ROUNDING UP PLANT PATENTS & OTHER GROWING PATENT CONCERNS A COMMENT ON MONSANTO v. SCHMEISER

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FACTS

On the heels of their ubiquitous and controversial decision in *Harvard College v. Canada (Commissioner of Patents)* (the so-called '*Harvard Mouse*' case), [1] the Canadian Courts were soon asked to re-consider the issues surrounding the patentability of biotechnological inventions in *Monsanto v. Schmeiser*. [2] Unlike *Harvard Mouse*, this matter was an infringement action. At the Trial Division, the crux of the action lay with Schmeiser's alleged failure to obtain a license Monsanto's patented [3] "Roundup Ready Canola" (a canola seed tolerant of glyphosate herbicides including Monsanto's own "Roundup"). [4]

"The infringement alleged is by the defendants using, reproducing and creating genes, cells and canola seeds and plants containing genes and cells claimed in the plaintiffs' patent, and by selling the canola seed they harvested, all without the consent or licence of the plaintiffs." [5]

DECISIONS & COMMENTARY

At the Federal Court (Trial Division), Justice MacKay ruled that on the balance of probabilities, by the saving and use of seed in 1997, which was later used to sow the defendant's 1998 canola crop, Schmeiser either knew, or ought to have known, that they were Roundup tolerant (in particular), and therefore "infringed upon the plaintiffs' exclusive rights under Canadian patent number 1, 313, 830 in particular claims 1, 2, 5, 6, 22, 23, 27, 28 and 45 of the patent." [6]

Justice MacKay was then drawn into a substantive enquiry concerning the co-existence of two statutory schemes for the protection of certain, seemingly overlapping, innovations--namely, the *Patent Act* and the *Plant Breeders' Rights Act*. Where counsel for Schmeiser had urged that the co-existence of the schemes necessarily suggested that the more recently enacted *Plant Breeders' Rights Act* signaled Parliament's intent "that intellectual property rights pertaining to new plant varieties are to be governed by legislation other than the *Patent Act* and only to the extent permitted under the former Act". [7] Justice MacKay dismissed the argument by stating that nothing in the *Plant Breeders' Rights Act* excluded operation of the *Patent Act*. Indeed, if the intention of Parliament is to be read from the plain language of statute(s), then the absence of such language should also so speak. Although the reliance on Parliamentary Committee minutes concerning Bill C-15 (which became enacted into law as the *Plant Breeders' Rights Act*) was persuasive of Parliament's intent, it should perhaps at best be construed as ancillary and *obiter* to Justice MacKay's musings.

Furthermore, the conclusion is not inconsistent with Canada's international obligations under Article 27 3(b) of Trade-Related Aspects of Intellectual Property Rights, which state that "Members shall provide for the protection of

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plant varieties either by patents or by an effective sui generis system ***or by any combination thereof***" [8]

Attention should also be had to Canada's other corresponding international obligations under the International Convention for the Protection of New Varieties of Plants ("UPOV"). Article 2 (1) of the 1978 text of UPOV (which remained the main impetus behind the *Plant Breeders' Rights Act*) provides that "[e]ach member State of the Union may recognise the right of the breeder provided for in this Convention by the grant either of a special title of protection or of a patent. Nevertheless, a member State of the Union whose national law admits of protection under both these forms may provide only one of them for one and the same botanical genus or species." [9] Although the language has been expressly removed from the 1991 revision of the Act of the UPOV

Convention, [10] Canada remains a signatory and party to the 1978 reading. [11] In its current state within Canada therefore, the rights afforded by the *Plant Breeders' Rights Act* remain at least complementary to those granted under the Patent regime.

In line with international developments and experiences which led to the removal of the Article 2(1) verbiage (under the 1978 Act of the UPOV Convention) within the 1991 revision, and taken to its logical conclusion, the de-coupling of Intellectual Property regimes which (may happen to) afford statutory protection on more than one ground, would mean that a work of copyright could not also be registered as a trade-mark (viz. slogans, designs, symbols, sounds and so forth), or afforded patent protection (viz. computer program products)--among numerable other combinations. In this instance, whether by accident or design it is not up to the Courts to read beyond what Parliament had explicitly expressed, or by negative implication, has so implicitly allowed.

