

**COPYRIGHTING SCIENCE:
CANADIAN COPYRIGHT REFORM AND THE FUTURE OF SCIENTIFIC
RESEARCH**

**Professor Michael Geist
Canada Research Chair in Internet and E-Commerce Law
University of Ottawa, Faculty of Law**

**Prepared for the Canadian Biotechnology Advisory Committee
May 2005**

This publication is also available electronically on the World Wide Web at the following address:
<http://www.cbac-cccb.ca/>

This publication is also available in alternative formats on request. Contact the Canadian Biotechnology Advisory Committee (CBAC) at the numbers listed below.

For additional copies of this publication, please contact the:

Canadian Biotechnology Advisory Committee (CBAC)
255 Albert Street
Ottawa ON K1A 0H5
Toll free : 1 866 748-CBAC (2222)
TTY : 1 866 835-5380
Telephone: (613) 954-7059
Fax: (613) 946-2847
Web: cbac-cccb.ca
E-mail: info@cbac-cccb.ca

Permission to Reproduce

Except as otherwise specifically noted, the information in this publication may be reproduced, in part or in whole and by any means, without charge or further permission from CBAC, provided that due diligence is exercised in ensuring that the information is reproduced accurately, that CBAC is identified as the source institution, and that the reproduction is not represented as an official version of the information reproduced, nor as having been made in affiliation with, or with the endorsement of, CBAC.

Copyrighting Science: Canadian Copyright Reform and the Future of Scientific Research.

© 2005, Her Majesty the Queen in Right of Canada (Canadian Biotechnology Advisory Committee). All rights reserved.

Aussi disponible en français sous le titre, Protéger la science par le droit d'auteur : réforme du droit d'auteur canadien et avenir de la recherche scientifique.

Table of Contents

Introduction	1
Copyright Law in Canada - A Backgrounder	2
<i>Scope of Protection</i>	2
<i>Formalities - Term of Protection and Registration</i>	3
<i>Copyright Rights</i>	3
<i>User Rights/Exceptions</i>	4
<i>Canadian Copyright Reform</i>	5
Copyright and Science Clash - Database Protection	6
a) <i>Traditional Copyright Protections</i>	6
<i>Originality in Databases</i>	6
<i>Databases Protected as Compilations</i>	7
b) <i>Sui Generis Database Protection</i>	8
<i>Article 7</i>	8
<i>Article 10</i>	8
<i>Article 11</i>	8
c) <i>The Policy Response</i>	8
Copyright and Science Clash - Technical Protection Measures (TPMs)	9
a) <i>Introduction to TPMs</i>	9
b) <i>Legal Protection for TPMs</i>	10
c) <i>The Danger to Scientific Research</i>	12
d) <i>The Canadian Policy Response</i>	13
Policy Solutions	14
a) <i>Database Policies</i>	14
b) <i>TPM Policies</i>	14
Appendix	17
<i>Databases, Privacy and the Extra-Territorial Application of U.S. Law</i>	17

Introduction

The intellectual property law issues associated with scientific research, particularly cutting edge research involving biotechnology and genetics, have typically focused on patents. A well-balanced patent law framework can facilitate greater investment in research and promote commercialization by providing investors with assurances that they exclusively can extract the value of their patents over a limited time. Such a framework also fosters increased research activity and benefits to society by providing the public with immediate access to a full description of the invention as well as the right to use the patent without condition upon its expiry.

With the exception of initiatives to provide open access to scientific journals, the scientific community has largely ignored copyright law, viewing it as a branch of intellectual property law more relevant to the arts than the sciences. The idea/expression dichotomy, which holds that copyright law protects the expression of ideas, but not the ideas themselves, has been seen to provide the scientific community with the ideal balance of protection. Researchers can publish their findings secure in the knowledge that the analysis of their research as expressed in the scientific journals (the “expression”) is protected by copyright. The underlying factual research, however, is not protected under copyright and thus can be used by other researchers to build upon prior discoveries (subject, of course, to patent protection for those ideas).

That view of copyright law is being tested by reforms that threaten to dramatically alter the copyright balance. Although much of the copyright reform debate has focused on the arts – literary works, music, and movies – the impact of copyright reforms will be felt well beyond the arts world. Copyright reforms involving new protections for databases and technological protection measures (TPMs) threaten to confer new rights in the ideas themselves, thereby creating the potential for significant new controls over access to scientific ideas. These reforms have moved beyond being mere proposals in some jurisdictions– a *sui generis* database protection right was established in the European Union in the mid-1990s, while the United States enacted broad protections for TPMs in 1998. Canada is facing increasing pressure to adopt similar provisions into its national copyright law.

This briefing paper examines this issue from three perspectives. First, it provides an introduction to the scope and development of copyright law in Canada. Second, it assesses proposals to establish new database and TPM protection within Canadian copyright law. The discussion highlights developments in other jurisdictions and weighs their potential impact on the Canadian framework. Third, it identifies potential policy solutions to mitigate the adverse consequences that copyright reform may hold for scientific research in Canada.

Copyright Law in Canada – A Backgrounder

Copyright law in Canada dates back to 1886 when the country imported its first copyright statute from the United Kingdom.¹ That law was relatively modest by today's standards, providing for a 28-year term of protection for a copyrighted work. Thirty-five years later, copyright law underwent its first major overhaul, when a genuinely Canadian copyright statute was enacted in 1921.² That statute was also limited in scope, though it extended the term of copyright to the life of the author plus an additional fifty years after their death.

It is in recent years that Canadian copyright law has undergone significant change. Before addressing the recent as well as proposed future changes, however, it is important to identify the current scope of Canadian copyright law protection.

a) Scope of Protection

As noted above, copyright law provides authors with protection for the expression of their ideas, though not for the ideas themselves.³ Protection extends to all manner of works – literary works, computer programs, translations, musical works, artistic works, and dramatic works.⁴ In addition to protecting individual works, copyright law also protects compilations of works.⁵ In a compilation, it is not individual components that are subject to copyright but rather their overall selection and arrangement. For example, a newspaper may feature a large number of articles that are each individually subject to copyright of the underlying authors. In addition, the newspaper may be entitled to copyright in the compilation of the articles themselves.

