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Article

***141** Copyright in the Context of Intellectual Property: A Survey of Canadian University Policies

Margaret Ann Wilkinson [FN1]

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This paper was prepared for a session of the Congress of the Social Sciences and Humanities hosted by the Canadian Association of Law Teachers in Sherbrooke, Quebec. The paper has already appeared in French translation in a special issue of Les cahiers de propriété intellectuelle (12(1): October 1999) devoted to the proceedings of that day.

Traditionally, the federal government has been considered the major player in information policy concerning copyrights and patents because both come within its exclusive legislative competence. Increasingly, however, two trends are becoming clear: intellectual property policy cannot be considered in isolation from other economic and social policy issues and national governments are increasingly constrained in terms of their direct actions with respect to specific intellectual property protections by the government's wider commitments developed through the process of international trade negotiation. It is argued in this paper that the role of those who actually control the intellectual property created or used in Canada is becoming critical in developing a national information policy which actually achieves the dual aims of intellectual property protection: encouraging widespread dissemination of ideas while rewarding the creativity of authors. This theme is explored empirically in the paper by contrasting the current efforts of Canada's universities in the arena of patentable ideas and their current role in the realm of copyrighted works. The recent federal report "Public Investments in University Research: Reaping the Benefits" (May 4, 1999), on the commercialization of university research, deliberately excluded copyrighted works from consideration. This paper describes the importance, complexity, and potential value to universities, and the Canadian public, of that copyrighted productivity.

***142 1. INTRODUCTION** [FN2]

Copyright is one of a number of legal devices which have been developed since society began to independently value the products of the intellect. As nations began to recognize the economic value of encouraging intellectual activity, law began to be created which was intended to foster a climate of innovation and progress. These developments were intended to simultaneously reward the creative effort and also preserve widespread dissemination of ideas in order to spur others on to creativity.

The legal mechanisms adopted to reward the creative effort were largely mechanisms which created new property rights in intellectual ***143** products. [FN3] However, the countervailing interest in enhancing the spread of ideas meant that the new property mechanisms took the form of time limited monopolies. [FN4] While some more recent innovations in law affecting information flow, such as access legislation, [FN5] have involved administrative public law schemes, all the forms of intellectual property protection have created remedies in private law.

*144 Intellectual property is thus a system of private rights which has been traditionally limited in law, by either the legislature explicitly or the courts through narrow interpretation, because of a regard for the public interest. As Rosenswieg points out in the American context:

It is necessary to face the facts: The chief route to public use in this country is commerce; profit is the engine that drives the machinery of commerce; and ownership, or at least exclusive use, is a critical instrument for the generation of profit. That logic, as recognized in the U.S. Constitution by its provision for patents and copyrights, applies to the products of the mind as well as to other forms of property. [FN6]

The relationship between this system of private rights and the fundamental right to freedom of expression, protected in this country since 1982 by the *Charter of Rights and Freedoms*, R.S.C. 1985, App. II, no. 44 has been recently carefully considered by Mr. Justice Teitelbaum of the Federal Court of Canada. He wrote in his decision:

I agree with the Defendants [the C.A.W. Canada union] that the use of a copyright by a union to parody a company logo [the Michelin “Bibendum”] in the midst of an organizing campaign does raise certain constitutional issues. I do, however, part company with the Defendants on the resolution of the constitutional question. I hold that the Defendants' right to freedom of expression was not restricted. The Charter does not confer the right to use private property - the Plaintiff's copyright - in the service of freedom of expression. [FN7]

He wrote further:

[O]ne should not confuse the entirely socially acceptable and legitimate overarching goal of the Defendants' unionization activity with their inappropriate and unprotected means of expression under Section 2(b) [of the Charter, freedom of expression]. The Defendants had no need to adopt a form of expression, the use of copyrighted material, that deprived the Plaintiff of its property and actually subverted the third value of promoting diversity of ideas. In other words, if copyright is not respected and protected, the creative energies of authors and artists in *145 furthering the diversity of ideas will not be adequately compensated or recognized. [FN8]

The relationship of the university to the intellectual property created within its organizational boundaries and the intellectual property created elsewhere has been characterized by a series of apparent inconsistencies. Moreover, the institution of the university in Canada has found *itself* in a paradoxical situation: nominally private, independent foundations, they are increasingly dependent upon the public purse for survival and hence actually heavily influenced by public sector policy. [FN9]

Another expression of a paradox in which the university finds itself is set out by Langford:

On the one hand, universities embrace the traditional mandate of the European institutions on which they were modelled: publicly funded and secular “culture carriers”, committed to the pursuit and advancement of knowledge for its own sake, the academic freedom inherent in objective enquiry and dispassionate criticism, and the unobstructed transmission of information and ideas to students and to the wider society. On the other hand, universities increasingly portray themselves (and are portrayed by others) as organizations in partnership with industry and government to provide employment-oriented training to the widest possible segment of society, [to] furnish consulting advice to its two “real world” partners, and [to] conduct applied research which is “relevant” to economic development and national security. A further extrapolation of the partnership theme is that those industries and government agencies which are direct consumers of these services will play an increasingly prominent role as sources of university funding. [FN10]

These pairs of paradoxical observations about universities are inconsistent with one another. The first actually mirrors the reality of the growth of most universities in Canada from private foundations, *146 church-sponsored, to the secular, government-dependent institutions which they are today. [FN11] Langford's claim that Canadian universities were

secular is not historically accurate. Dalhousie University, alone among the later prominent universities in Canada in having non-sectarian roots, suffered for this:

For the half century before 1863, Dalhousie College, by remaining legally non-denominational, had forfeited its claim to financial support from the several denominations and had seen that support given to rival sectarian institutions. Without formal religious affiliations it could not call upon the Established Church [the Anglican Church of England] for aid; yet, because of the predominantly Anglican nature of its Board, it could not attract contributions from non-Anglicans. [FN12]

Nor is it accurate to say that Canadian universities have been publicly funded throughout their histories, although it is the case that most enjoyed some public support from a fairly early point in their histories. However, Langford's description of the "traditional mandate", while it may not reflect the historical reality of Canadian universities, does accurately encapsulate a strong rhetorical tradition in Canada.

Thus, as Canada develops its "information economy" in the public interest, it may appear inappropriate that one important channel for that development, the university, is, at least legally, a non-governmental player, and that one important structural element of that development, intellectual property law, is a system of private rights. Though appearing paradoxical, the creation of private rights as a vehicle for the advancement of the public interest may be efficient. As Parker explained some years ago:

***147** The distribution of information has a declining marginal cost ... These declining marginal cost problems make it very difficult to create appropriate incentives for the original production of information.

Some conclude from these considerations that information is a public good like other public goods such as roads and police services. Some information goods and services, for example most schools, libraries and scientific research, are already treated as public goods which require governmental support. Calling it a public good doesn't solve the policy questions however. That just affirms that many of the relevant investment and allocation decisions have to be made collectively, presumably through governmental decision processes. Calling information a public good doesn't solve the vexing social policy questions of how much to invest in what kinds of information production and distribution. ... [FN13]

Again, although initially it might be considered unusual to foster the public good through private channels, the university, though a private foundation, has traditionally welcomed the unfettered exchange of ideas and its members have not developed an attitude which favoured the exploitation of intellectual property rights by the owners of those rights. As Rosenzweig comments:

Among social institutions, the university, if not unique, is at least unusual in its attachment to openness as a value. Governments (including, alas, democratic governments) tend under stress to seek comfort in secrecy. This is most obviously the case when national security is involved, but it is really a more general observation about the behaviour of governmental bodies in all policy domains and at all levels. Similarly, in business, what one knows that one's competitors do not is frequently a source of competitive advantage. The wish to preserve that advantage for as long as possible is both strong and understandable.

Openness is, therefore, the value that is most vulnerable to attack when the university rubs up against other important social interests. [FN14]

The relative withdrawal of support for universities from the public sector [FN15] has caused most university administrations to re-examine the traditional reluctance to exploit intellectual property rights. [FN16]

***148** In a very recent study involving a literature review and thirty-three interviews with "experts and interested parties across Canada ... from the academic, industry and investment communities," [FN17] consultants found that

“There is a general consensus that commercialization is (and should be) embedded in the mandate of universities, and that the primary goal of commercialization is (and should be) to generate benefits for Canada. However, there is a lack of a strong and consistent university culture of commercialization.” [FN18] The converse of that position is articulated by the Canadian Association of University Teachers:

We are deeply troubled by the call for commercialization to become the key mission of the university - alongside teaching, research, and community service. Our public educational system is vital to sustaining the character and purpose of Canadian social, economic and political life. To accomplish that goal, our public educational institutions must be free of encumbrances resulting from compulsory ties to the corporate and commercial world - or to any other special interest. [FN19]

This paper will explore these challenges and paradoxes with respect to the issues of copyright with respect to the university as an organization. The paper will contrast the situation with respect to copyright in universities with the situation involving patents, another form of commodification of intellectual activity. The analysis will focus on two primary considerations: Can arrangements more advantageous to the university community be worked out for copyright? Who is in a position to make the necessary changes?

2. NATIONAL INFORMATION POLICY WITH RESPECT TO INTELLECTUAL PROPERTY

The Canadian government has a direct interest in fostering innovation. When the Organization for Economic Cooperation and Development reviewed the technological innovation record in ten member countries since the Second World War, Canada's performance has *149 not been impressive. [FN20] This appears to be directly related to the fact that although Canada's investment in research and development has been gradually increasing since falling to an all-time low in 1976, [FN21] Canada spends far less in this area than do other industrialized countries. [FN22] This is despite the fact that, when calculating Canada's expenditures on research and development, Statistics Canada includes the investment Canadian universities make in faculty salaries even where other research funds are not being used, and also includes humanities scholarship, which the United States, for example, excludes. [FN23] Moreover, there has been criticism that Canada overstates its investment in the social sciences as well. [FN24] The intellectual property products of each of these areas, upon investment in which Canada relies in claiming the research and development it does, are copyrighted works, rather than other forms of intellectual property. Realizing specific rewards for this investment, therefore, relies on maximizing the returns on copyrights.

