately, challenges to other directives in the intellectual property harmonization field on that basis have not been particularly successful. *E.g.*, *Netherlands v. European Parliament and Council*, Case C-377/98, [2001] ECR 0 (in challenge to Directive 98/44/EC on the legal protection of biotechnological inventions, ECJ held that harmonization even without disunity is permissible "to prevent the emergence of future obstacles to trade . . . provided that the emergence of such obstacles is likely and the measure in question is designed to prevent them").

[73] The Directive states only that it is explicitly authorized by Articles 47(2), 55 and 95 of the Treaty establishing the European Community. None of these articles are directly relevant to the subject matter of the Directive. Perhaps better authority exists somewhere in the penumbra of the Treaty.

[74] Information Society Directive, recital 12.

[75] Information Society Directive, recital 22. It seems odd that a concern not expressed in the Treaty--intellectual property - should trump a concern explicitly set forth in the Treaty of Rome.

[76] TPM used to protect computer programs is considered to be outside of the scope of the

Directive, having already been addressed in Directive 91/250/EEC (the "Software Directive"). Information Society Directive, recital 50. The specific provision of the Software Directive dealing with TPM requires Member States to provide "appropriate remedies against a person . . . (c) . . . putting into circulation [or possessing] any means the sole intended purpose of which is to facilitate the unauthorized removal or circumvention of any technical device which may have been applied to protect a computer program." Software Directive, Article 7(1)(c).

[77] Information Society Directive, recital 47. *See also* recitals 13, 39, 48, 49, 51, 52, 53, 54, 55, 56, 57 (further discussing the need for legal protection for technological protection measures).

[78] *See, e.g., Yu, supra* at 3 (suggesting that "all the rights stipulated in the directive already exist in national copyright laws).

[79] Information Society Directive, Art. 6(1).

[80] Information Society Directive, Art. 6(3).

[81] Information Society Directive, Art. 6(3). I contend the term "effective" - in both this Directive and the WIPO Treaties - is redundant and circular because any truly "effective" TPM does not need legal protection against circumvention since it should be uncrackable. It is only when a workaround or crack is found that it suddenly needs legal protection against such circumvention, at which point it is certainly *not* "achiev[ing] its protection objective."

[82] Information Society Directive, Art. 6(2).

[83] Information Society Directive, Art. 6(2).

[84] Art. 6(4).

[85] It remains to be seen whether that proviso, in conjunction with legal norms outside the scope of the Information Society Directive (such as free speech rights) might also pry open the otherwise closed list of exceptions provided by the Directive in Article 5.

[86] Information Society Directive, Art. 7(1).

[87] Information Society Directive, Art. 7(2).

[88] *See* 1996 WIPO Copyright Treaty, Art. 11 and 12; 1996 WIPO Performances and Phonograms Treaty, Art. 18 and 19.

[89] This exhaustive list goes well beyond the spirit, if not the scope, of the 1996 WIPO Copyright Treaty. Article 10 of that Treaty states (as does Article 9(2) of Berne) that signatories may provide exceptions or limitations to the rights protected in "certain special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author." The Agreed Statement to Article 10 of the 1996 WIPO Treaty wisely states that signatories retained the right to "devise *new* exceptions and limitations that are appropriate in the digital environment" [emphasis added]. Rather than retaining Article 10's flexibility in the face of rapid technological changes, the Council and Parliament have instead attempted to codify every *existing* European exception and virtually outlawed member states' ability to respond to future developments which may threaten copyright's common well. *See generally* P. Bernt Hugenholtz, "Why the Copyright Directive is Unimportant, and Possibly Invalid", 2000 E.I.P.R. 499 (criticizing the Directive in its draft stage).

[90] Information Society Directive, Art. 6(4) (emphasis added).

[91] Information Society Directive, Art. 6(4).

[92] Information Society Directive, Art. 6(4).

[93] Information Society Directive, Art. 6(4).

[94] *See generally*, Thomas Heide, "The Berne Three-Step Test and the Proposed Copyright Directive", E.I.P.R. 1999, 21(3), 105-109 (criticizing an earlier draft of the Directive which attempted to alter the "three-step test" to make it even more beneficial to rightsholders). Inclusion of this test raises an interesting statutory interpretation question: are the "normal exploitation" and "legitimate rights" to be judged by expectations in 1971 when Berne was last amended? If so, the clause seems strangely anachronistic in an Information Society directive.

[95] This same ambiguous "without authority language" is also contained in Article 12 of the 1996 WIPO Copyright Treaty, and Article 19 of the 1996 WIPO Performances and Phonograms Treaty. The Agreed Statement for both Articles also does not explain this language.