A critical requirement for copyright protection is that the protected work must be an original creation of the author. The statute does not define originality, however, and it has therefore been left to the Canadian courts to establish the parameters for the term. The Supreme Court of Canada's most recent pronouncement on originality came in March 2004 in *Law Society of Upper Canada v. CCH Canadian*.⁶ The case involved a dispute between the Law Society of Upper Canada and several legal publishers. The Law Society, which maintains the Great Library, a leading law library in Toronto, provided the profession with two methods of copying cases and other legal materials. First, it ran a service whereby lawyers could request a copy of a particular case or article. Second, it maintained several stand-alone photocopiers that could be used by library patrons. The legal publishers objected to the Law Society's copying practices and sued for copyright infringement. They maintained that the materials being copied were entitled to copyright protection and that the Law Society was authorizing others to infringe on their copyright.

¹ *An Act Respecting Copyright*, R.S.C. 1886, c. 62.

² *An Act to Amend and consolidate the Law relating to Copyright*, R.S.C. 1921, c. 24.

³ S. Handa, *Copyright Law in Canada*, Butterworths; Toronto, 2002, at 143-4.

⁴ *Copyright Act*, R.S.C. 1985, c. C-42, s. 2.

⁵ *Ibid.* s. 2.1

⁶ [2004] 1 S.C.R. 339, 235 D.L.R. (4th) 395 [*CCH* cited to S.C.R.].

In addressing the question of whether the publishers' compilations of legal cases were entitled the copyright protection, the Court was required to identify the meaning of originality under the Copyright Act. Chief Justice Beverley McLachlin, writing for a unanimous court, concluded that an original work is:

“one that originates from an author and is not copied from another work. That alone, however, is not sufficient to find that something is original. In addition, an original work must be the product of an author's exercise of skill and judgment. The exercise of skill and judgment required to produce the work must not be so trivial that it could be characterized as a purely mechanical exercise. While creative works will by definition be "original" and covered by copyright, creativity is not required to make a work "original".⁷

b) **Formalities – Term of Protection and Registration**

The current term of copyright protection is life of the author plus an additional 50 years.⁸ An author does not need to register their copyright in order to benefit from the protections afforded by the law. Rather, copyright protection is automatic once the expression is fixed.

c) **Copyright Rights**

Works entitled to copyright protection enjoy a basket of exclusive rights. Since each right is distinct, a copyright holder is entitled to authorize one person to exercise one right, while authorizing another to exercise an alternate right. The exclusive rights identified in the Copyright Act include:

- The right to produce or reproduce the work (“reproduction right”)⁹
- The right to perform the work (“performance right”)¹⁰
- The right to publish the work (“publication right”)¹¹
- The right to produce, reproduce, perform or publish any translation of the work (“translation right”)¹²
- The right to convert a dramatic work into a novel or other non-dramatic work¹³
- The right to convert a novel or artistic work into a dramatic work¹⁴
- The right to make any sound recording or film from the work¹⁵
- The right to reproduce, adapt, and publicly present any work as a cinematographic work (“adaptation right”)¹⁶
- The right to communicate any work by telecommunications (“communication right”)¹⁷

⁷ *Ibid.* at para. 25.

⁸ *Copyright Act*, R.S.C. 1985, c. C-42, s. 6.

⁹ *Ibid.* s. 3(1).

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² *Ibid.* s. 3(1)(a).

¹³ *Ibid.* s. 3(1)(b).

¹⁴ *Ibid.* s. 3(1)(c).

¹⁵ *Ibid.* s. 3(1)(d).

¹⁶ *Ibid.* s. 3(1)(e).

Two additional rights merit mention. First, the Copyright Act grants the copyright holder the exclusive right to authorize any of the above noted rights (“authorization right”).¹⁸ Second, alongside the economic rights described above, creators also have moral rights in their work. These include a right to be associated with their work and to not have it improperly attributed to someone else (“attribution right”)¹⁹ and the right to restrain modification of the work or its use in a manner that would be prejudicial to their honour or reputation (“integrity right”).²⁰

Rights holders are entitled to use their rights to obtain injunctions to prevent infringement as well as seek damages that arise due to the infringement.²¹ The Copyright Act includes statutory damage provisions that permit rights holders to ask the court to award damages of between \$500 and \$20,000 for each work that is infringed.²²

d) User Rights/Exceptions

While the Copyright Act provides copyright holders with a large basket of rights, those rights are not absolute. Just as patent law balances the rights of patentees, so too copyright constrains the rights of copyright holders. Until recently, the limitations on copyright holders were referred to as exceptions. These exceptions could be relied upon to justify an otherwise infringing use of a work. In the *Law Society of Upper Canada* case cited above, the Supreme Court of Canada emphasized the importance of these exceptions, characterizing them as “user rights” that must be balanced against the rights of copyright holders.

User rights include:

- Educational institution user rights, including several rights associated with classroom use²³
- Library, museum, and archive user rights, including copies for management of a permanent collection²⁴
- Incidental user rights, where a copyright work is included incidentally and not deliberately²⁵
- Fair Dealing user rights, which covers use of a work for the purposes of private study, research, review, criticism, and news reporting.²⁶ The use of the work must be “fair”. The Supreme Court of Canada in the *Law Society of Upper Canada* case also stressed the importance of adopting a broad, liberal interpretation of what constitutes fair dealing.

¹⁷ *Ibid.* s. 3(1)(f).

¹⁸ *Ibid.* s. 3.

¹⁹ *Ibid.* s.14.1.

²⁰ *Ibid.* s.28.2.

²¹ *Ibid.* s. 34(1)

²² *Ibid.* s.38.1.

²³ *Ibid.* ss.29.3-29.9.

²⁴ *Ibid.* s.30.1.

²⁵ *Ibid.* s.30.7.