There are a number of vehicles in place which implement our national government policy for information. Since the areas of both patent and copyright are reserved exclusively to the federal government in our *Constitution Act, 1867*, they provide less complicated case studies for the creation of information policy in Canada than other areas such as trademark [FN25] or public library services, [FN26] for example.

*150 Intellectual property, however, is not an area of policy which can be said to be exclusively determined by the national agenda. The nature of diffuse nature of information, which has always been difficult to contain within national boundaries, rendered relatively early international cooperation advantageous. During the nineteenth century, the *Berne Convention on Copyright* was a widely adopted vehicle for standardization amongst nations. [FN27] The *Paris Convention for the Protection of Industrial Property* (including patents), of the same vintage (1883), has also been widely adopted by nations throughout the world for technology management. [FN28]

More recently, the recognition of the importance of intellectual property rights to national economies has placed them squarely on the agenda of international trade talks. [FN29] As Hertz explains:

The ways of commercially exploiting IPRs [intellectual property rights] are rapidly changing with the introduction of innovative technologies. Countries which are net exporters of technology and copyright product are therefore eager for international adoption of new mechanisms to ensure that economic rewards flow back to IP owners. The net export countries see new opportunities in integrated trade agreements with interlocking provisions on investment, IPRs, and dispute settlement. ...

The evolution of such highly sophisticated IP protections strategies means that policy makers in other countries have to respond with serious thinking about the dangers of over-protecting IPRs. In addition to worrying about defending the rights of IP owners, governments have responsibilities to guard other interests, e.g., the legitimate needs of social policy, health protection, and consumers. If shaping and sharpening [IP protection strategy] is the goal of some countries, negotiators for other countries must be vigilant and inventive. [FN30]

*151 Burch discusses the effect of these international trade agreements with respect to intellectual property and suggests that they are evidence of a “nascent global culture of liberalism” [FN31] characterized by “minimizing government interference, specializing in production to exploit comparative advantages, and reducing barriers to trade” [FN32] - “individuals could make money, and serve the public good at the same time.” [FN33]

While Canada may be heavily involved in international negotiations over trade in intellectual property areas, Canada still implements its international obligations through domestic legislation. In this respect also, copyright and patent are easier objects of study because the federal government has declared that it has displaced the role of courts in creating original law in these two areas: [FN34] the role of the courts is limited to interpretation of the legislation.

Canada was thus able to directly implement those changes necessary to bring it into line with the international copyright commitments which it made in 1994, for example, by amending the *Copyright Act*. The legislation was amended, *inter alia*, to bring Canada into compliance with the 1971 version of the Berne Convention. [FN35]

As Marlin-Bennett points out:

The Berne and Paris Conventions and related conventions are limited documents, and they place few requirements on signatory states. They have no enforcement mechanisms built into them. TRIPS [the Agreement on Trade-Related Aspects of Intellectual Property Rights of the 1994 renegotiation of the General Agreement on Tariffs and Trade (GATT)], on the other hand, borrows the enforcement mechanism of the World Trade Organization as a whole - that is, the dispute conciliation process and the potential of internationally approved trade sanctions to counter violations of intellectual property rights. [FN36]

*152 These international obligations severely limit the range of future options realistically open to the federal government in legislating the area of copyright.

However, in addition to legislating in the areas of patent and copyright, the federal government can also develop its information policy through administrative activity fostering certain activities with respect to patent and trademark in other sectors of society. Such activities could include selective funding programs. For example, Canadian federal government research funding for academics has been increasingly tied to the creation of private sector partnerships. While this may be fostering industry innovation, one study has found that these partnerships actually restrict information flow beyond the boundaries of the partnerships “for longer than is necessary to file a patent application.” [FN37] Of course, once a patent is issued, the information about it becomes available to the public as a requirement of registration. [FN38]

Under either patent or copyright, the rights created are vested by the statute. Under copyright, the first ownership is held by the author or creator of the work, unless the work was created during employment, in which case the first ownership of the copyright vests in the employer. [FN39]

There has been a considerable controversy in recent years over whether the Crown should be able to hold copyright in the works which its employees produce. The Crown in right of the federal government and in right of the governments of the provinces and territories acquires copyright through s. 13 of the *Copyright Act*, just as any other employee in Canada does. [FN40] This is consistent with the rights of the Crown to hold patents. [FN41] In the United States, however, there is a particular provision*153 in the copyright statute which declares that the American federal government shall not hold copyright in any of the works created by it. [FN42] In Canada, Parliament had chosen merely to shorten the period of copyright for works held by the Crown. [FN43] Rather than change Canada's policy with respect to the treatment of government documents by legislative amendment, [FN44] the federal government has recently chosen to exercise its rights as a copyright holder, just as any other copyright holder may do, [FN45] and effectively change copyright policy with respect to *154 certain federal government documents by licensing those rights to the public. The regulation which was promulgated is as follows:

Whereas it is of fundamental importance to a democratic society that its law be widely known and that its citizens have unimpeded access to that law;

And whereas the Government of Canada wishes to facilitate access to its law by licensing the reproduction of federal law without charge or permission;

Therefore ...

Anyone may, without charge or request for permission, reproduce enactments and consolidations of enactments of the Government of Canada, and decisions and reasons for decisions of federally-constituted courts and administrative tribunals, provided due diligence is exercised in ensuring the accuracy of the materials reproduced and the reproduction is not represented as an official version. [FN46]

One province, Ontario, has quietly followed the federal lead with respect to statutes, regulations and judicial decisions [FN47] - but has chosen another policy instrument, merely a policy directive, rather than regulating:

The government will continue to claim copyright in statutes, regulations and judicial decisions, but will allow third parties to reproduce these materials without seeking permission and without charge. The materials must be reproduced accurately and must not be represented as an official version. [FN48]

*155 Just as the copyright is fully transferable by the initial owner, [FN49] so is a patent. [FN50] Under the *Patent Act*, the patent can be issued to the inventor or to a party to whom the inventor assigns or bequeaths it. [FN51] Indeed, the *Patent Act* specifically contemplates joint inventors, [FN52] just as the *Copyright Act* specifically provides for joint authorship. [FN53] However, unlike the *Copyright Act*, the *Patent Act* is silent on inventions made during the course of employment. [FN54] Thus, while the *Copyright Act* contains no definition of the concept of employment and it is necessary to look to the employment law of each province to determine whether a situation falls within s. 13(3) of the *Copyright Act* (and thus copyright would automatically belong to the employer), in patent the employment law of the province is used to determine what the agreement is between the employer and the employee about whether or not the right to the patent is to be assigned to the employer. [FN55]

The way in which the protection of patent is created differs fundamentally from the way copyright arises. Patent is a formal scheme: the right to a patent arises only upon registration. [FN56] On the other hand, although registration is available in copyright, and confers some advantages, copyright arises in eligible works as soon as they are created, without the necessity of any further formality. [FN57] (See Figure 1 below.) *156 Without initial protection of the secrecy of an inventive idea, the opportunity to patent will be lost: once the idea becomes known outside the organization where it developed, the aspect of novelty is lost and a patent will not be issued if the idea is not novel. [FN58] An early example of the tension in the academy between open scientific communication and the desire to patent occurred in Canada in the discovery of insulin at the University of Toronto in the 1920s. [FN59] Although the university may not manufacture or produce a patented invention without a license, if another party obtains a patent, this ensures that the uni-

versity can have knowledge of the contents of that invention and use that knowledge for further research. [FN60]

In the university context, there are complex relationships between the organization and its faculty and students. Students are not actually members of the university organization as legally constituted, and copyright in works they produce clearly vests in them alone. [FN61] They are external clients or customers of the organization and thus would not fall within the definition of employees. The staff of the university are clearly employees. Faculty hold an ambiguous position vis-a-vis their institutions. [FN62] They form part of the governing structure of their organizations through their Senates (or Governing Council). On the other hand, they draw salaries from their institutions and enter into agreements over conditions of employment. In the United States, where the copyright legislation transfers initial ownership of copyright from the creator to the employer in any case of “work made for hire” (arguably more often than in the Canadian context of “in the course of employment”), the *157 courts have still exempted faculty-written copyrightable works and held that these belong to the faculty members, not the universities. [FN63]

Various groups of copyright holders have had a long history of collective administration of their rights, particularly those owning the rights involved in musical works, in order that their rights might be more effectively administered and enforced. [FN64] Up until 1988, those having interests in “literary works” were discouraged from such an approach because of the threat of anti-combines prosecution under the *Competition Act*, R.S.C. 1985, c. C-34. When this threat was removed by legislative fiat in 1988, [FN65] two large collectives became increasingly active in the Canadian print arena, CANCOPY for English language works and UNEQ, now COPIBEC, for French. That policy change has quickly changed the face of reproduction rights enforcement for literary works in Canada. CANCOPY represents over 3,698 Canadian authors and 351 Canadian publishers and also has reciprocal arrangement for licensing and enforcement with collectives in 14 other countries. Over 800 Canadian organizations now have paid for licenses to reproduce works represented in the CANCOPY repertoire. One of the earliest target markets for CANCOPY was the universities. [FN66]

While patent and copyright legislation are visible components of the implementation of Canada's information policy, it can be seen that many elements of these regimes are now dictated through Canada's international agreements as part of international trade negotiations. There are some aspects which are still domestically driven - but even *158 these may be put on the international agenda in future. On the other hand, within the framework of the two legislative schemes, there is the opportunity for considerable variation in implementation and administration.

3. THE TWO-WAY NATURE OF THE UNIVERSITY/INDUSTRY KNOWLEDGE TRANSFER

Since the university is by definition involved in the transfer of knowledge in Canadian society, and since intellectual property rights arise (by operation of Canadian legislation and common law) in the various channels through which this transfer of knowledge occurs, Canadian universities cannot avoid being heavily involved in intellectual property issues.