[96] *Cf.* Christophe Collard and Christophe Roquilly, "Closed Distribution Networks and E-Commerce: Antitrust Issues in the European Context," presented at the 16th BILETA Annual Conference, available at <http://www.bileta.ac.uk/01papers/collard.html> (last visited on February 21, 2002). In the United States, similar antitrust concerns have led to a Justice Department investigation into the music industry, and have convinced the judge presiding over the *Napster* litigation to permit Napster to investigate further the antitrust implications of the music industries' competing, but closed, music delivery systems. As stated by Judge Patel in her order in the *Napster* case, "even a naif must realize that in forming and operating a joint venture, [the music industry's] representatives must necessarily meet and discuss pricing and licensing, raising the specter of possible antitrust violations." *In Re Napster Copyright Litigation*, Nos. MDL 00-1369 MHP, C 99-5183 MHP (N.D. Cal) (Feb. 22, 2002 Memorandum and Order), available at <http://news.findlaw.com/hdocs/docs/napster/napster022102ord.pdf> (last visited on March 1, 2002).

[97] There is one mandatory exception contained in Article 5(1) of the Directive for "temporary acts of reproduction . . . which are transient or incidental [and] an integral and essential part of a technological process and whose sole purpose is to enable" network transmissions or a lawful use. Surprisingly, this is not one of the exceptions specifically called out for inclusion as regards TPM in Article 6(4). Perhaps the assumption is that this exception automatically applies, but as explained above, Article 6(4) does more to confuse this issue than clarify it.

[98] Justice Laddie correctly describes such exceptions generally as the "rights of the public." Laddie, Prescott and Vitoria, 1 THE MODERN LAW OF COPYRIGHT Ch. 20 (3rd Ed. 2000).

[99] Although writing over a century ago, Justice Oliver Wendell Holmes, Jr. made a similar observation with respect to easements and rights of way over real property (which of course could be thought of as "exceptions" to the otherwise unfettered rights of the owner of the servient estate): "A right of way, it might have been argued, is not to be approached from the point of view of contract. It does not presuppose any promise on the part of the servient owner. His obligation, although more troublesome to him than to others, is the same as that of every one else. It is the purely negative duty not to obstruct or interfere with a right of property." Oliver Wendell Holmes, Jr., THE COMMON LAW 387 (Dover ed. 1991).

[100] 1996 WIPO Copyright Treaty, Agreed Statement Concerning Article 10.

[101] Indeed, it is odd that the EU would not require some *quid pro quo* from rightsholders for this shift in enforcement burden, such as limiting their rights to pursue private lawsuits if administrative means of compensation are enacted.

[102] 1988 CDPA § 296(4).

[103] 1988 CDPA §§ 3(1)(d), 3A.

[104] 1988 CDPA § 18A.

[105] 1988 CDPA § 296(2)(a). The statute makes a special distinction for computer programs by also prohibiting possessing circumvention devices in the course of a business. By implication, the mere possession of such devices for personal use appears not to be covered. This is congruent with the Directive, which also limits its scope to "possession for commercial purposes." Information Society Directive, Art 6(2).

[106] 1988 CDPA § 296(2)(b). This section may have problems being reconciled with the right of free speech contained in the Human Rights Act, § 10.

[107] 1988 CDPA § 296(2A).

[108] Information Society Directive, Art 6(2).

[109] Similarly, Sections 24 through 26 also describe as "secondary infringement" providing the means, premises or apparatus for making infringing copies or performances.

[110] *See* CDPA §§ 17-21.

[111] Query, however, if this does not go a step too far. Will a newsstand browser now be infringing copyright by pulling a magazine out of a covering rack (arguably a crude form of TPM), perusing it but not buying it? Putting aside any privacy or trade secret issues, if a cracker circumvents a more high tech TPM, but simply peruses the information without disturbing it and then leaves, has he or she done anything different? Nonetheless, both types of "browsing" may be jeopardized by the Information Society Directive.

[112] Information Society Directive, Art. 6. The breadth of the coverage means that a sealed envelope is as protected as the strongest encryption.

[113] Laddie, Prescott, Vitoria, *supra* n. 98, at 748-49.

[114] E.g., 1988 CDPA §§ 36, 38-44, 60 (all allowing copying in limited circumstances).

[115] Laddie, Prescott and Vitoria, *supra* n. 98, at 802.

[116] Council Directive 93/83/EEC.

[117] *Amstrad*, [1988] A.C. at 1060.