²⁶ *Ibid.* s.29.

e) Canadian Copyright Reform

After 66 years of relatively little change, the pace of copyright reform in Canada underwent dramatic acceleration in 1987, incorporating many of the new rights described above. That year, statutory reforms addressed the “grey market”, making it unlawful to import works created outside the country that would infringe copyright.²⁷ The next year, the government completed “Phase One” of a new copyright reform process by adding explicit moral rights requirements, implementing specific offences for secondary infringement and rebroadcasting, adding industrial designs to the *Copyright Act*, and establishing the Copyright Board of Canada as the successor to the Copyright Appeal Board.²⁸

In 1993, the government reduced registration requirements for copyright protection, granted courts the right to direct the responsible minister to prevent importation of any work that would infringe copyright, and expanded the definitions for music works, performances, and cinematographic works. It also added rental rights for computer programs and sound recordings, thereby eliminating the rental market for those works.²⁹

After adding new performers rights in 1994,³⁰ the government completed “Phase Two” of the copyright reform process in 1997 by providing protection for exclusive book distribution arrangements, by adding neighbouring rights provisions to further compensate producers and performers, by establishing statutory damages, and by creating a new private copying compensation system that includes a levy on blank media.³¹

The 1997 reforms also featured a provision mandating a review of Canadian copyright law within five years.³² While this review was expected to examine how well the copyright system was functioning, the 49-page document, known as the Section 92 report, actually focused primarily on identifying and prioritizing new policy issues.³³ Issues identified in the report include database protection and legislation to support technological protection measures.

The Section 92 report has since been supplemented by yet another report, this one from the Standing Committee on Canadian Heritage, which released a series of copyright reform recommendations in May 2004.³⁴ The committee held hearings for several

²⁷ *Customs Tariff*, R.S.C. 1987, c. C-49, ss. 118-19.

²⁸ *An Act to Amend the Copyright Act and other acts in consequence thereof*, R.S.C. 1988, c. C-15.

²⁹ *Intellectual Property Law Improvement Act*, R.S.C. 1993, c. 15; *An Act to amend the Copyright Act*, R.S.C. 1993, c. 23; *NAFTA Implementation Act*, R.S.C. 1993, c. 44.

³⁰ *WTO Agreement Implementation Act*, R.S.C. 1994, c. 47

³¹ *An Act to Amend the Copyright Act*, R.S.C. 1997, c. 24.

³² *Ibid.*, s. 92.

³³ Industry Canada, “Supporting Culture and Innovation: Report on the Provisions and Operation of the Copyright Act” (October 2002), online: Industry Canada <http://strategis.ic.gc.ca/pics/rp/section92eng.pdf> [Section 92 Report].

³⁴ Standing Committee on Canadian Heritage, “Interim Report on Copyright Reform” (May 2004), online: Parliament of Canada <<http://www.parl.gc.ca/committee/CommitteePublication.aspx?COM=8792&SourceId=80836>>.

weeks in March and April, quickly generating nine key copyright reform recommendations that included swift ratification of the WIPO Internet treaties and increased liability for Internet service providers. The report, which was resubmitted by the committee in November 2004,³⁵ has served as a catalyst for government action in recent months. The government unveiled its copyright reform plans in a joint statement from the Ministers of Industry and Canadian Heritage in March 2005 and a copyright reform bill is expected by June 2005.³⁶

Copyright and Science Clash – Database Protection

As the use of databases to store and disseminate information has grown, so too has interest in the protection afforded to the data contained therein.³⁷ The privacy considerations associated with databases have also generated significant interest; the particular concerns associated with the intersection between Canadian privacy and U.S. security law is addressed in an appendix to this report.

In assessing the law in Canada, the United States, and the European Union, two legal approaches to database protection can be found.

a) **Traditional Copyright Protections**

All three jurisdictions protect the content of databases through traditional copyright law. Provided that the data within the database meets the standards necessary to enjoy copyright protection, the database will enjoy the same basket of legal protections afforded to any other work.

Assessing whether a database enjoys copyright protection, typically involves assessing two issues: the application of the standard of originality and an assessment of the copyright afforded to compilations.

i. *Originality in Databases*

In determining whether a database is entitled to copyright protection, a Canadian court would consider whether the content of the database meets the standard of originality enunciated by the Supreme Court of Canada. As discussed above, the test established in *Law Society of Upper Canada* required the exercise of skill and judgment, which the court stated must not be so trivial that it could be characterized as a purely mechanical exercise. It should be noted that the amount invested in creating the database is not

³⁵ Standing Committee on Canadian Heritage, “Second Report” (November 2004), online: Parliament of Canada <<http://www.parl.gc.ca/committee/CommitteePublication.aspx?COM=8974&SourceId=89793>>.

³⁶ Government Response to the May 2004 Interim Report on Copyright Reform of the Standing Committee on Canadian Heritage (March 2005) <http://strategis.ic.gc.ca/epic/internet/incrp-prda.nsf/en/rp01141e.html> [March 2005 Plan].

³⁷ For a comprehensive Canadian review, see Robert Howell, “Database Protection and Canadian Laws, 2nd edition: State of Law as of March 31, 2002”, online: Department of Canadian Heritage, http://www.pch.gc.ca/progs/ac-ca/progs/pda-cpb/pubs/database/database_e.pdf

relevant in determining whether it is entitled to copyright protection. This issue becomes important for larger databases that may require significant investment, yet fall short of enjoying copyright protection since they only feature content that is generated through a purely mechanical exercise.

The analysis in the U.S. would involve similar considerations. The leading U.S. case to address originality in copyright is *Feist Publications, Inc. v. Rural Telephone Service Company, Inc.*,³⁸ a 1991 U.S. Supreme Court decision. The court in that case rejected the “sweat of the brow” approach to copyright (i.e. an approach that would reward copyright protection merely for the effort involved in creating the work), adopting instead a “minimal element of creativity.” Moreover, the focus of originality in the U.S. would similarly rest with the selection and arrangement of the data, while excluding mechanical or routine methods of selection.

The European Union Database Directive also provides for copyright protection of databases. It too focuses on the selection and arrangement of the data.³⁹ It also mandates that the elements of the database must constitute the author’s own “intellectual creation”, suggesting the inclusion of a creative criteria.

ii) *Databases Protected as Compilations*

As noted above, Canadian copyright law also provides protection for compilations. In such instances, the copyright holder is rewarded for overall selection and arrangement of the work. The copyright protection for a compilation is independent of the copyright afforded to the underlying individual work that has been compiled. Whether a database would enjoy copyright protection as a compilation would also turn on the degree to which the selection and arrangement required skill and judgment. For example, that standard would suggest that a database consisting of an alphabetical listing of names, addresses, and phone numbers would not rise to a sufficient level of originality to enjoy protection, while encyclopedias or dictionaries likely would be entitled to copyright protection as compilations.