It is possible for the Canadian government to legislate certain patterns of knowledge transfer, should it so choose. For example, early on, when the resources of government were not devoted in any large sense to owning the infrastructure for technological invention, the government was given a compulsory license over patented technology required in the public interest. [FN67] Since 1994, when changes to the *Patent Act* were made in order to allow Canada to comply with its new obligations under the North American Free Trade Agreement, [FN68] the *Patent Act* does apply to the federal and provincial governments [FN69] and governments must negotiate for licenses from patent holders. Technically, it is only after such negotiations have failed that the governments can apply to the Commissioner of Patents for non-exclusive rights to use patents within their jurisdictions. [FN70] Since anyone, including government employees, was always free to read and use information from copyrighted*159 sources, there was no corollary license for government use ever included in copyright. [FN71]

Although, as mentioned above, universities are nominally independent of government, [FN72] in fact the recent trend toward fiscal conservatism in Canadian governments has meant that governments have increasingly relied upon the university to act as the incubator for public sector activities in innovation and knowledge creation. [FN73] These same governments, however, have been increasingly reluctant to fund this activity purely with public dollars. There has been an increasing emphasis on partnering the private sector in university research. [FN74] The theory has been to create a mutually beneficial symbiotic relationship between private sector industry, which will profit from the university research through increased competitive advantage, and the university, which will be rewarded financially by pursuing research agendas which *160 support private sector industry. It is possible that financial rewards are more illusory than high profile success stories would indicate. [FN75] However, the development of technologies based upon pure science concepts such as DNA research and the rising cost of funding research has increased the attractiveness of university partners for industry which has traditionally developed only applied research expertise internally. [FN76] Just recently a professional magazine trumpeted:

A chief advantage of university-industry research partnerships is the availability of government-funding through R&D programs. Such organizations as the Natural Sciences and Engineering Research Council and Material and Manufacturing Ontario provide funding for AMT [advanced manufacturing technologies] research projects at Ontario universities. Substantial tax advantages are also available through the federal Scientific Research and Experimental Development and provincial Ontario Business-Research Institute tax-credit programs. Depending upon a firm's circumstances, the combined tax benefit can cover up to 67% of expenditures. [FN77]

This partnering may occur through the efforts of the university and industry partners independent of government - or it may be encouraged by the federal government using the various policy tools available to it. [FN78]

Such partnering, however, requires information sharing. [FN79] This sharing involves information flow from industry to the university, in *161 order that the university can become aware of industry needs. Private sector corporations in each industry compete against one another for survival. These organizations need to be certain that information shared with the university to help create industry relevant research agendas does not jeopardize the competitive position of the organization within its industry. The traditional independence of the academic enterprise means that professors are concerned to ensure that the receipt of information and funding from a private sector source does not control the research agenda. [FN80] There are also concerns about the traditional openness of the university academic environment if certain information received from industry must remain secret. [FN81]

The impulse to maximize the reward to the institution through pursuing relevant research agendas has caused many academic institutions to flex their muscles as organizations capable of owning and *162 exploiting property, particularly intellectual property. [FN82] For the proposed private sector partners, this activity as intellectual property exploiting organizations puts the universities themselves into the position of potential or actual private sector competitors and raises issues of unfair competition in the marketplace. Moreover, the exploitation of the creativity of the members of the university community raises complex issues within the university of governance and community: who controls the intellectual property created from the academic endeavour and how should that control be exercised. [FN83] There has long been a tradition of consulting to private industry by university faculty which has been assumed to be beyond the scope of the faculty member's employment - and yet on one view this expertise may be considered a transfer of knowledge developed within the university context out into the private sector. [FN84]

Both the impulse to increase information flow from industry to the university and the impulse to increase the flow of information from the university to industry has been thought to necessarily restrict the flow of information from the university into the public domain. John W. Langford wrote:

The real importance of the changing approach to intellectual property ownership is that it is part of a wider process of change which threatens to transform the university from an open, inquiring and relatively free institution committed to the widespread dissemination of knowledge to a closed, secretive institution preoccupied with the commercial and security concerns of its private and public sector partners. [FN85]

However, of course, information about a patent is required by law to be available to the public as soon as the patent is registered - and copyright only pertains to the expression of ideas, not to the ideas themselves.

***163** Is there indeed a change occurring in the way the university community approaches copyright? This involves consideration of the questions highlighted in **Figure 2 below**. These observations will be placed in the context of the prevailing national information policy structures and the institutional responses being formulated by Canadian universities.

4. INTELLECTUAL PROPERTY ADMINISTRATION IN THE UNIVERSITY

There are at least two aspects to the university community's role in administering intellectual property rights within its organizational boundaries. First, the university organization is a vast consumer of intellectual property. Second, the university community produces intellectual property.

Proportionately, the university is probably a far greater consumer of copyrighted material than it is a customer for patent rights. [FN86] On the other hand, the ratio between the university's production of patentable inventions and copyrighted material is not as obvious. While figures are available for the registration of Canadian patents by universities (see **Table A below**), [FN87] copyright registrations, even if available for comparison, [FN88] do not represent the ownership of copyright in the university community because, as discussed above, registration is not necessary to obtain the copyrights. [FN89]

***164** The university's allocation of resources to the administration of copyright and patent will be related to the university's perception of the costs and benefits involved in the investment. Related to the institution's assessment of these costs and benefits is the issue of the enforceability of the rights involved in the intellectual property.

The inventor's right under patent is "for the term of the patent, from the granting of the patent, the exclusive right, privilege and liberty of making, constructing and using the invention and selling it to others to be used" [FN90] The cost/benefit equation is perhaps most straight-forward in the case of the university's acquisition of interests in a patent. The technology will not be available to the university unless the rights are acquired. The risk of being pursued by the patent rights holder would be relatively high if the university went ahead without acquiring the appropriate rights. It would be relatively difficult to disguise the unauthorized use of a particular technology. Self-reported data from a number of Canadian research universities indicates that industry-university technology transfer, through the acquisition into the university of information about patentable technology owned outside the university, is increasing. [FN91]

The administration of patent rights has taken a different path in universities than that taken for copyrights, at least in part because of the nature of the rights involved. Once a patent has been granted, the invention is fixed, although, as discussed above, the right to use or manufacture it can be assigned. If an improvement is made to an existing invention, then a fresh patent is obtained covering just the improvement. [FN92] That improvement patent may be held in an entirely separate ownership than the ownership of the original patent. It will be up to the parties involved to come to an agreement whether it is the owner of the improvement patent who wants to manufacture the device, which will perforce require production of the original invention, or if it is the owner of the original patent who wishes to manufacture or use the newer technology, which the improvement patent protects.

The process of creation for works eligible for copyright is different. The law recognizes the possibility of separate copyright interests in *165 different facets of a cultural product: in the same sound recording the copyrights for the musical works recorded on it are separate from the rights to the sound recording, and recently, the performers' performances of the musical work. [FN93] There are separate copyrights arising in a short story and in the collection of short stories which contains it. The copyright may well have expired on a literary work and yet an enforceable copyright interest still exist in the edition of that literary work.

Perhaps because of the complexity of the rights involved, and also because of the nature of the works involved, the university's position with respect to the acquisition of copyrighted material is more difficult to analyze perhaps than that with respect to the acquisition of inventive know-how. First, the university community acquires copyrighted materials by purchasing them. During the print revolution, the technology required to publish literary and artistic works spawned the whole "publishing industry." [FN94] Once works have been purchased, users in the academic community are free to do with them anything which is not exclusively reserved to the copyright holder under the legislation. In the case of literary works, these uses include reading the materials, lending them to others, eventually destroying the books or periodicals, and so on.

Second, members of the university community have various legitimate other uses of works made available to them under the legislation as exceptions to the statutory rights of the copyright holders. [FN95] Since these "fair dealing" and "educational institution" uses are less than clearly spelled out, it is difficult to determine in advance just how far the university has an exception from the rights of the copyright holder in a particular circumstance. It is also the case that the use of copyrighted*166 materials in the university community is exceedingly diffuse and diverse. It is not as readily apparent to the copyright holder - or to other members of the university community even - when any member of the university community has done something with a copyrighted work which only the copyright holder has the right to do. The legal enforcement of copyrights has had a chequered career. There have not actually been successful proceedings against Canadian universities by the print collectives in Canada. [FN96]

*167 Finally, the universities have purchased rights to reproduce literary works from the CANCOPY collective. The negotiations with the Canadian print collectives seem to have been marked by an absence of actual data on the value of the rights involved. If there is a quantum relationship between the value of the rights purchased and the dollar figures involved, there should be a marked diminution in the amounts being paid out by universities to renew their CANCOPY agreements since the universities' rights were broadened in the recent amendments to the *Copyright Act*. However, this does not seem in practice to be occurring. [FN97]

These latter two routes for acquiring copyrighted works, which rely largely on reproducing works, are only useful to members of the university community if they are able to locate originals which can be copied or otherwise used. For this reason, enlarging fair use exceptions in the statute or acquiring greater reproduction licence rights will not alone ensure a greater flow of information into the university community. Many faculty are justifiably concerned about the increasing difficulties universities are having in acquiring published works by purchasing them. Of particular concern is the escalating cost of periodicals. [FN98]

The flip side of these observations affect the university in its role as a producer of intellectual creativity. The university community has to consider the market for its intellectual property, the enforceability of its *168 rights over its intellectual property and the appropriate exercise of them.

It will be more obvious to the university if the university's patented technology is improperly used than if copyrighted works are improperly used. As Weiner points out "a patent is only as good as one's willingness and ability to defend it."

[FN99] The university may have to weigh the public relations effects of enforcing a patent (and hence potential future tuition revenue and donor response) with the revenue to be gained through strict enforcement. Many Canadian universities are seeing the value in patenting their innovations. (See Figure 3 and Table A below).