Justice MacKay with the benefit of both the Trial [12] and Appellate [13] Division's judgments in *Harvard Mouse*, cited both the former and latter as authorities supporting (again, whether implicitly or by negative implication), the patenting of genes.

"No question was raised at the trial level, or before the Court of Appeal, concerning the decision of the Commissioner to allow the patent application in respect of other claims advanced [i.e. claims which did not, broadly speaking, extend to the non-human mammal itself]. Those claims concerned a genetically engineered plasmid and transgenic unicellular material produced under full control of the inventor and reproducible. The claims to these were accepted by the Commissioner as concerning a "manufacture" or a "composition of matter" within the definition of "invention" under s. 2, and were entitled to patent registration. It was the claim to the mouse containing the genetically engineered material that the Commissioner had rejected but the Court of Appeal allowed." [14]

Justice Mackay does rightly cite those authorities as supporting the patenting of genes (and the process for inserting those genes), however, in the author's view, he has improperly extended the statutory monopoly strictly afforded to such subject matter to the entire plant itself. Consider paragraph 83 of his judgment, where he notes that "[n]ot all progeny from pollen of Roundup Ready plants will be Roundup tolerant if outcrossing with Roundup susceptible plants occurs, but only *use of those plants containing the gene can be subject to Monsanto's claims as patent holder*". [15] As discussed ., this improper judicial extrapolation of both Monsanto's patent monopoly and, in many respects, the *Patent Act* itself remains an infirmity common to the higher courts (in particular, the Supreme Court's majority views).

As the Federal Court of Appeal's [16] considerations remained largely confined to the quantification of damages, the author shall gloss the *dicta* therein in deference to the more substantive and relevant considerations provided for by the Supreme Court in their judgment. [17] Chief Justice MacLachlin and Justice Fish (both writing for the majority) held Monsanto's valid and infringed (with Justice's Major, Binnie and Deschamps concurring); whereas, Justice Arbour (for the minority) held the patent valid but not infringed (with Justice's Iacobucci, Bastarache and LeBel concurring).

The majority, citing *Free World Trust V. Electro Sante' Inc*. [18] held that in determining whether Schmeiser had "used" the patented gene or cell (thereby infringing the patent), the crux of the enquiry lay with whether he had deprived the inventor in whole or in part, directly or indirectly, of the full enjoyment *of the monopoly conferred* by law.

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After stating the former principle enunciated in *Free World*, the majority then relied upon questionable analogies in their *ratio*, stating that:

"... case law provides guidance as to whether patent protection extends to situations where the patented invention is contained within something else used by the defendant. This is relevant to the appellants' submission that growing plants did not amount to "using" their patented genes and cells ... Patent infringement actions often proceed in a manufacturing context ..." [19]

However, to analogize biotechnology to the traditional manufacturing grossly oversimplifies the organic nature of the former art. Justice Arbour (for the minority) herself notes that "the case law does not support my colleagues' interpretation of use. Much of the jurisprudence on "use" and various analogies are unhelpful because of the unique properties of biological materials, especially higher life forms that can self-replicate and spread." [20] The majority compounded their tenuous analogy further by contending that:

"cells are somewhat analogous to Lego blocks: if an infringing use were alleged in building a structure with patented Lego blocks, it would be no bar to a finding of infringement that only the blocks were patented and not the entire structure." [21]

With great respect, this must surely be incorrect. Perhaps a more accurate analogy would be self-replicating Lego blocks, or self-replicating Lego blocks which themselves could reproduce, differentiate and grow into (arguably) 'something more' than a series of Lego blocks.