U.S. copyright law also features protection for compilations. The 1976 amendments to the U.S. Copyright Act provides protection for “a work formed by the collection and assembly of pre-existing materials or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship.” The European Union Database Directive does not include compilation provisions similar to those found in Canada and the U.S., but rather establishes the *sui generis* right discussed below.

The use of traditional copyright principles to protect scientific databases preserves the copyright balance between creators and users. A database consisting of scientific journal articles would be entitled to copyright both for the underlying articles as well as for the

³⁸ 499 U.S. 340 (1991).

³⁹ EC, Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, [1996] O.J. L. 77/20.

compilation (assuming that there was some skill in assembling the database). On the other hand, a scientific database consisting solely of factual data might be entitled to protection as a compilation, but the underlying factual data would not be subject to protection under copyright. This balance is needed to ensure that scientists enjoy appropriate access to factual data but that their analysis of the data (i.e. the expression) is protected as individual works and potentially as a compilation.

b) **Sui Generis Database Protection**

The most significant difference between database protection in Canada, the U.S., and the European Union has been the establishment of *sui generis* protection for database in the E.U. Several articles in the E.U. Database Directive merit attention:

i) Article 7

Article 7 of the Directive provides protection for the database's data or contents. The protection vests in the creator of the database. Since the creator need only prove a qualitative or quantitative effort in creating the database, protection is granted for the effort of creating the database without reference to any underlying creativity.

ii) Article 10

Article 10 of the Directive establishes the term of protection. The directive grants an initial 15 year term of protection. However, the article also provides that the term of protection may be extended 15 years for every substantial renewal of the data within the database, thereby enabling virtually perpetual protection.

iii) Article 11

Article 11 limits the scope of the *sui generis* protection solely to database creators in the European Union. Canadian or U.S. databases would only enjoy such rights if their respective countries established equivalent protection within their national laws.

The E.U.'s *sui generis* database protection has generated significant criticism as critics argue that it has not resulted in greater database creation, yet has provided increased rights for European database companies.⁴⁰ Of particular concern is that scientific factual data that would otherwise be unprotected, may become subject to database protection based merely on the effort expended to compile the data.

c) **The Policy Response**

With the enactment of a European *sui generis* database right, there has been growing international and national pressure to establish similar rights in other jurisdictions. At the international level, the World Intellectual Property Organization (WIPO), a Geneva-

⁴⁰ James Boyle, "A Natural Experiment", *Financial Times* (22 November 2004)
<<http://news.ft.com/cms/s/4cd4941e-3cab-11d9-bb7b-00000e2511c8.html>>.

based U.N. agency, worked for several years to develop a draft treaty on database protection.⁴¹ That treaty has failed to gain widespread acceptance. In the United States, Congress has debated several bills that would create new database protection.⁴² The U.S. proposals, which have also failed to generate sufficient interest to pass into legislation, focus on creating new rights in databases and limitations on extraction of data from databases in a manner that might be viewed as anti-competitive.

Canadian policy makers raised the prospect of creating a *sui generis* database right in 2002 as part of the Section 92 report.⁴³ The report identified database protection as a long-term copyright issues to be addressed after 2006. The report did not adopt a specific position on database protection. Rather, it noted the international and national developments and acknowledged that Canadian protection of databases does not provide protection merely for the effort involved in creating the database.

Copyright and Science Clash - Technical Protection Measures (TPMs)

a) **Introduction to TPMs**

Owners of online databases and other digital content deploy TPMs (sometimes referred to as Digital Rights Management or DRM) to establish a layer of technical protection that is designed to provide greater control over their content. The content industry has touted TPM's promise for more than decade, maintaining that technological locks could prove far more effective in curtailing unauthorized copying, distribution, performance and display of content than traditional copyright laws.⁴⁴ While TPMs are frequently associated with encryption protection, TPMs encompass a broad range of technologies including more mundane applications such as password protections.

While TPMs do not provide absolute protection – research suggests all TPMs can eventually be broken – companies continue to actively search for inventive new uses for these digital locks.⁴⁵ In certain instances their use is obvious to consumers. For example, DVDs contain a content scramble system that limits the ability to copy even a small portion of a lawfully purchased DVD.⁴⁶ Similarly, purchasers of electronic books often

⁴¹ Basic Proposal For The Substantive Provisions Of The Treaty On Intellectual Property In Respect Of Databases To Be Considered By The Diplomatic Conference, on-line: WIPO (http://www.wipo.org/eng/diplconf/6dc_sta.htm).

⁴² Bill H.R.354, The Collection of Information Antipiracy Act, 106 Congress (introduced 1/19/1999), on-line: The Library of Congress (<http://thomas.loc.gov/>) and Bill H.R. 1858, The Consumer and Investors Access to Information Act of 1999, 106 Congress (introduced 5/19/1999), on-line: Library of Congress (<http://thomas.loc.gov/>).

⁴³ Section 92 Report, *supra*, at 16-7.

⁴⁴ Stefan Bechtold, "The Present and Future of Digital Rights Management", in: Eberhard Becker, Willms Buhse, Dirk Günnewig, Niels Rump (eds.), *Digital Rights Management – Technological, Economic, Legal and Political Aspects*, Springer, Berlin 2003, pp. 597-654, online: http://www.jura.uni-tuebingen.de/bechtold/pub/2003/Future_DRM.pdf.

⁴⁵ Cory Doctorow, "Digital Rights Management" (21 September 2004), online: ChangeThis <<http://www.changethis.com/4.DRM>>.

⁴⁶ Rob Pegoraro, "DVD-Piracy Paranoia Proves Counterproductive" *The Washington Post* (22 June 2003) F7.

find that their e-books contain limitations restricting copying, playback, or use of the e-book on multiple platforms.⁴⁷ In fact, e-books are frequently saddled with far more restrictions than are found in their paper-based equivalents.