On the other hand, it is a major problem for the university in the administration of copyrights created within its organizational boundaries (whether the property of the institution in the first instance or the property of individual faculty members) that without a formal registration requirement, the university's own inventory of copyrights is far more difficult to compile than are the patents which are registered in Ottawa (or in other national offices, for foreign patents held). The university will be more fully aware of its patent assets simply because of the technological infrastructure which often accompanies the development of inventions. On the other hand, the widespread use of desktop publishing capacities all over campus means that the organization will have less certain knowledge of its output in terms of copyrighted works (not to mention works mounted directly online). This is not an insurmountable problem, but Canadian universities have not begun to take the kind of organized approach to copyright ownership which they have recently begun to take to patent ownership. [FN100]

These difficulties in administering copyrights and patents created within the university have to be considered in light of the revenue which *169 could be generated from them: what is the market for these intellectual products?

Langford observed at the beginning of this decade that:

universities increasingly have what might be described as a “two-track” attitude towards the inventions [creativity] of their faculty and staff members. With respect to publishable manuscripts, musical compositions, paintings, and software, for instance, the employee ownership approach is generally maintained. The only exceptions would appear to apply to faculty or staff members who have been explicitly hired to develop software, produce a film or videotape, or write a book. In these cases, ownership rests with the university. ...

However, in response to the production by employees of economically exploitable inventions (largely in the scientific, medical and engineering field), universities have moved to secure the ownership rights to such research outputs for themselves and their private sector or government financial sponsors. [FN101]

His observations of the universities' attitudes to copyrightable materials are confirmed to some extent when the current policies and agreements are analyzed. (See Figure 4 and Table A below). However, it would appear that in many cases, the university claims rights, on paper at least, to a share in works to which it has contributed. In this, the universities would seem to be making consistent policy for their claims to both patent and copyright. This would mean that they had “moved to secure the ownership rights to such research output” - for both types of works, rather just for patentable works as Langford maintained.

However, while rights may be claimed in copyright works, it would appear that the universities are still not actively pursuing those rights, as will be further discussed below. This may be consistent with Langford's claim that the universities are only pursuing rights which are “economically exploitable.” But, *is* it the case that only patentable inventions are “economically exploitable”?

The market for the use of patents generated by the university is tested through the direct negotiation of contracts for interests under the *170 patent. Universities are increasingly deriving revenue from their patent interests. [FN102] In copyright, the same sort of contractual negotiation can be experienced for certain copyright interests in certain works: for example, for performance rights in musical works or audio-visual works or broadcasts created within the university. Such direct experience of a market for print or “literary works” has not been felt by the universities directly, although individual academic authors have experienced “best sellers”. [FN103]

One exception to this general pattern of academic neglect of copyright revenue potential is the Ivey School of Business at the University of Western Ontario. After analyzing the opportunity to have their copyright repertoire administered through CANCOPY, the School has opted out and is administering its own permissions. It is the only Canadian academic institution listed in the CANCOPY Schedule of Exclusions in its licensing agreements. [FN104] The School also acts as Canadian agent for the Harvard Business School, which is also listed as an exclusion in the CANCOPY agreements. The case study is a standard teaching vehicle at all business schools worldwide. [FN105] Harvard has the largest inventory of prepared case studies [FN106] and the Ivey School has the second largest inventory. [FN107] Ivey has established a marketing department and sells to business schools throughout North America and Europe. Recognizing that the vast majority of uses are probably in these sister institutions, the *171 School expends resources to monitor the use patterns in those schools (who are also their competitors as deliverers of business education). If the School finds that revenues from a particular school do not match the intelligence received about the uses being made of Ivey cases, they take steps to alert the school concerned to rectify the situation. The School does have other markets, but they make up far smaller proportion of sales and the resources required to police uses in those markets (and the strategic value of some of those markets in other areas of the School's activities) have determined that to date no enforcement initiatives have been taken in them. The costs of self-administration have not overtaken the benefits of not joining CANCOPY. CANCOPY copyright owners derive a net profit of 4.5 cents per page from reproductions. The Ivey school, through its subsidiary Ivey Publishing, successfully markets its cases while charging an average of over 25 cents per page to users.

The School is able to effectively administer these rights in part because it has had compulsory assignment of all copyrights to cases created by faculty hired in the past decade (as well as all non-teaching staff).

Although the enlarged exceptions for academic users might have been expected to affect markets for these case studies, the Ivey Business School actually anticipates no change in the demand for their cases. [FN108] The text of cases is so dense that teaching using methods other than providing each student with a copy of the case is probably not realistic. Therefore the exemptions for creating overheads (s. 29.4(1)(b)), for example, is probably irrelevant - and, in any case, would be rendered moot because the Ivey School's case service would be considered to fall within s. 29.4(3) as "commercially available." [FN109] Canada still has no exemption as large as the American provision for use of multiple copies for classrooms. [FN110] The enlarged exceptions for educational institutions and libraries, archives and museums must, however, affect to some extent the academic markets for other copyrights held in universities *172 and represented by CANCOPY. As mentioned above, the economic value of these changes is not easily determined. The Ivey School of Business has a consistent product with a known, consistent use in easily identifiable locations. It is in a position, therefore, to make certain judgments about value. To the extent that its product, cases, are used other than in the business schools, Ivey would have to invest in a different strategy to police those uses. That investment would only be appropriate if the revenues to be realized from that enforcement made the investment worthwhile. Even without any further investment in enforcement, of course, the Ivey School realizes revenue from users outside business schools who properly secure permissions through Ivey.

Universities may not be as directly interested in raising revenue through the exercise of copyrights in works produced by the community as they are in enhancing their bargaining position with respect to the acquisition of knowledge from outside the university through the purchase of serial subscriptions and monographs. Whether it is determined by the courts one day that universities own all copyright in the literary output of their faculty, as employers (or the matter is clarified by statute), or whether faculty assign interests in their copyrights to their universities (and the universities decide to exercise these rights), the universities will then be in an entirely different bargaining position vis-a-vis the publishers of academic journals than they face now. At a time when academic publishing is becoming increasingly concentrated in the hands of certain presses and the cost of subscriptions to those same journals is skyrocketing, as mentioned above, this enhanced bargaining position for universities might enhance the scholarly life of all the academics in the universities.

At present, the university community invests in the scholarship of its academics, but loses control of the copyrighted works at about the point when they become potentially marketable (see **Figure 5 below**). A better bargaining position with publishers can probably only be achieved if the universities are in a position to bargain on behalf of all their faculty's repertoires - and that position would be even further enhanced if the output of Canadian universities represented a significant portion of their academic consumption (or the movement were to become worldwide). There is an extensive literature on the patterns of ***173** academic knowledge transfer, [FN111] particularly in the sciences, although there has been work done on the humanities as well. [FN112] The use of scholarly journals as a formal source of academic communication is long established. In order to break the strangle-hold of the academic periodical publishers on this channel of knowledge transfer, a number of changes would have to occur as well as changes in copyright ownership. It would be necessary to establish other authoritative formal channels for academic knowledge transfer. Self-publication in such channels as the internet does not meet this need for authority control. In order to use the internet effectively as part of a change in knowledge transfer patterns, it will have to establish authority conventions such as peer-review within that channel. Serious consideration of these various options is occurring in the academic community both in Canada and internationally, [FN113] A number of alternative distribution prototypes have been initiated. [FN114]

It seems probable that the university community's efforts to enhance this avenue of acquisition of copyright materials will be more effective in the long run than lobbying for extensive statutory amendments to the exceptions given academics. As discussed above, the limits of exceptions to the rights of copyright holders will probably increasingly be the subject of trade negotiation and thus determined more by international forces than by domestic lobbying. As described above, Canada has adhered to the 1971 version of the *Berne Convention* ***174** now and it contains provisions governing the reproduction rights and exceptions to it:

Article 9

(1) Authors of literary and artistic works protected by this Convention shall have the exclusive right of authorizing the reproduction of these works, in any manner or form.

(2) It shall be a matter for legislation in the countries of the Union to permit the reproduction of such works in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author.

Further exceptions would have to meet the test of not conflicting with the "normal exploitation of the work," as well as "not unreasonably" prejudicing the author's rights. Given the longevity and strength of the scholarly publishing industry in Canada and (perhaps more importantly) abroad, this would be a high test. The most recent indication that universities ought not expect statutory aid comes in the recent report of the Expert Panel on the Commercialization of University Research which stated "[t]here are established traditions and practices for dealing with scholarly publications, and it is not our intention to recommend that they be changed in any way." [FN115]

Despite the fact that the law would probably find the inventor in most instances to be the faculty member, [FN116] it has been possible for universities to attract sharing relationships with their faculty through increased efforts to support exploitation of faculty creativeness in this area. Exploitation of a patent often requires significant resources and it may be that individual faculty have recognized the advantages of working with the university to ensure efficient and effective exploitation of their inventiveness. Virtually all Canadian universities who had developed patentable technology since 1978 have increased the number of Canadian patents held since 1988 (see **Table A below**).

On the other hand, while negotiations are continuing between universities and their faculty across the country which include intellectual property issues, it would appear that much of the rhetoric surrounding ***175** the copyright negotiations is couched in the language of rights and freedoms rather than economic interest. In an article exploring the implications for intellectual property regimes of the information development disparities between nations, Park and Ginarte ex-

plore what they term to be the myth that “the right to development takes precedence over the intellectual property rights of innovators”:

Economic development is a complicated process for which not even Northern economies quite have the formula. To express it as some kind of right misses the point that economic development is earned, not given, transferred, or transplanted in any way. Economic development is the outcome of good investments in various options (such as human capital, physical capital and technology) and of supportive institutions (legal, market, and political). [FN117]

Even in cases where the respective economic interests in various ownership arrangements are canvassed, this is done without the benefit of precise monetary values [FN118] whereas the language surrounding negotiation of patent interests is more grounded in the language of economic interests. As a recent report concluded:

There is no consensus as to whether initial IP ownership vested with the institution or the inventor is better within the commercialization process. Those who favour university ownership at all institutions believe that:

- It makes sense for benefits from publicly-funded research to belong to a public institution;
- Benefits to society are more likely if the university owns the IP (e.g., inventors can't just simply sell it to the highest non-Canadian bidder);
- There is more incentive for beginning the commercialization process;
- It is easier to protect the rights of all scientists and students involved, as well as the university;
- It reduces the ability of industry to “play one university against another” during negotiations;
- *176 • It reduces the time and effort needed to strike a deal with industry and investors;
- It allows the university to try again if the first attempt fails; and
- It is easier to keep track of commercialization activity, and thus measure progress according to a plan (if a plan exists).