Justice Arbour (for the minority) notes that there remains:

"no genuinely useful analogy between growing a plant in which every cell and every cell of all its progeny are remotely traceable to the genetically modified cell and contain the chimeric gene and putting a zipper in a garment, or tires on a car or constructing with lego blocks. The analogies are particularly weak when it is considered that the plant can subsequently grow, reproduce, and spread with no further human intervention." [22]

The majority emphasize that patent monopolies are negative rights which "prevent others from depriving the inventor, ***even in part and even indirectly***, of the monopoly that the law intends to be theirs." [23] In the biotechnology context in particular, this unarticulated position--which I concede may have served quite handily for other subject matter-- would nonetheless extend patent monopolies (indirectly) to plants, animals, fetuses, and so forth. And therefore, of equal disconcert remains the improper extrapolation by the majority, of patent protection to the entire plant, contrary to the *ratio* in *Harvard Mouse*. As, from the outset, the majority had noted that its decision does not remain inconsistent with its line of reasoning in Harvard Mouse, where plants and seeds were found to be unpatentable "higher life forms". [24]

In paragraphs 76 through 79, the majority sought to dispel with the minority's objection(s) that since "Monsanto's claims are for genes and cells rather than for plants, it follows that infringement by use will only occur where a defendant uses the genes or cells in their isolated, laboratory form." [25] The majority held that this "position flies in the face of century-old patent law, which holds that where a defendant's commercial or business activity involves a thing of which a patented part is a significant or important component, infringement is established. It is no defence to say that the thing actually used was not patented, but only one of its components ... otherwise the inventor would be deprived of the full enjoyment of the monopoly ***that the law of patent confers on him or her***." [26]

With the clear precedent already set in *Harvard Mouse*, it remains evident that the law of patent does not confer monopolistic protection to higher life forms, including plants. Therefore, if the patent were to be purposively construed through the eyes of the notional skilled worker in art, it should quite reasonably be construed as extending protection to genes and cells only-- anything further, would upset the precedent already set by the Supreme Court in *Harvard Mouse*--which, Justice Arbour rightly argues, would also have been known to said skilled practitioner in the art [27] (as it represents a limitation on how purposively such patents may indeed be interpreted). It is difficult to

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see how the notional skilled worker in the art must devoid her mind of the jurisprudence which underlies the patent specification before her. She must clearly know of the Law, and juridical/statutory developments which underlie the very validity, scope and/or construction of the patent specification before her notionally skilled eyes.

Against the precedent set in *Harvard Mouse* (which the majority have already stated is not expressly overruled in the least by this decision), Justice Arbour notes that "a person skilled in the art, upon filing of Monsanto's patent, could not reasonably have expected that the exclusive rights for gene, cell, vector, and method claims extended exclusive rights over unpatentable plants and their offspring." [28] Any construction of Monsanto's patent beyond Justice Arbour's *dicta*--that the construal of the patent specification purposively by the notionally skilled worker in the art must, of necessity, take into account legislative and jurisprudential developments for they represent limitations (or expansions) on how purposively such patents may indeed be interpreted--cannot easily be reconciled with the metaphysical divide between 'higher' and 'lower' life forms carved out by the majority in *Harvard Mouse*.

Indeed, the Supreme Court's decision in *Monsanto* appears to be a retreat from *Harvard Mouse*. [29] Since plants and seeds [30] are indirectly given the benefit of patent protection, by virtue of any patents covering the underlying genes and cells. Gervais and Fudge (2005) note that while *Monsanto* is not a reversal of *Harvard Mouse* with respect to subject matter eligibility; *Monsanto* does stand for the proposition that patentable inventions embedded within life forms (modified genes, cells and so forth) can be infringed by 'use' of the life form itself. [31] And therefore the purposes of infringement (which Gervais and Judge would argue is distinct from subject matter eligibility), "it will prove to be a distinction without a difference". [32] While infringement and subject matter eligibility are clearly different concepts, they are causally related. For one cannot infringe something that is not an 'invention'. It is akin to denying patents over brains, but permitting patents over each and every neuron and glia that constitutes the brain. Even for subject matter eligibility purposes, this is surely a distinction without a difference (or sound doctrinal basis).

[1]. Harvard Coll. v. Can. (Comm'r of Patents), [2002] 4. S.C.R. 45, 2002 SCC 76 (Can.). There, a 5-4 majority of the Supreme Court of Canada held that higher life forms (plants, animals and seeds) were not patentable subject matter under Canada's Patent Act. For a further discussion of the decision in Harvard Mouse, see Emir Mohammed, *Cat in the Hat, a Mouse in the House - Comparative Perspectives on Harvard Mouse*, 18 Intell. Prop. J. (Can.) 169, (2004).