Sometimes the use of a TPM is far less obvious, manipulating markets to the detriment of consumers, rather than protecting content. DVDs also typically contain regional codes that limit the ability to play a DVD to a specific region.⁴⁸ The consumer is often unaware of the regional code until they purchase a DVD while on vacation in one region only to find that they cannot play the disc on their DVD player when they return home.

Of even greater concern is the increasing use of TPMs in completely unexpected environments. For example, Hewlett-Packard has begun to install TPMs into its printer cartridges.⁴⁹ The technology is used to block consumers from purchasing cartridges in one region and using them in another, thereby enabling the company to maintain different pricing structures for the same product in different markets.

Given the flawed protection provided by TPMs, content owners have lobbied for additional legal protections to support TPMs. Although characterized as copyright protection, this layer of legal protection does not address the copying or use of copyrighted work. Instead, it focuses on the protection of the TPM itself, which in turn provides protection for the underlying copyrighted content.

Interestingly, Professor Dan Burk has noted that TPM systems bear a striking resemblance to transgenic technologies, called GURTs, which allow for the creation of “self-policing seed” by introducing into plant varieties genetic elements that produce a toxin late in the seed maturation.⁵⁰ The toxin effectively kills the seeds, thereby forcing the grower to purchase new seed each year. The GURT therefore functions much like a TPM; prohibitions on alteration of the GURT would be akin to the anti-circumvention legislation discussed below.

b) **Legal Protections for TPMs**

The impetus for adopting legal protections for TPMs in Canada and elsewhere comes from two international treaties developed by WIPO. As the Internet began to emerge as a powerful new communication tool in the mid-1990s, WIPO moved quickly to establish two new treaties, the WIPO Copyright Treaty (WCT)⁵¹ and the WIPO Performances and

⁴⁷ Mary Roach, “This Article Cannot Be Read Aloud”, *Inc Magazine* (June 2001), online: <http://www.inc.com/magazine/20010615/22778.html>.

⁴⁸ Patrick Marshall, “Wrong DVD code for region can derail your movie plans” *The Seattle Times* (3 July 2004) E6.

⁴⁹ David Pringle and Steve Stecklow, “Electronics With Borders: Some Work Only in the U.S.”, (18 January 2005), *Wall Street Journal*, B1.

⁵⁰ Dan Burk, “DNA Rules: Legal and Conceptual Implications of Biological “Lock-Out” Systems, 92 *Cal. L. Rev.* 1553 (2004).

⁵¹ *WIPO Copyright Treaty*, 20 December 1996, WIPO Publication No. 226 (entered into force 6 March 2002) [*WCT*].

Phonograms Treaty (WPPT),⁵² which are designed to address the copyright complications created by the digitization of content and the growing importance of global networks.⁵³

The two WIPO Internet treaties were formally adopted on December 20, 1996, though they only took effect in 2002 after each one reached the thirty-country ratification requirement⁵⁴. As of May 2005, the WCT had 51 country ratifications, while the WPPT had 49 country ratifications.⁵⁵ The United States and Japan are the two most notable countries on the ratification list. The European Union has yet to ratify, though some member states have incorporated the necessary provisions into their national copyright law. The remainder of the list is comprised of countries such as Indonesia and the Ukraine,⁵⁶ often cited as leading sources of pirated music and software, as well as smaller developing countries from Africa, Latin America, and Asia, including Burkina Faso, Gabon, Saint Lucia, and Togo.

Both of the WIPO Internet treaties require anti-circumvention protection. In the case of the WCT, Article 11 provides that:

“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 law.”⁵⁷

There is wide divergence in the way the various ratifying countries have implemented their anti-circumvention obligations into national law. The United States provides the best example of the potential for unintended consequences associated with such legislation.

The U.S. ratification of the WIPO Internet treaties was incorporated into the *Digital Millennium Copyright Act of 1998*. It prohibits both the circumvention of a technological protection measure (i.e. picking the digital lock) as well as the manufacture, import, offer to the public, provision, or trafficking in a circumvention device (i.e. providing a tool to pick the digital lock). In addition to these provisions, the DMCA contains a series of exceptions designed to preserve certain copyright rights. These include a provision

⁵² *WIPO Performances and Phonograms Treaty*, 20 December 1996, WIPO Publication No. 227 (entered into force 20 May 2002) [*WPPT*].

⁵³ Pamela Samuelson, “The Copyright Grab,” online: Wired <http://www.wired.com/wired/archive/4.01/white.paper_pr.html>.

⁵⁴ “Contracting Parties – WTC,” online: WIPO <http://www.wipo.int/treaties/en/ShowResults.jsp?lang=en&treaty_id=16>; “Contracting Parties – WPPT,” online: WIPO <http://www.wipo.int/treaties/en/ShowResults.jsp?lang=en&treaty_id=20>.

⁵⁵ *Ibid.*

⁵⁶ United States Trade Representative, 2004 Special 301 Report, Executive Summary, online: http://www.ustr.gov/assets/Document_Library/Reports_Publications/2004/2004_Special_301/asset_upload_file963_5996.pdf.

⁵⁷ *WCT*, *supra* note 10, art. 11.

mandating a regular consultation on whether the DMCA provisions are likely to impair non-infringing uses of works.⁵⁸ The Librarian of Congress, together with the Registrar of Copyrights, are asked to consider a series of factors and to establish exceptions where needed.⁵⁹ Moreover, the statute contains several limited exceptions for non-profit libraries,⁶⁰ law enforcement,⁶¹ reverse engineering,⁶² encryption research,⁶³ security testing,⁶⁴ and privacy.⁶⁵ These exceptions have proven largely ineffective since the Librarian of Congress has established few exceptions and the exceptions apply solely to the act of circumvention. They do not extend to the provisions on devices, including new technologies, products, services, devices, and components that are used for purposes related to circumvention.

c) **The Danger to Scientific Research**

The dangers associated with DMCA-style legislation to scientific research arises from the potential to either “lock up” or limit access to content that is otherwise not subject to copyright protection. For example, the DMCA provisions contain only limited reference to the actual copyright underlying the TPM. Professor Dan Burk of the University of Minnesota notes that a work protected under the DMCA might include copyrightable content mixed with uncopyrightable content (such as facts). If both types of content are placed under the control of a TPM, an attempt to extract the unprotectable content from a copyrighted work by circumventing the TPM would result in an infringement under the Act.⁶⁶ In a scientific context, the effect would be to limit access to facts that are otherwise not subject to copyright protection.