Those who favour inventor-owned IP, or a diversity of approaches among institutions, believe that:

- Inventor-owned policies encourage more entrepreneurial thinking among faculty and students;
- Such policies encourage creation of start-up companies, which are usually locally-based and have the potential to generate significant future Canadian benefits;
- Such policies may reduce the bottleneck that arises when overworked UILOs [University Industry Liaison Offices] cannot cope with the demand; and
- There is strength in diversity and merit in having universities experimenting with various approaches.

There are simply no hard data available to decide between these two approaches. [italics added] [FN119]

Universities, both in Canada and abroad, [FN120] are showing a greater interest in the exploitation of their copyrights. However, as discussed above, no Canadian university appears to be deriving revenue from copyright holdings in any organized, centralized manner, with the exception of the Ivey School of Business. [FN121] It has been said that:

The social sciences and humanities ... are seriously under-represented in commercialization. The most prevalent means of knowledge dissemination (outside the traditional academic vehicles) is the transfer and exchange of knowledge and know-how in joint research projects. University-industry liaison offices tend to *177 devote few resources to the area and potential research collaborators must find their own contacts and develop their own networks. [FN122]

In our conversations, the industry liaison offices did not involve themselves in the commercialization of copyright interests at all.

In 1995, Canada represented 4.2% of science and technology scholarly publication: which represents an increase of 61.3%. [FN123] However, Canada is still a net importer of academic knowledge. In an interesting study which takes an

economic perspective on cross-country patterns of intellectual property distribution, Smith found a positive correlation between the strength of a country's intellectual property protections and the number of U.S. patents granted to its nationals. [FN124] Canada was found to be such a country - and it may be noted that many Canadian universities are also increasingly actively seeking U.S. patent protection for their inventiveness. [FN125] Smith writes "One explanation for this pattern is that countries with strong incentives to protect their intellectual property in domestic markets have similarly strong incentives to protect their intellectual property in international markets." It should be noted that in this 1995 study, Smith did not include Canada in the strongest category for intellectual property protection, "Protection and enforcement laws fully consistent with minimum standards proposed by the U.S. Chamber of Commerce," but rather in the second of the five possible categories, that is: "Generally good laws." [FN126]

Canada's *Copyright Act* has been amended further since 1995. These amendments occurred as a result of Canada's activities in the international trade arena. It would appear that the policy tool of domestic legislation may not be the most effective avenue for universities to improve the overall flow of information into and out of the university. The university communities themselves, using the existing mechanisms of intellectual property law, appear to be in the best position to effectively manage information policy in Canada in terms of the knowledge transfer into and out of the university organization. The university *178 community seems to have taken more control over the policy agenda with respect to acquisition and dissemination of knowledge involving patentable innovations than over knowledge acquired or disseminated from works governed by copyright. Knowledge transfer in the areas of the humanities and social sciences, therefore, is not being managed as effectively by Canadian university communities as in the sciences. On the other hand, opportunities exist for university communities to influence the future of scholarly publication in all areas of academic scholarship through strategic use of the copyrights which arise in their organizations.

***179 Different Types of Intellectual Property are Created at Different Times in the Life of an Idea**

Figure 1

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

***180 Intellectual Property Administration Matrix**

Figure 2

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

***181 Patent "Ownership" Issues Are Being Handled to Everyone's Advantage**

Figure 3

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

***182 Our Survey of Universities Showed Copyright Policies Vary but Generally Ownership Rests with the Author**

Figure 4

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

***183 Typical Economic Value Cycle of Literary Output**

Figure 5

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

***184 Table A: Canadian University Intellectual Property Policy Survey Results**

	No. of canadian patents re- gistered between 1978-88	No. of canadian patents re- gistered between 1989-99	Respon- dant to 1997 AUTM Sur- vey	Type of Copyright Policy	CARL	Is the faculty Uni- onized?	Comments on Copyright Policy
Universities British Columbia	22	128	Yes	2	Yes	Yes	For print only otherwise university
McGill	11	65	Yes	3	Yes	No	Except software (software is shared)
Alberta	14	59	Yes	4	Yes	Yes	
Victoria	14	49	No	2	Yes	No	For print other forms negotiable
Toronto	34	46	Yes	6	Yes	No	
Waterloo	21	38	Yes	3	Yes	Yes	
Saskatchewan	7	34	No	4	Yes	No	
Ottawa	6	28	No	3	Yes	Yes	
Manitoba	6	28	Yes	2	Yes	Yes	Except recordings

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Guelph	8	28	Yes	4	Yes	No	Resources means staff resources
McMaster	1	18	Yes	1	Yes	No	
Western Ontario	8	13	Yes	1	Yes	Yes	
Simon Fraser	4	12	Yes	4	Yes	Yes	
Dalhousie	1	11	No	2	Yes	No	
Queens	0	5	Yes	4	Yes	Yes	
Quebec	3	4	No	n/a	Yes	Yes	
Montreal	2	3	Yes	n/a	Yes	Yes	
Calgary	1	3	Yes	3	Yes	Yes	
P.E.I.	0	3	No	1	No	No	
							Some compulsory licence to U. for recordings
New Brunswick	0	2	No	2	Yes	Yes	
Concordia	1	2	Yes	2	Yes	No	Except software
Regina	0	1	No	1	Yes	Yes	
York	1	1	No	4	Yes	Yes	

Trent	0	1	No	2	No	No	Except software
Windso r	2	1	No	2	Yes	No	
Acadia	0	0	No	4	No	Yes	Specific formula in- cluded
Brock	0	0	No	4	No	Yes	
Laurier	0	0	No	4	No	Yes	
Newfou ndland	1	0	No	4	Yes	Yes	
Ryerson	1	0	No	4	No	Yes	
Laval	0	0	No	3	Yes	Yes	
Lethbri dge	0	0	No	3	No	Yes	
Bishops	0	0	No	2	No	Yes	
							Except if resources used are extraordinary
Carleto n	0	0	No	2	Yes	Yes	
Moncto n	0	0	No	n/a	No	No	
Sherbro oke	0	0	No	n/a	Yes	No	
Athabas cs	0	0	No	1	No	No	
Laurenti an	0	0	No	4	No	No	

Total =	169	583
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Average	4.4	15.3
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Note. The Copyright Policy Categories are as follow:

1 - In effect, relies on the statute.

2 - Author own the copyright.

3 - Author, unless the work was commissioned by the university.

4 - Author, unless significant university resources were used.

n/a - The policy was not available.

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[FN3]. There were remedies developed along tort lines which speak to enhancing this intellectual creativity as well, such as the passing off action. Edwin B. Parker, in his paper written with the assistance of Marc Porat. wrote:

Because information isn't a commodity like other commodities, and thus doesn't fit within our economic theories, we have created legislation that attempts by legislative fiat to create property rights in information. Four areas of law are involved: patents, copyright, trade secrets and privacy. In the case of patent and copyright laws, an attempt has been made to facilitate the widespread distribution of information while still retaining the property rights of the owner who benefits from receiving license or royalty fees from other users. In the case of trade secrets and privacy laws, an attempt has been made to restrict distribution of information which is more valuable to the owner if not disseminated. But ownership of information based on the analogy of ownership of physical goods remains a forced analogy. It is not surprising that there are continuing problems with these four areas of law."

- E.B. Parker and M. Porat, "Background Report" (Conference on Computer/Telecommunications Policy, OECD Paris, February 1975) OECD Information Studies II at 97. It will be noted below that neither trade secrets (an aspect of the law of confidential information) nor privacy protection have developed in Canada as property rights per se.

[FN4]. The area of breach of confidentiality has finally been clearly recognized in Canada, although its exact pedigree as a tort or as arising from contract is not clear: see *International Corona Resources Ltd. v. Lac Minerals Ltd.*, (sub nom. *LAC Minerals Ltd. v. International Corona Resources Ltd.*), [[1989] 2 S.C.R. 574, 61 D.L.R. (4th) 14, 69 O.R. (2d) 287, 26 C.P.R. (3d) 97 (S.C.C.)]. The action for breach of confidence is always available if the elements can be established: this means that there is the potential for perpetual protection of ideas held secret within organizations. It is clear, however, that this legal device is not a form of property.

[FN5]. These legislative schemes also involve protections for personal data. Since the 1970s they have come to govern the public sector in all provinces except Prince Edward Island. (See C.H.H. McNairn and C.D. Woodbury, *Government Information: Access and Privacy* (Toronto, Carswell: 1998 (loose leaf service)). Only in Quebec has this type of legislation been extended to govern the private sector as well: see *An act respecting the protection of personal information in the private sector*. S.Q. 1993, c. 17 [R.S.Q., c. P-39.1].

[FN6]. R. M. Rosensweig, "Research as Intellectual Property: Influences within the University." (1985) 10 *Science, Technology, & Human Values* 41 at 47.

[FN7]. *Cie generate des établissements Michelin-Michelin & Cie v. CAW-Canada* (1996), [1997] 2 F.C. 306, (sub nom. *Cie Générale des Établissements Michelin-Michelin & Cie v. C.A.W.-Canada*) 124 F.T.R. 192 71 C.P.R. (3d) 348 at 387-8 (footnotes omitted.) He had already stated that his conclusion with respect to the constitutional issues involving the copyrights in the case applied equally to the trademarks involved in the same case: see 386-7.

[FN8]. *Ibid.*, at 395-6.