[2]. Monsanto Can. Inc. v. Schmeiser, [2004] 1 S.C.R. 902, 2004 SCC 34 (Can.). Indeed, the Supreme Court noted that "licensed farmers may not sell or give the seed to any third party or save the seed for replanting or inventory" (¶ 11), and while such restrictions which may speak to elements of anti-competitiveness (pursuant to the Competition Act), and Canada's obligations under TRIPS (particularly Article 40 relating to the control of anti-competitive practices in contractual licences), none of those arguments were raised and/or addressed at trial and lie beyond the ambit of this paper.

[3]. Glyphosate-Resistant Plants, Can. Patent Number 1,313,830 (filed Aug. 6, 1986).

[4]. Monsanto Can. Inc. v. Schmeiser, [2001] 3 F.C. D-36; 2001 FCT 256 (Can.).

[5]. *Id.* ¶ 1.

[6]. *Id.* ¶ 146.

[7]. *Id.* ¶ 77 (quoting defendant's counsel).

[8]. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 304. (emphasis added).

[9]. International Convention for the Protection of New Varieties of Plants: 1978 Act, 33 U.S.T. 2703, 1861 U.N.T.S. 281.

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[10]. International Convention for the Protection of New Varieties of Plants: 1991 Act, S. Treaty Doc. No. 104-17 (1995).

[11]. STATES PARTY TO THE INTERNATIONAL CONVENTION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS (2009), HTTP://WWW.UPOV.INT/EN/ABOUT/MEMBERS/PDF/PUB423.PDFFF.

[12]. Harvard Coll. v. Can. (Comm'r of Patents), [1998] 3 F.C. 510 (Can.).

[13]. Harvard Coll. v. Can. (Comm'r of Patents), [2000] 4 F.C. 528 (Can.).

[14]. *Id.* ¶ 87. The Supreme Court's decision in *Harvard Mouse* had not been delivered as of the date of Justice MacKay's ruling.

[15]. *Id.* (emphasis added).

[16]. Monsanto Can. Inc. v. Schmeiser, [2003] 2 F.C. 165, 2002 FCA 309 (Can.).

[17]. Monsanto Can. Inc. v. Schmeiser, [2004] 1 S.C.R. 902, 2004 SCC 34 (Can.).

[18]. Free World Trust v. Électro Santé Inc., [2000] 2 S.C.R. 1024, 2000 SCC 66 (Can.) ¶ 43 ("*Free World*").

[19]. *Id.* ¶ 40 - 41.

[20]. *Id.* ¶ 154.

[21]. *Id.* ¶ 42.

[22]. *Id.* ¶ 156. This comment is especially interesting when one considers the ratio of the majority in *Harvard Mouse* who held that "[a] higher life form is not patentable because it is not a "manufacture" or "composition of matter" within the meaning of "invention" in s. 2 of the Patent Act ... and [that] it is far easier to analogize a micro-organism to a chemical compound or other inanimate object than it is to analogize a plant or an animal to an inanimate object." (Harvard Coll. v. Can. (Comm'r of Patents), [2002] 4 S.C.R. 45, 2002 SCC 76 (Can.) ¶ 201 - 203).

[23]. *Id.* ¶ 43 (emphasis added). *See also*, ¶ 35, 46, 49.

[24]. *Id.* ¶ 21.

[25]. *Id.* ¶ 76 - 79.

[26]. *Id.* ¶ 78 and 79 (emphasis added).

[27]. *Id.* ¶ 126 - 128.

[28]. *Id.* ¶ 128.

[29]. Remarkably, the majority in *Monsanto* commented that under the current *Patent Act* "an invention in the domain of agriculture is as deserving of protection as an invention in the domain of mechanical science. Where Parliament has not seen fit to distinguish between inventions concerning plants and other inventions, neither should the courts" (¶ 94); despite the fact that entire exercise on the majority's part in *Harvard Mouse* precisely so-questioned the intention of Parliament.

[30]. Which are both considered 'higher' life forms, and unpatentable subject matter in Canada per the *ratio* in *Harvard Mouse*.

[31]. DANIEL J. GERVAIS & ELIZABETH F. JUDGE, INTELLECTUAL PROPERTY: THE LAW IN CANADA (2005).

[32]. *Id.* at 383.

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