Although the U.S. law also includes a provision that states that “[n]othing in this section shall affect rights, remedies, limitations, or defenses to copyright infringement, including fair use, under this title”,⁶⁷ the statute does not provide a positive obligation on the copyright holder to ensure that the user retains their fair use rights. As Burk again notes,

“[b]ecause the right of access is defined in terms of the technological system, rather than the terms of the content, both copyrightable and uncopyrightable materials will be covered by the anticircumvention right. The controlled content may include uncopyrightable facts, public domain materials, or purely functional works, yet unauthorized access will constitute just as much a violation as it would if the content were copyrightable original expression.”⁶⁸

⁵⁸ *Ibid.* at §1201(a)(1)(C).

⁵⁹ *Ibid.* at §1201(a)(1)(C)(i)-(v).

⁶⁰ *Ibid.* at §1201(d).

⁶¹ *Ibid.* at §1201(e).

⁶² *Ibid.* at §1201(f).

⁶³ *Ibid.* at §1201(g).

⁶⁴ *Ibid.* at §1201(j).

⁶⁵ *Ibid.* at §1201(i).

⁶⁶ Burk, *supra* at 1108.

⁶⁷ *DMCA, supra* at §1201(c).

⁶⁸ Burk, *supra* at 1108.

Burk's reference to public domain materials is particularly apt, since the DMCA also fails to include a limitation on the term of protection for a work under a TPM. Unlike traditional copyright law, which limits the term of protection, there is no limit to the term of protection accorded to a TPM, effectively extending the term of protection for works protected by a TPM indefinitely.⁶⁹

Not only does anti-circumvention risk creating limits on access to scientific data, it also can create a chill on the dissemination of research results. For example, in 2000, Edward Felten, a Princeton researcher, sought to release an important study on encryption that included circumvention information. When he publicly disclosed his plans, he was served with a warning that he faced potential legal liability if he went public with his findings, since the mere release of circumvention information might violate U.S. law.⁷⁰ One year later, Dmitry Sklyarov, a Russian software programmer, was arrested in Las Vegas when he presented a paper on the strengths and weaknesses of software used to protect electronic books.⁷¹ Sklyarov, who was employed by a Moscow-based software company called Elcomsoft, was charged with violating criminal provisions found in the DMCA. He was initially held without bail and faced a maximum fine of US\$500,000 and five years in prison. Although Sklyarov was eventually released, the case had an impact within the scientific community as researchers with ties to the United States reportedly removed information from websites for fear of facing potential lawsuits.⁷²

d) **The Canadian Policy Response**

In March 2005, the Canadian government indicated that it plans to introduce legislation this spring that would include provisions implementing the WIPO Internet treaties.⁷³ The bill will apparently include an anti-circumvention provision applied to copyright material. There is no mention of extending the provision to devices (as is the case in the U.S.) and the specific reference to applying the provision to copyright material suggests that the provision will limit its applicability to circumvention to commit copyright infringement. Moreover, supporting documentation suggests that the circumvention of a TPM applied to copyright material will only be illegal if it is carried out with the objective of infringing copyright. Legitimate access, as authorized by the Copyright Act, will not be altered.

⁶⁹ *Ibid.* at 1107.

⁷⁰ Lisa M. Bowman, "Researchers face legal threats over SDMI hack" (23 April 2001), online : CNET News.com <http://news.com.com/Researchers+face+legal+threats+over+SDMI+hack/2100-1023_3-256277.html>.

⁷¹ Michael Geist, "Russian's case shows severity of copyright law" (26 July 2001), online: Globetechnology.com <<http://news.globetechnology.com/servlet/GAMArticleHTMLTemplate?tf=globetechnology/TGAM/NewsFullStory.html&cf=globetechnology/tech-config-neutral&slug=TWGEISY&date=20010726>>.

⁷² Electronic Frontier Foundation, "Unintended Consequences: Five Years Under the DMCA" v.3 (24 September 2003), online: Electronic Frontier Foundation <http://www.eff.org/IP/DMCA/unintended_consequences.pdf> [EFF].

⁷³ March 2005 Plan, *supra*.

If Canada succeeds in enacting provisions that protect legitimate access, the anti-circumvention provisions would be very different from those found in the U.S. It should be noted that the U.S. Trade Representative criticized the federal government's plans in April 2005 as part of its annual review of foreign intellectual property protections.⁷⁴ The U.S. government urged Canada to follow its example by enacting DMCA-like provisions.

Policy Solutions

a) **Database Policies**

Given the establishment of a *sui generis* database right in the European Union, it is reasonable to expect that Canadian policy makers will face ongoing pressure to mirror the E.U. approach. Canada has thus far rejected such a change and it should continue to do so. There is no evidence that the European approach has resulted in greater database creativity, yet its additional protection afforded to databases risks hampering scientific research by protecting data such as facts that are otherwise unprotectable under traditional copyright law. Traditional copyright establishes an appropriate balance by protecting both original work and original compilations, a level of protection that ensures appropriate rewards for creators and access to scientific data for researchers.

b) **TPM Policies**

Several policy approaches would mitigate the potential harm caused by overbroad anti-circumvention legislation. First, consistent with current government plans, Canada should ensure that any anti-circumvention legislation feature a direct connection to traditional copyright infringement by limiting the scope of a circumvention offence to users who circumvent in order to commit copyright infringement. From a copyright perspective, failure to link anti-circumvention with copyright alters the balance between creators and users as it invariably leads to an expansion of the rights attached to copyright. The U.S. experience provides ample evidence in this regard as courts have openly acknowledged that copyright compliant activity or devices are no longer sufficient, since anti-circumvention renders as illegal activity that is legal under traditional copyright norms. Such an approach would run directly counter to recent Supreme Court of Canada pronouncements on Canadian copyright law that have emphasized the need for an appropriate balance to encourage creativity and innovation in the long-term interests of society as a whole.