[FN9]. This also occurred in the United States: "The concentration of public resources in support of research in the two decades following World War II was unprecedented in this or any other country. Government quickly came to dominate the financing of university-based research ... old patterns of support were doomed. Industrial support of university research did not disappear, but it came to constitute a tiny fraction of the whole. By the late 1970s, the forces working on universities and on industry had produced a kind of convergence. As other pressing problems claimed public attention, government had become less generous." Rosensweig, *supra* note 6 at 43.

[FN10]. J. W. Langford, "Secrecy, Partnership and the Ownership of Knowledge in the University," (1991) 6 *Intellectual Property Journal* 155 at 159 (footnote omitted).

[FN11]. In 1962, 14 institutions were chosen by the National Conference of Canadian Universities and Colleges as major academic institutions. Of these 14, three (the Universities of Saskatchewan, Alberta and British Columbia) were founded in the 20th century. Of the remaining (Dalhousie, Laval, McGill, McMaster, Manitoba, Montreal, New Brunswick, Ottawa, Queens, Toronto and Western Ontario), only Dalhousie was originally a non-sectarian foundation (although by the end of the nineteenth century, McGill, Manitoba, Toronto and Western Ontario had become non-sectarian also). See D. A. Wicks and M. A. Wilkinson, "The Importance of Sects in Academic Research Library Origins: The English Canadian Experience of the Nineteenth Century" (an early version was presented to the Library History Interest Group at the 1996 Canadian Library Association Conference in Halifax, Nova Scotia).

[FN12]. J. P. Wilkinson, "A History of the Dalhousie University Main Library, 1867-1931" (Ph.D. dissertation, University of Chicago, 1969) at 24.

[FN13]. Parker, *supra* note 3 at 98.

[FN14]. Rosenzweig. *supra* note 6 at 42.

[FN15]. J. Zieminski and J. Warda, “Report by the Conference Board of Canada: Paths to Commercialization of University Research - Collaborative Research” (April, 1999), at 11, drawing upon Chart 2.

[FN16]. As A. L. Monetti. “Ownership of Copyright in Traditional Literary Works within Universities,” (1994) 22 *Federal Law Review* 340 at 341, indicates, this is also a factor causing Australian universities to more vigorously pursue their copyrights.

[FN17]. D. Rank and M. Brochu, “Issues with Respect to Commercializing Canadian University Research,” Prepared for the Expert Panel on Commercialization of University Research of the Advisory Council on Science and Technology (January, 1999), at 1.

[FN18]. *Ibid.* at 35.

[FN19]. William Graham, President of the Canadian Association of University Teachers, in a letter to the Hon. John Manley, Minister of Industry, April 29, 1999.

[FN20]. W. Gu and L. Whewell, “University Research and the Commercialization of Intellectual Property in Canada,” Prepared for the Expert Panel on the Commercialization of University Research of the Advisory Council on Science and Technology (March. 1999), Table 1, at 5.

[FN21]. *Ibid.* at 4. The authors note that this growth has slowed since 1993. Their figures are current to 1997.

[FN22]. *Ibid.* They illustrate in Table 1 that only Italy falls lower than Canada in percentage spent among G7 countries.

[FN23]. *Ibid.* at 11, footnote 4. See also Box-1.

[FN24]. *Ibid.* at 6, footnote 2.

[FN25]. Although the federal government has been active, under its power to govern in the area of trade and commerce under s. 91(2) of the *Constitution Act, 1867*, 30 & 31 Vict., c. 3 (U.K.), in regulating trademarks through the *Trade-marks Act*, R.S.C. 1985, c. T-13, as amended, it has had to leave open, in s. 10, the possibility of protectable marks arising through ordinary usage without registration which will limit or even possibly defeat registered marks. This is because the federal government does not have exclusive power in the area, see G. R. Bell and H. Probert, “The Constitutionality of Canadian Trade Mark Law” (1985), 4 C.P.R. (3d) 305.

[FN26]. Public libraries are considered “municipal institutions” and, as such, fall under the exclusive jurisdiction of the provinces under s. 92 of the *Constitution Act, 1867*, 30 & 31 Civt., c. 3 (U.K.). The legislation accordingly varies from province to province throughout Canada.

[FN27]. *Berne Convention for the Protection of Literary and Artistic Works*, 9 September 1886; revised at Paris 1896, at Berlin in 1908, completed at Berne in 1914 and revised at Rome in 1928, at Brussels in 1948, at Stockholm in 1967, at Paris in 1971 and 1979.

[FN28]. See, for example, H.P. Knopf, “New Forms and Fora of Intellectual Property Law” (1988), 5 C.I.P.R. No. 2 May 1989 at 247.

[FN29]. *Ibid.* *supra*.

[FN30]. A. H. Hertz, “Shaping the Trident: Intellectual Property under NAFTA, Investment Protection Agreements and at the World Trade Organization,” (1997) 23 *Canada-United States Law Journal* 261 at 325.

[FN31]. K. Burch, “Intellectual Property Rights and the Culture of Global Liberalism,” (1995) 17 *Science Communication* 214 at 215.

[FN32]. *Ibid.* at 221.

[FN33]. *Ibid.*

[FN34]. *Copyright Act*, R.S.C. 1985, c. C-42, as amended, s. 89; *Patent Act*, R.S.C. 1985, c. P-4, as amended, s. 42.

[FN35]. K. Acheson and C. Maule, “Copyright and Trade Regimes Governing Print, Television and Film,” in Michael Dorland (ed.) *The Cultural Industries in Canada: Problems, Policies and Prospects* (Toronto: Lorimer & Co., 1996) at 315.

[FN36]. R. Marlin-Bennett. “International Intellectual Property Rights in a Web of Social Relations,” (1995) 17 *Science Communication* 119 at 122.

[FN37]. D. Blumenthal, N. Causino, E. Campbell and K. Seashore Louis, “Relationships between academic institutions and industry in the life sciences - an industry survey,” (1996) 334 *New England Journal of Medicine* 368.

[FN38]. *Patent Act*, *supra* note 34, s. 10.

[FN39]. In the case of photographs, Canada has a particular provision giving the commissioning party first ownership of the copyright: see s. 13(2) of the *Copyright Act*, *supra* note 34. Further see Y. Gendreau, “Copyright Ownership of Photographs in Anglo-American Law,” [1993] 6 *E.I.P.R.* 207 and M. A. Wilkinson and C. Painter, “Shifting the Balance of Copyright Control for Photographic Works in Canada,” (1999) 13 *I.P.J.* 353.

[FN40]. See *Hawley v. Canada*, (1990), 30 *C.P.R.* (3d) 534 (Fed. T.D.).

[FN41]. *Public Servants Inventions Act*, R.S.C. 1985, c. P-32, s. 3 provides:

The following inventions, and all rights with respect thereto in Canada or elsewhere, are vested in Her Majesty in rights of Canada, namely:

(a) an invention made by a public servant while acting within the scope of his duties or employment, or made by a public servant with facilities, equipment or financial aid provided by or on behalf of Her Majesty; and

(b) an invention made by a public servant that resulted from or is connected with his duties or employment.

A “public servant” is defined in s. 2 to include “any person employed in a department, and includes a member of the Canadian Forces or the Royal Canadian Mounted Police.”

The *Public Servants Inventions Regulations*, C.R.C. (1978), c. 1332, further spell out the requirements under the Act.

[FN42]. See 17 *U.S.C.* 105.

[FN43]. *Copyright Act*, R.S.C. *supra* note 34, s.12, which states:

Without prejudice to any rights or privileges of the Crown, where any work is, or has been, prepared or published by or under the direction or control of Her Majesty or any government department, the copyright in the

work shall, subject to any agreement with the author, belong to Her Majesty and in that case shall continue for the remainder of the calendar year of the first publication of the work and for a period of fifty years following the end of that calendar year.

Municipal governments are not included in s. 12 of the *Act*. They derive their ownership in copyrights under s. 13 - and those copyrights run for the usual period of the life of the author plus roughly fifty years.

[FN44]. This choice of limited policy instrument may have been dictated, at least in part, by the constitutional argument that copyright in judgments is controlled in such a way that the legislative arm of government. Parliament, cannot constitutionally regulate that ownership (see R. Martin, "Copyright plan would change our legal system," *Lawyers Weekly*, April 30, 1993, 8). This argument is neatly avoided in the federal regulation because the courts involved, the Supreme Court of Canada and the Federal Court, are not courts of original jurisdiction continued under s. 129 of the *Constitution Act, 1867* but were statutorily created pursuant to s. 101 of the *Constitution Act, 1867*. See I. Bushnell, *The Federal Court of Canada: A History, 1875-1992* (Toronto: Osgoode Society, 1997) and J. Snell and F. Vaughan, *The Supreme Court of Canada: History of the Institution* (Toronto: Osgoode Society, 1985).

[FN45]. Thompson Educational Publishing, for example, is apparently excluded from CANCOPY agreements because it does not seek to recover royalties from the use of its materials with ISBN 155077.

[FN46]. *Reproduction of Federal Law Order SI/97-5, Canada Gazette Part II*, Vol. 131, No. 1.

[FN47]. J. Shaughnessy, "Ont. Changes Crown Copyright Policy," *Lawyers Weekly*, Feb. 26, 1999, 3.

[FN48]. Copyright Unit, Services Division, Management Board Secretariat, "Corporate Management Directive: Managing, Distributing and Pricing Government Information (Intellectual Property)," August 11, 1998. The policy also has the following Purpose statement:

To ensure that Ontario government intellectual property assets are managed efficiently, effectively and consistently across the government.

To promote open government by providing fair and equitable access to intellectual property.

To encourage ministries to make intellectual property available for use by third parties to meet program needs and stimulate economic development.

It includes a "Mandatory requirement to use the appropriate intellectual property rights to protect information."

[FN49]. *Copyright Act*, *supra* note 34, s. 13(4).

[FN50]. *Patent Act*, *supra* note 34, s. 50.

[FN51]. *Ibid.*, s. 49.

[FN52]. *Ibid.*, s. 31.

[FN53]. *Copyright Act*, *supra* note 34, s. 9.

[FN54]. The same situation occurs in American law: see S. R. Kulkarni, "All Professors Create Equally: Why faculty should have complete control over the intellectual property in their creations," (1995) 47 *Hastings Law Journal* 221 at

231.

[FN55]. See, for example, *Dableh v. Ontario Hydro*, 68 C.P.R. (3d) 129, [[[1996] 3 F.C. 751 (Fed. C.A.)] where an employee of Ontario Hydro owned the patent on an invention created during the course of employment.

[FN56]. See s. 42 of the *Patent Act*, cited *supra* note 34. The requirement of formalities before rights are given is also built into other intellectual property regimes such as registered trademark (*Trade-marks Act*, *supra* note 25, s. 19), industrial design (*Industrial Design Act*, R.S.C. 1985, c. I-9, as amended, ss. 9, 11), plant breeders' rights (*Plant Breeders' Rights Act*, R.S.C. 1985, c. P-14.6 [S.C. 1990, c. 20], as amended, ss. 27, 5, 6) and integrated circuit topography (*Integrated Circuit Topography Act*, R.S.C. 1985, c. 1-146 [S.C. 1990, c. 37], as amended, s. 3).

[FN57]. *Copyright Act*, *supra* note 34, s. 5. The requirement that copyright arise upon creation of the work is contained in the *Berne Convention*. Article 5(2). The other intellectual property rights arising without the necessity of formalities are the “common law trademark” and the right to enforce confidentiality.

[FN58]. *Patent Act*, *supra* note 34, s. 2, definition of an invention, and s. 28.2.

[FN59]. H. Etzkowitz, “Knowledge as property: the Massachusetts Institute of Technology and the debate over academic patent policy.” (1994) 32 *Minerva* 383.

[FN60]. This public dissemination aspect of the patenting process does not seem to be in the mind of I. Feller, “Universities as engines of R&D-based economic growth: They think they can.” (1990) 19 *Research Policy* 335, at 343.

[FN61]. See *Boudreau v. Lin*, (1997), 150 D.L.R. (4th) 324, 75 C.P.R. (3d) 1, 38 O.T.C. 39 (Ont. Gen. Div.) Metivier, J., where a student successfully sued his professor and the University of Ottawa for infringement of copyright in a paper written for a course.

[FN62]. See Monotti, *supra* note 16 at 350, for a discussion of the Australian situation, where the copyright legislation is similar to the Canadian. She concludes that works created in pursuance of the teaching function are probably “works made in the course of employment” in which the university would own first copyright.

[FN63]. Kulkarni, *supra* note 54, at 229.

[FN64]. For example, SOCAN, founded in 1990, is the not-for-profit Canadian society which takes an assignment of the performing right in musical works from copyright owners, administers these rights and compensates the original copyright owners. Its antecedent organizations are much older: CAPAC, the Composers, Authors and Publishers Association of Canada, was originally formed in 1925 and the Performing Rights Organization of Canada (PROCAN) could trace its roots back to 1940. These organizations have a long history of copyright enforcement in Canada on behalf of their members: see, for example, *Vigneux v. Canadian Performing Right Society*, 4 Fox Pat. C. 183, [1945] A.C. 108, 4 C.P.R. 65 (Canada P.C.). CAPAC, the Composers, Authors and Publishers Association of Canada, also has a long and active history: see, for example, *C.A.P.A.C. v. CTV Television Network*, [1968] S.C.R. 676, 55 C.P.R. 132 (S.C.C.).

[FN65]. See s. 70.5(3) of the *Copyright Act*, *supra* note 34: “Section 45 of the *Competition Act* does not apply in respect of any royalties or related terms and conditions arising under an agreement filed in accordance with subsection (2).”

[FN66]. Figures taken from the CANCOPY website at www.cancopy.com.

[FN67]. Prior to 1993, s. 19(1) of the *Patent Act*, *supra* note 34, read: “The Government of Canada may, at any time, use

any patented invention, paying to the patentee such sum as the Commissioner reports to be a reasonable compensation for the use thereof.”

[FN68]. It may be noted that this is another instance where domestic policy change has been driven by international obligations.

[FN69]. *Patent Act*, *supra* note 34, s. 2.1, as amended by S.C. 1993, c. 44, s. 190, provides:

“This Act is binding on Her Majesty in right of Canada or a province.” No similar section existed in the Act before.

[FN70]. See ss. 19, 19.1, 19.2 and 19.3 of the *Patent Act*, *supra* note 34 as amended by S.C. 1993, c. 44, s. 191(1), and, in the case of s. 19.1 only, S.C. 1994, c. 47, s. 142 as well.

[FN71]. The rights to read, view or possess copyrighted works are not rights which have ever been given to the copyright holders under copyright legislation and, consequently, anyone is free to do these things with works either in or out of copyright. See the rights granted to the copyright holder as set out in s. 3 of the *Copyright Act*, R.S.C. 1985, c. C-42, as amended.

[FN72]. Each university is created as an independent foundation, several hold royal charters, such as McGill, issued in 1852, while others derive their existence from private Acts of the legislatures of their provinces, as, for example, McMaster, created in 1887.

[FN73]. There have been earlier examples of Canadian governments acting to spur academic contributions linked to industrial progress. The Nova Scotia Technical College was created in 1907. “[I]ts mandate was to carry out research and offer degree programs in engineering with the co-operation of universities and colleges in Nova Scotia and New Brunswick.” (see www.dal.ca/~daltech/tunshist.html). It evolved into the Technical University of Nova Scotia (TUNS) and has now amalgamated with Dalhousie University (April, 1997). In Ontario, the Ryerson Institute of Technology was established after the Second World War with a specific mandate to improve Ontario's workforce, developing in the 1970s into a degree granting institution and by 1993 becoming Ryerson Polytechnic University (see their website at www.ryerson.ca/tour/history.html).

[FN74]. The percentage of research and development funded by private sector industry has been rising. It comprised 6.3% of all university research in 1990 (Canada stood third of the G7), rising to 11.8% in 1997 (when Canada stood first). See Figure 11, at 20, in Gu and Whewell, *supra* note 20. American university administrators are also keen to promote university-industry links (see C. Weiner, “Universities, Professors, and Patents: A Continuing Controversy,” (1986) 89 *Technology Review* 32 at 43).

[FN75]. See Feller, *supra* note 60.

[FN76]. Figure 12 in Gu and Whewell, *supra* note 20, shows Canada leading in the proportion of industry research performed in universities, with an increasing margin over the other G7 countries: in 1990 3.8% of industry research in Canada was through universities (as against the UK second with 2.4%) whereas in 1997, Canada still led, now with 4.9%, while Italy had taken second place with 3%.

[FN77]. T. Nye, “Banking on university-industry partnerships,” (May/June 1999) 20(3) *Engineering Dimensions* [Official Journal, Professional Engineers, Ontario] 22 at 22.

[FN78]. The Report of the Expert Panel on the Commercialization of University Research, “Public Investments in Uni-

versity Research: Reaping the Benefits” which was presented to the Prime Minister's Advisory Council on Science and Technology on May 4, 1999 was released on May 31, 1999. It recommends tying federal government support for innovation to guarantees of exploitation in the Canadian interest. The Report explicitly does not cover copyright in scholarly publications. The immediate reaction of the Canadian Association of University Teachers was negative, see Graham *supra* note 19.

[FN79]. Blumenthal (1994), *supra* note 37, at 178, described a taxonomy of types of possible relationships:

- (1) research relationships, in which industries support university-based research through grants or contracts;
- (2) consulting relationships, in which industries compensate universities or members of their community in exchange for advice or information; (3) patenting or licensing relationships, in which industries obtain the rights to commercialize intellectual property owned by universities, (4) equity relationships, in which members of the university community or academic institutions themselves own substantial equity positions in new companies; and (5) training relationships, in which industries support the research or educational expenses of doctoral or postdoctoral trainees, or contract with universities to provide training to industry employees.

Gu and Whewell, *supra* note 20, at 59, Table 33, reproduce the results of a survey which asked about similar categories of collaboration: research contracted out to university faculty (similar to #2, above); long term R&D co-operative agreement (#1, above?); funding graduate student's research (#5); training and recruitment of staff (also #5); company bought and commercialized university technology (3); joint R&D (not matched), and other (could this have been taken by respondents to include equity relationships (#2)).

[FN80]. The history of academic involvement in patenting in the United States since the turn of the century illustrates the suspicion with which the public viewed academic involvement in patents and the reluctance of the academic scientific community to become involved. See Weiner, *supra* note 74. In the United States in 1934, there were only eighteen American universities involved in patenting, although by 1947 this had risen to 200 (*supra*, note 79 at 39). The issue is also controversial in Australia, see Monotti, *supra* note 16, at 341.

[FN81]. Langford, *supra* note 10, writes at length about this conundrum, see 162-165, 167.

[FN82]. In 1980, the American government amended its patent legislation so that universities could patent inventions which resulted from federally funded research without seeking waivers from the funding agencies (see Weiner, *supra* note 74, at 41; Rosenzweig, *supra* note 6, at 47).

[FN83]. It has apparently been the tradition in the United States that inventions created in public universities belong to the university and the private universities follow suit, with some exceptions for discoveries arising from privately sponsored research (Rosenzweig, *ibid*).

[FN84]. See Blumenthal (1994). *supra* note 37.

[FN85]. Langford, *supra* note 10, at 156.

[FN86]. Universities paid \$1.9 million to CANCOPY in 1998, a 32% increase over the amount paid the previous year. CANCOPY's total revenues only rose by 26%. See CANCOPY's Annual Reports. There do not seem to be directly comparable figures available for amounts paid out by universities for acquisition of disclosures. However, in 1997, the 12 Canadian universities who had also participated in the Association of University Technology Managers annual survey for 1996 reported receiving 608 invention disclosures, whereas they reported 494 the year before: this represents a 23% increase in disclosures received.