Second, Canada should not legislate against anti-circumvention devices. Regulating technology is always a slippery slope – the experience in the U.S. illustrates that bans on the distribution or possession of devices leads to significant innovation disincentives since small and medium sized businesses, scientists, venture capitalists, and other parties that facilitate innovation are likely to abandon cutting edge research and projects for fear of potential legal liability. Those fears have manifested themselves in security research

⁷⁴ Michael Geist, "U.S. is Bullying on Mind Property", *Toronto Star* (9 May 2005) http://www.thestar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Article_Type1&c=Article&cid=1115590209763&call_pageid=971794782442&col=971886476975.

in the United States, where the impact of lawsuit threats against scientists several years ago is still being felt today.

Third, Canada should consider granting users a positive right of circumvention. Such an approach would enable policy makers to obtain the benefits associated with TPMs (protection against large scale digital commercial piracy), while ensuring that individual users and the scientific community do not lose their basic user rights in the process. The European Union's implementation of the WIPO Internet Treaties has opened the door to such an approach, by requiring member states to ensure that individuals do not lose access to copyright exceptions in the rush to protect TPMs.

Fourth, Canada should ensure that the Competition Bureau is statutorily empowered to challenge marketplace abuses through the misuse of copyright law. An active and unrestricted Competition Bureau is particularly important in the Canadian context since Canada does not have a doctrine of copyright misuse. Copyright misuse is an equitable defense in infringement cases where the plaintiff's actions have expanded their copyright past the statutory limits (i.e. anticompetitive acts).⁷⁵ Canadian courts have not directly adopted the doctrine of copyright misuse from U.S. courts.⁷⁶ In the United States, the doctrine was "created to address situations in which the owner of an intellectual property right used his or her legal monopoly to create such asymmetry in the balance of rights that courts refused to enforce the normal intellectual property rights."⁷⁷

The 1990 4th Circuit Court of Appeals decision in *Lasercomb America Inc. v. Reynolds* provides a good illustration of the doctrine's application.⁷⁸ The plaintiff, Lasercomb, developed and licensed software used to form steel dies for the paper industry. It licensed four copies of the software to Reynolds, who circumvented the protective devices and made an additional three unlicensed copies.

While there was no dispute that Reynolds had infringed copyright, it argued that Lasercomb was barred for recovery from the infringement because it included a clause in its software license that prevented the licensee from developing competing software for 100 years. The court agreed, ruling that "a misuse of copyright defense is inherent in the law of copyright just as misuse of patent defense is inherent in patent law."⁷⁹ In fact, the court's analysis indicated that copyright owners were prohibited from using their grant of a monopoly in a particular work to obtain a monopoly in a subject matter outside the rights associated with the copyright. This analysis, alongside similar decisions from the 9th Circuit Court of Appeals in *Practice Management Information Corp. v. American*

⁷⁵ See Neal Hartzog, Gaining Momentum: A Review of Recent Developments Surrounding The Expansion of the Copyright Misuse Doctrine and Analysis of the Doctrine In Its Current Form, 10 Mich. Telecomm. Tech. L. Rev. 373 (2004), available at <http://www.mttl.org/volten/Hartzog.pdf>.

⁷⁶ A search for 'copyright misuse' in LexisNexus and QuickLaw does not return any relevant results. Similarly, there is little discussion of copyright misuse in Canadian secondary sources.

⁷⁷ James A.D. White, Misuse or Fair Use: That is the Software Copyright Question, 12 Berkeley Tech L.J. 251, 265-66 (1997).

⁷⁸ 911 F.2d 970 (4th Cir. 1990).

⁷⁹ *Ibid.*

*Medical Association*⁸⁰ and the 5th Circuit Court of Appeals in *Alcatel USA, Inc. v. DGI Technologies, Inc.*,⁸¹ affirmed the doctrine of copyright misuse in U.S. law and has led some experts to advocate for the application of copyright misuse to anti-circumvention as part of a development of a principle of anti-circumvention misuse.⁸²

While Canadian courts have yet to adopt the doctrine of copyright misuse, the principles are effectively found in Section 32 of the *Competition Act*. If the Competition Bureau is precluded from applying the statute, however, there will be little to prevent owners of intellectual property right from using their legal monopoly to create additional monopolies or to engage in anti-competitive behaviour. Without a legal principle to mitigate against abuse, Canada would be open to the prospect for even greater abuse of anti-circumvention provisions than that found in the United States.

⁸⁰ 121 F.3d 516 (9th Cir. 1995).

⁸¹ 166 F.3d 772 (5th Cir. 1999).

⁸² Burk, *supra*.

Appendix

Databases, Privacy and the Extra-Territorial Application of U.S. Law

The ongoing tension between privacy and security rights captured the attention of the Canadian public in an interesting and unexpected manner in the summer of 2004. As part of the global shift toward cost-efficient large-scale databases and data outsourcing, the British Columbia government proposed outsourcing the management services associated with its Medical Services Plan.⁸³ The proposal was challenged by the affected union, which argued that the data generated under the plan,⁸⁴ including sensitive health information, could be put at risk due to provisions found in the *USA Patriot Act*. While skeptics dismissed the union's opposition as a fairly transparent attempt to protect local labour, the concerns resonated with a wide range of communities, including privacy advocates, civil liberties groups, and health care activists.⁸⁵ Soon after, David Loukidelis, the British Columbia Privacy Commissioner, became engaged on the issue, calling for a public study into the matter.⁸⁶

Months later, the issue remains at the forefront of privacy policy in Canada. The British Columbia government quickly introduced and passed legislation designed to temper public concern,⁸⁷ yet the clash between privacy rights and security interests, further complicated by the growing commercial dependence on data outsourcing arrangements and the inclusion of sensitive data in large commercial databases, remains on the federal privacy agenda.

U.S. law enforcement agencies have several options when they seek to obtain records contained in databases from U.S. and foreign companies subject to U.S. personal jurisdiction. Grand jury subpoenas are powerful investigative orders that can be used to obtain records for mostly federal criminal offences. The *USA Patriot Act's* Section 215 ("Section 215 Orders"), can be used to obtain business records and other information related to counter-terrorism or foreign intelligence investigations. Similarly, National Security Letters ("NSL") can also be used for terrorism investigations. Each of these options provide limited due process rights to the recipient of the order and can even be used to prevent the recipient from divulging its existence.

If a foreign company falls outside U.S. personal jurisdiction, the ability to obtain records is more limited, forcing authorities to rely on the cooperation of the country where the records are located. The options available in such instances include Mutual Legal

⁸³ B.C. Ministry of Health Services, News Release, "New Service Delivery Model to Improve MSP" (29 July, 2003) http://www2.news.gov.bc.ca/nrm_news_releases/2003HSER0038-000687.htm.

⁸⁴ *British Columbia Government & Services Employees' Union v. The Minister Of Health Services*, Filed Feb 23, 2004 with the Supreme Court of British Columbia, File No. VIC-S-S-040879.

⁸⁵ The Right to Privacy Coalition was launched in June 2004 by a wide variety of B.C. and Canadian organizations and labour groups concerned about the privacy protection of health care information. See <http://www.righttoprivacycampaign.com>.

⁸⁶ Office of the Information and Privacy Commissioner for British Columbia, News Release, "BC Privacy Commissioner to Examine Implications Of *USA Patriot Act* on Government Outsourcing" (28 May, 2004).

⁸⁷ Bill 73, Freedom of Information and Protection of Privacy Amendment Act, 5th Sess., 37th Parl., 2004.

Assistance Treaties (“MLAT”), which are bilateral treaties requesting evidentiary assistance directly from the justice departments of foreign countries, and letters rogatory, which are court documents that request formal assistance for evidence from a foreign court.

U.S. courts have ruled that records of a foreign parent corporation may be captured by an order to a subsidiary subject to U.S. personal jurisdiction.⁸⁸ This suggests that multinational companies, even if headquartered outside the U.S., can be ordered to provide records contained in databases through their U.S. offices or subsidiaries. This is evidenced by cases involving grand jury subpoenas where U.S. subsidiaries were ordered to compel production of documents that were held by their foreign-based parent company.⁸⁹ The courts typically employed a balancing test to determine whether to grant a motion to quash a grand jury subpoena where the records sought are located abroad. There appears to be few cases where grand jury discovery was denied in the criminal context.⁹⁰

The situation is clearer where the U.S. connection is a U.S. parent being compelled to obtain records from its foreign subsidiary. The courts have more often than not rejected the argument that a U.S. parent company does not have access to its subsidiary’s records located abroad. The test for determining whether a U.S. court can order a U.S. parent corporation to produce the documents of its foreign subsidiary was formulated in *In Re Investigation of World Arrangements* as follows:

[I]f a corporation has power, either directly or indirectly, through another corporation or series of corporations, to elect a majority of the directors of another corporation, such corporation may be deemed a parent corporation and in control of the corporation whose directors it has the power to elect to office.⁹¹

In *re Grand Jury Subpoenas duces tecum addressed to Canadian International Paper Company et al.*, the U.S. government attempted to obtain an order against a U.S. parent company for its Canadian subsidiary’s refusal to disclose documents in connection with a grand jury investigation into alleged antitrust violations.⁹² The court dismissed the parent corporation’s argument that it lacked possession of the documents, holding that the test was a matter of control, not location.⁹³ Similarly, in *United States v. First Nat’l City Bank*, the court rejected the parent company’s argument that it could not produce

⁸⁸ See *Ssangyong Corp. v. Vida Shoes Int’l.* 2004 U.S. Dist. LEXIS 9101 (S.D.N.Y. 2004); *United States v. Toyota Motor Corp.*, 569 F. Supp. 1158 (C.D. Cal. 1983).

⁸⁹ See *Re Grand Jury Proceedings the Bank of Nova Scotia*, 740 F.2d 817 (11th Cir.1984) (“*Bank of Nova Scotia*”) discussed below.

⁹⁰ See *In re Grand Jury Subpoena*, *supra*, note 26, at note 7; see also *In re Arawak Trust Co. (Cayman), Ltd.*, 489 F. Supp. 162 (E.D.N.Y. 1980) (where the defendant bank was not subject to grand jury subpoenas where it had no office in the U.S. and merely maintained a U.S. bank account).

⁹¹ *In Re Investigation of World Arrangements* 13 F.R.D. 280, 285 (D.D.C. 1952). Quoted *In re Uranium Antitrust Litigation*, 480 F. Supp. 1138 at 1145.

⁹² *In re Grand Jury Subpoenas duces tecum addressed to Canadian International Paper Company et al* 72 F. Supp. 1013 (S.D.N.Y. 1947).

⁹³ *Ibid*, at 1020.

documents from its German office concluding that “it is no longer open to doubt that a federal court has the power to require the production of documents located in foreign countries if the court has *in personam* jurisdiction of the person in possession or control of the material”.⁹⁴

In response to this potential incursion into Canadian privacy, Canadian government officials have at least two policy alternatives. First, Canada, likely in partnership with other countries, could seek to broker a diplomatic solution whereby U.S. law enforcement officials agree to a series of protocols that provide Canadians with some measure of privacy protection. Such an approach could mirror the current Canada-U.S. MLAT by requiring notice to government officials and other procedural safeguards.

Such an approach seems unlikely to succeed, however, given that experience demonstrates that the U.S. is unlikely to compromise on matters involving national security. Accordingly, Canada may need to pursue an alternate approach that would lead to a stronger national privacy law, backed by enforcement powers that rise to the level of a blocking statute. Although the U.S. courts have been skeptical about blocking statutes in the past, a series of broadly applicable provisions designed to establish serious consequences for disclosure of personal information contrary to the law, would force a U.S. court to carefully consider whether it could compel an organization to disclose the requested personal information contained in a database.

⁹⁴ *United States v. First Nat'l City Bank* 396 F.2d 897, 900 (2d Cir. 1968); see also *United States v. Vetco, Inc.*, 691 F.2d 1281 (9th Cir. 1981).