[FN87]. These figures were obtained through searches of the Canadian Patent Database of the Canadian Intellectual Property Office, see http://patentsl.ic.gc.ca/cgi-bin/patquery_eo_el.

[FN88]. The copyright registrations are not freely available for searching. The only way to make a search is to attend at the Ottawa office and do the search manually, a task that is usually left to experienced freelance clerks.

[FN89]. The Canadian Copyright Office is not able to provide a figure for the total number of copyright registrations in Canada. Nor are there reliable estimates of the proportion of works in copyright covered by registrations.

[FN90]. *Patent Act*, *supra* note 34, s. 42.

[FN91]. See footnote to Association of University Technology Managers (AUTM) Survey note 86 *supra*.

[FN92]. *Patent Act*, *supra* note 34, s. 32.

[FN93]. Performers' performance rights is a new area of rights which has just received protection in Canadian copyright law since the 1997 amendments. See *Copyright Act*, note 34, s. 15 and relevant definitions in s. 2.

[FN94]. And changed the face of Europe: see E. Eisenstein, *The Printing Revolution in Early Modern Europe* (Cambridge University Press, 1983).

[FN95]. The traditional areas of exception to the rights of the copyright holders in Canada, known as "fair dealing" were amended in 1993 again in 1997 (S.C. 1994, c. 47, s. 61; S.C. 1997, c. 24, s. 18) and now appear as ss. 29.1 and 29.2 of the *Copyright Act*. S. 29 provides "Fair dealing for the purpose of research or private study does not infringe copyright." Section 29.1 provides:

Fair dealing for the purpose of criticism or review does not infringe copyright if the following are mentioned:

- (a) the source; and
- (b) if given in the source, the name of the
 - (i) author, in the case of a work,
 - (ii) performer, in the case of a performer's performance,
 - (iii) maker, in the case of a sound recording, or
 - (iv) broadcaster, in the case of a communication signal.

S. 29.2 governs news reporting as an exception to the rights of the copyright holder. The 1997 amendments also introduced a separate range of exceptions to the rights of copyright holders which are reserved for "educational institution [[s]" as defined in the *Act*, s. 2. This definition of "educational institution" would include each Canadian university as "a non-profit institution licensed or recognized by or under an Act of Parliament or the legislature of a province to provide ... post-secondary education." The university has certain reproduction rights for instructional materials (s. 29.4), performances (s. 29.5) news and commentary (s. 29.6) and other broadcasts (s. 29.7) where any proceeds are for cost recovery only and not for gain (s. 29.3) and any telecommunication involved was lawfully received by the university (s. 29.8). Certain literary collections intended for use in the university can be prepared without necessarily obtaining copyright clearances for the copyrighted passages included (s. 30). Further, there will soon be in place particular exemption for libraries, archives and museums (as defined in the *Act*, s. 2). These exceptions are specifically intended to apply to libraries,

archives and museums found in the university setting (see s. 30.4). These exceptions for libraries, archives and museums, although passed and contained in the Act (ss. 30.1, 30.2, 30.21, 30.3), have not yet been proclaimed in force. Draft regulations intended to supplement these statutory provisions have been published in the *Canada Gazette Part I*, vol. 133, no. 5. 262 (January 30, 1999).

[FN96]. The two cases which actually went to court about the time that the first negotiations for a model copyright agreement were occurring with the Canadian Association of Universities were pursued only against copy shops which were adjacent to university campuses, but not part of the universities. *Canadian Reprography Collective v. Copy Ink Inc.*, [1994] O.J. No. 1003 (Ont. Gen. Div.) was a civil suit which was undefended by the copy shop (which was located near the University of Toronto) and therefore provides little guidance for future contested lawsuits. Although CANCOPY was initially successful in assisting with the prosecution of criminal proceedings under the *Copyright Act* in *R. v. Laurier Office Mart Inc.* (1995). 63 C.P.R. (3d) 229 (Ont. Gen. Div.), the Crown eventually lost this case against a copy shop near the University of Ottawa. In any event, rather than concentrating on monitoring copyright directly on campuses, CANCOPY's own *Annual Report* for 1998 indicates that it will continue to place much of its enforcement emphasis on policing copy shops near universities.

[FN97]. Certain areas of university organizations had already experienced participation in the collective administration process for musical works, primarily faculties of music. Despite the long experience of boards of education in the provinces with artistic works collectives, pedagogical conservatism and academic curriculum focus appear to have meant that most universities have lacked this experience. It might have been thought that the experience of Canadian universities in the arenas of artistic works administration and musical works administration, in particular, should have undergone a transformation as teaching methods broadened to include audio-visual works and curricula broadened to include a wider range of media and works. However, for the most part, these changes do not seem to have resulted in a greater institutional commitment to dealing institutionally with the collectives in these areas.

[FN98]. D. Butler, "The writing is on the web for science journals in print," (1999) 397 *Nature* 195.

[FN99]. Weiner, *supra* note 74, at 42.

[FN100]. No Canadian university appears to have a centralized office responsible for exploitation of copyrights. Having ascertained through CANCOPY that they were not aware of any such offices in Canadian universities, we double checked this information through extensive telephone queries at universities across Canada: Toronto, Bishops, Dalhousie, Prince Edward Island, Alberta, Windsor, Manitoba, Queen's, Memorial, British Columbia, McMaster, Simon Fraser, Western Ontario, Athabasca and McGill. In none of these institutions could anyone direct us to an office which was responsible for the exploitation of copyrights in the university (the offices of technology transfer and the research offices indicated that this was not part of their mandate) nor was any Accounts Receivable office even aware that it was possible to receive money *from* CANCOPY - in every case we spoke directly to Accounts Payable for information on payments made from the university *out to* CANCOPY. Several people with whom we spoke were astonished to hear that CANCOPY ever makes payments out!

[FN101]. Langford, *supra* note 10, at 160.

[FN102]. See Annual Reports of the Association of University Technology Managers, particularly for Canadian University respondents.

[FN103]. This comment is based on the conversations with members of the university administrations, not information from university presses, who may well have had such experiences. The Association of Canadian University Presses is a member organization in CANCOPY. See [http:// www.cancopy.com/about/member.html](http://www.cancopy.com/about/member.html).

[FN104]. See, for example, Schedule A to the agreement between CANCOPY and the University of Western Ontario.

[FN105]. Cases are drawn for real-life analyses of organizations facing challenges. The case is prepared to include all the facts which the author deems appropriate for analysis, providing the basis for several possible outcomes, but never providing solutions or conclusions.

[FN106]. A catalogue of over 3000 covering all areas of business studies.

[FN107]. A catalogue of about 1800. Professors are expected to prepare about two each year. Third place is the Darden School in Virginia with an inventory of about 1300 cases, closely followed by the consortium whose representation includes the five most prominent European schools, the European Case Clearinghouse (operating from Cranfield, U.K.). Other business schools either rely on others' cases or have inventories of fewer than a couple of hundred.

[FN108]. Much of the preceding information about the Ivey School of Business was obtained through the kind co-operation of Frank Kearney, Director of Case and Publication Services, Richard Ivey School of Business.

[FN109]. See *Copyright Act*, R.S.C. 1985, c. C-42, as amended, the definition of "commercially available" in s. 2: "(a) available on the Canadian market within a reasonable time and for a reasonable price and may be located with reasonable effort"

[FN110]. 17 U.S.C. 107.

[FN111]. A seminal work in this area is W. D. Garvey's, *Communication: The Essence of Science - Facilitating information exchange among librarians, scientists, engineers and students* (Oxford: Pergamon Press, 1979).

[FN112]. See for example, C. Chu, "The Scholarly Process and the Nature of the Information Needs of the Literary Critic: A Descriptive Model" (University of Western Ontario: Ph.D. dissertation, 1992).

[FN113]. See "The Changing World of Scholarly Communication: Challenges and Choices of Canada," Final Report of the AUCC/CARL/ABRC Task Force on Academic Libraries and Scholarly Communication (November 1996). See also "To Publish and Perish" Co-sponsored by the Association of Research Libraries, the Association of American Universities, and the Pew Higher Education Roundtable, (March, 1998) 7 (4) *Policy Perspectives*.

[FN114]. Serious attempts are being made in the direction of creating an alternative channel for dissemination of scholarly works which bypasses the traditional private sector academic publishers. See the SPARC initiative (The Scholarly Publishing and Academic Resources Coalition) at www.arl.org/sparc. See also High Wire Press at highwire.stanford.edu.

[FN115]. See "Public Investments in University Research: Reaping the Benefits," *supra* note 77, at i.

[FN116]. See P. K. Chew, "Faculty-generated Inventions: Who owns the Golden Egg?" [1992] *Wisconsin Law Review* 259 discussing the American situation.

[FN117]. W. G. Park and J. C. Ginarte, "Intellectual Property Rights in a North-South Economic Context," (1996) 17 *Science Communication* 379 at 385.

[FN118]. See, for example, the thoughtful and full consideration of various possible arrangements which could be made between faculty and universities in Monotti, *supra* note 16, at 362ff. She definitely recommends individual negotiated solutions rather than statutory amendment (see 364).

[FN119]. Rank and Brochu, *supra* note 17, at 11-12.

[FN120]. Monotti, *supra* note 16, gives Australian examples to support her statement that “Universities generally have begun to take a more active interest in the economic benefits of exploiting intellectual property in academic works and, in particular, in exploiting copyright.” (at 340).

[FN121]. Whether or not university faculty are unionized does not appear to be having any effect on the agreements reached concerning ownership of copyright, see **Table A**.

[FN122]. Rank and Brochu, *supra* note 17, at 19.

[FN123]. Gu and Whewell, *supra* note 20, at 27, quoting Godin *et al* (1998).

[FN124]. P. J. Smith, “International Patterns of Intellectual Property Protection and Commodity Trade: An Economic Perspective,” (1996) 17 *Science Communication* 355, at 367.

[FN125]. AUTM surveys, *supra* note 86.

[FN126]. Smith, *supra* note 124, see Appendix A.
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